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DAILY NEWS ANALYSIS

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FOREWORD

We, at Team Vedhik is happy to introduce a new initiative - "Daily Current Affairs_The Hindu" compilations to help you with UPSC Civil Services Examination preparation. We believe this initiative - "Daily Current Affairs_The Hindu" would help students, especially beginners save time and streamline their preparations with regard to Current Affairs. A content page and an Appendix has been added segregating and mapping the content to the syllabus.

It is an appreciable efforts by Vedhik IAS Academy helping aspirants of UPSC Civil Services Examinations. I would like to express my sincere gratitude to Dr. Babu Sebastian, former VC - MG University in extending all support to this endeavour. Finally I also extend my thanks to thank Ms. Shilpa Sasidharan and Mr. Shahul Hameed for their assistance in the preparing the compilations.

We welcome your valuable comments so that further improvement may be made in the forthcoming material. We look forward to feedback, comments and suggestions on how to improve and add value for students. Every care has been taken to avoid typing errors and if any reader comes across any such error, the authors shall feel obliged if they are informed at their Email ID.

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Brick by brick

BRICS countries have shown they can cooperate where their interests align

The 14th BRICS Summit, which concluded on June 24, revealed much about the grouping of five emerging nations. That this bloc of five disparate countries has not only made it to its 14th summit, but has been able to demonstrate some concrete, albeit modest, outcomes of cooperation, such as the emergence of the New Development Bank (NDB), suggests there remains a strong convergence of interests amid undeniable differences. Indeed, ever since the first summit in Yekaterinburg in 2009, BRICS has had more than its fair share of naysayers, particularly in the West, and has been derided as a talk shop. In his address to the summit on June 23, which was hosted by China this year and held virtually, Prime Minister Narendra Modi described the binding glue as “a similar approach to global governance”. That approach, according to the lengthy joint Beijing Declaration that followed, was premised on “making instruments of global governance more inclusive, representative and participatory”.

That is certainly a laudable goal. However, the NDB, which has since its launch in 2015 funded around \$30 billion worth of projects in emerging nations, still remains for the grouping an isolated example of their common interests translating into tangible outcomes. That points to another summit take-away: despite a tall agenda, the bloc remains constrained by differences. For instance, on two key issues for the grouping – UN reforms and terrorism – members India and China have found themselves on opposing sides of the debate. India and Brazil have made common cause on pushing for an expanded UN Security Council, yet China has suggested it is not in favour of a permanent seat for India. On terrorism, the recent blocking by China of an attempt by India to sanction the LeT terrorist, Abdul Rehman Makki, at the UNSC sanctions committee, served as a reminder of contrasting approaches. Indeed, those two different approaches found mention in the Beijing Declaration, which acknowledged both India’s concerns on a lack of transparency at the sanctions committee and Chinese claims, seemingly driven by the desire to shield Pakistan, that these cases amounted to “politicisation”. On Ukraine, the bloc affirmed a commitment to respect sovereignty, despite Russia’s actions, and stopped short of condemning NATO, as Russia and China have done, reflecting different views within BRICS. These differences certainly cast doubt on the bloc’s loftier goals of reorienting the global order. They do not, however, suggest that the BRICS countries cannot cooperate on issues where interests align, whether in financing projects, as the NDB has done, working on climate change, as India and China have continued to do despite the LAC crisis, or even on space cooperation, where the five countries have agreed to create a joint constellation of remote sensing satellites.

‘Gulf countries support India in Prophet controversy’

Russian energy purchase is appreciated, says Vinay Kwatra

KALLOL BHATTACHERJEE
NEW DELHI

The recent controversy over the comments on Prophet Muhammed is unlikely to cast a shadow on the upcoming visit of Prime Minister Narendra Modi to the United Arab Emirates, said a senior official here on Friday.

Addressing a special briefing, Foreign Secretary Vinay Mohan Kwatra said that there is no need to discuss the matter anymore.

“As far as Prophet controversy is concerned, almost all Gulf countries have an understanding of India’s position. We have communicated our stand on various platforms. I don’t think that will be taken forward anymore,” Mr. Kwatra said.

Prime Minister Narendra Modi will visit the UAE on June 28 while returning from Germany, where he will represent India at the G7 summit.

Mr. Kwatra informed that Mr. Modi’s visit to the UAE is aimed at conveying condolences on the passing away of the President of UAE, Sheikh Khalifa bin Zayed Al Nahyan.

The UAE had joined Qatar and other Gulf countries in



Vinay Mohan Kwatra

condemning the remarks by Bharatiya Janata Party leaders Nupur Sharma and Navin Kumar Jindal that were found to be offensive in nature. The comments drew widespread outrage in the Arab and Islamic blocs. In the Gulf countries, the outrage was amplified by public opinion expressed online.

In recent months, India often took combative position when questions were raised on its human rights record or on freedom of religion but there was an element of quiet diplomacy in the way New Delhi dealt with the Prophet issue. The MEA has maintained that “adequate” action has been taken against the two leaders who have been stripped of their party responsibilities since the protest broke

out in the Gulf countries.

The UAE is also important from the point of view of India’s energy requirement as the country is one of the major suppliers of energy to India. India has increased purchase of Russian energy as sanctions-hit Moscow has made its energy supplies available to India at a steep discount. The war in Ukraine and the sanctions on Russia are expected to feature in the G7 summit in Germany, where Prime Minister will participate during June 26-27. The western powers have been critical of India’s increasing purchase of Russian crude but Mr. Kwatra defended India’s purchase of Russian energy.

“Whatever are the trading arrangements that India puts in place with regard to the purchase of crude oil all over the world, is determined purely by the consideration of energy security in India. India’s consideration for crude oil purchases is very well understood and it is appreciated all across the countries,” said Mr. Kwatra presenting India’s position on an issue that is expected to feature prominently at the G7 meeting.

U.S. Supreme Court overturns abortion right

With this, individual States will now determine the right

SRIRAM LAKSHMAN
WASHINGTON DC

In a significant curtailment of women's rights, the U.S. Supreme Court overturned *Roe v. Wade*, a 1973 landmark decision giving women in America the right to have an abortion before the foetus is viable outside the womb – before the 24-28 week mark.

The ruling was expected for some weeks now, after a draft opinion leaked in early May, sending shock waves through the country and sparking protests. Abortion rights – which have been available to women for over two generations – will now be determined by individual States.

Also overturned on Friday was *Planned Parenthood v. Casey*, a 1992 case that upheld *Roe*.

Some 20 States have laws (which were overruled by *Roe* until Friday) restricting or banning abortions, according to data from the Associated Press. Thirteen States have laws banning the procedure, that come into effect, now that *Roe* has



Dissent note: Protesters oppose the ruling outside the Supreme Court in Washington on Friday. ■ AP

been overturned, according to *The New York Times*' analysis.

'Deepened division'

"The Constitution makes no reference to abortion, and no such right is implicitly protected by any constitutional provision," Justice Samuel Alito, a conservative appointed by George W. Bush, wrote for the majority. He called *Roe*'s reasoning "exceptionally weak" and said *Roe* and *Casey* had not

brought a "settlement" of the issue nationally, but "enflamed debate and deepened division".

He was joined by conservative Justices Clarence Thomas, Neil Gorsuch, Brett Kavanaugh and Amy Coney Barrett. The latter three are picks of former U.S. President Donald Trump, who had said he would appoint justices who are "pro life" (opposing abortions).

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U.S. Supreme Court overturns abortion right

Chief Justice John Roberts, who has become the most centrist among the conservative justices, given the changing composition of the court, upheld a Mississippi law (the focus of the case being decided this week) banning abortions after 15 weeks, but said he would not go as far as overturning *Roe*.

Decades ago, *Roe* itself was decided 7-2, with five Republican-appointed judges joining the majority at the time.

“With sorrow – for this court, but more, for the many millions of American women who have today lost a fundamental constitutional protection – we dissent,” liberal justices Stephen Breyer, Sonia Sotomayor and Elena Kagan wrote on Friday, adding that the decision “breaches a core rule-of-law principle, designed to promote constancy in the law”.

“In doing all of that, it places in jeopardy other rights, from contraception to same-sex intimacy and marriage. And finally, it undermines the court’s legitimacy,” they wrote.

Rights activists have been concerned that there could be a domino effect on these other rights.

Justice Clarence Thomas wrote in a concurring opinion on Friday that the court should reconsider “all of this court’s substantive due process precedents...” , naming three precedents that protect contraception as well as same-sex marriage and same-sex relationships.

Justice Alito , however, limited the scope of the judgment in the majority opi-

nion, writing, “Nothing in this opinion should be understood to cast doubt on precedents that do not concern abortion.”

That the court has a strong conservative bent, which is based on a 6-3 majority, was evident this week. Friday’s decision comes a day after the Supreme Court rolled back restrictions in New York State on who may carry concealed guns in public.

Addressing the nation in the early afternoon on Friday, President Joe Biden called the decision a “tragic error” and a “sad day” for the court and the country. “The court has done what it has never done before, expressly take away a constitutional right that is so fundamental to so many Americans,” he said.

Roe had protected a woman’s right to choose, Mr. Biden said, and “her right to make intensely personal decisions with her doctor, free from the interference of politics”.

Mr. Biden warned officials, “state or local” ,” high or low” not to interfere in the right of a woman to travel to a State where she could have an abortion. The President also called on all those protesting the ruling to stay peaceful and said violence was “never acceptable”. Democrats are preparing to take gun control laws and abortion rights to voters this November, when the country heads to the polls in midterm elections. “This fall, *Roe* is on the ballot, personal freedoms are on the ballot, the right to privacy, liberty, equality...they’re all on the ballot,” Mr. Biden said.

Parameswaran Iyer will be new NITI Aayog CEO

Now, he is Programme Manager of Water Resources Group

SPECIAL CORRESPONDENT
NEW DELHI

V. Parameswaran Iyer, a senior official who helmed Prime Minister Narendra Modi's pet scheme, Swachh Bharat Abhiyan, will be the new Chief Executive Officer (CEO) of the NITI Aayog. The Appointments Committee of the Cabinet cleared his name for the post here on Friday. Mr. Iyer will get at least two years in the post.

Mr. Iyer replaces Amitabh Kant, who completes his term in the office on June 30. A Government Order added that he will work on the same terms and conditions as were applicable for Mr. Kant.



V. Parameswaran Iyer

At present, Mr. Iyer functions as the Programme Manager of the 2030 Water Resources Group, a platform hosted by the World Bank for water conservation.

Mr. Iyer joined the IAS in 1981 in the Uttar Pradesh cadre, and had served as the

Secretary of the Department of Drinking Water and Sanitation.

He worked at the United Nations too for a few years as a senior rural water sanitation specialist.

He is a Professor at the Indian Institute of Management, Ahmedabad in management practices.

Mr. Kant was appointed CEO of the National Institutions for Transforming India (NITI) Aayog on February 17, 2016, for two years. He got three extensions during his tenure. Under Mr. Kant, the NITI Aayog helped the Centre launch several programmes such as Digital India and Make in India.

The advent of 'app-solute' chaos in NREGA

The new National Mobile Monitoring Software application has problems that are clearly eroding the right to work



CHAKRADHAR BUDDHA &
LAAVANYA TAMANG

In May 2021, the Ministry of Rural Development (MoRD) launched the National Mobile Monitoring Software (NMMS) app, a new application meant for “improving citizen oversight and increasing transparency” in National Rural Employment Guarantee Act (NREGA) works. It is to be deployed by NREGA Mates, local women at the panchayat level who are selected and trained to monitor NREGA worksites. The main feature of the app is the real-time, photographed, geo-tagged attendance of every worker to be taken once in each half of the day. We spoke to Mates, NREGA workers, and activists across multiple States to understand their experience of the app.

Conditions affecting workers

While such an app may be useful in monitoring the attendance of workers who have fixed work timings, in most States, NREGA wages are calculated based on the amount of work done each day, and workers do not need to commit to fixed hours. This flexibility has been key to NREGA's widespread demand. However, marking attendance on the app mandates that workers are at the worksite the entire day. This causes significant difficulty for NREGA workers.

Priya Devi from Rajasthan finishes her NREGA work by 9 a.m., and then sets up a stall in the local haat to sell the produce she grows in her kitchen garden. Since the introduction of the NMMS app, she

either needs to be present at the worksite all day or travel twice to mark her attendance. Ms. Devi expressed concern about losing customers at her stall in her absence. Another worker from Andhra Pradesh said her daughter was now missing school frequently because she had to take over some of her mother's chores.

NREGA has historically had a higher proportion of women workers (54.7% in FY 2021-22) and has been pivotal in changing working conditions for women in rural areas. Due to the traditional burden of household chores and care work on women, the app is likely to disproportionately affect women workers. The conditions for registering NREGA attendance on the app put them in a dilemma where they may end up foregoing NREGA work. Such a sentiment was echoed (to us) by many women workers across the country. Priya Devi, for instance, is afraid she will have to choose between the two – committing to NREGA work that occupies her full day, or staying at the market.

Other challenges

There are challenges of implementation with the NMMS as well. A stable network is a must for real-time monitoring; unfortunately, it remains patchy in much of rural India. This could lead to workers not being able to mark their attendance, and consequently lose a day of wages. Workers in Kerala and Jharkhand are already facing problems in uploading their attendance on the app due to network problems. Further, a recent NewClick report has also highlighted the problems faced by differently-abled NREGA workers from Tamil Nadu in marking their attendance on the app.

The app has adversely impacted NREGA Mates as well. The role of a



K.K. MUSTAFAH

Mate was conceptualised as an opportunity to empower local women to manage attendance and work measurement in their panchayat. But now, to be a Mate, one needs to have a smartphone. This new condition disqualifies thousands of women who do not own smartphones from becoming Mates. Already women from Jharkhand and Andhra Pradesh have reported being passed over for selection as Mates for this very reason. Now, smartphone-owning men are likely to be given preference as Mates. Alternatively, women could become proxy Mates – officially registered, but deferring to men who work and get paid. Many selected Mates also reported that they had not been given proper training in using the app. This could lead to errors in recording workers' attendance, that ultimately results in delayed or non-payments.

Errors in pilot process

The app had been launched on a pilot basis last year, with States using it voluntarily. Officials and activists confirmed these implementation errors had been evident throughout the pilot process. However, there is no information available publicly about the errors found and measures taken to address them. Our Right To Information applications have also not yielded any satisfactory responses. Despite the persistent errors,

on May 13, 2022, the MoRD released a circular announcing that NMMS would now be mandatory for all NREGA worksites employing more than 20 workers, with no option for manual attendance other than in exceptional circumstances. Within a week of the mandate, many States submitted complaints and reports of the same errors that were seen during the pilot stage. The MoRD is yet to offer any solutions, reassurances, or even a response.

No physical records

Beyond the problems in implementation, the intended purpose of such an application, and its effectiveness remain unclear. The app claims to “increase citizen oversight” by “bringing more transparency and ensuring proper monitoring of the schemes, besides potentially enabling processing payments faster”. However, it appears to be doing exactly the opposite. With no physical attendance records signed by workers anymore, workers have no proof of their attendance and work done. In the district of West Singhbhum, Jharkhand, workers reported having worked on a NREGA project, the attendance records of which do not exist on the NREGA website. Since there are no physical records the workers can use as evidence, they have no way of proving their attendance, and will consequently lose out on pay for two full weeks of work. This is a clear erosion of the transparency and citizen oversight the app claims to improve.

Corruption has been a rising problem in NREGA, with funds being siphoned off by faking attendance records. While ostensibly the NMMS's focus on real-time, geo-tagged attendance could be one way of addressing this corruption, the MoRD has not provided

much clarity on either the magnitude of this corruption or the manner in which the NMMS addresses it. There are no parameters established to assess the app's performance, either on transparency, or on quicker processed payments.

Strengthen social audits

Instead of focusing on this app or introducing other complex technological reforms, we strongly believe social audits must be strengthened. Social audits are citizen-centric institutions, where the citizens of the panchayat have a direct role and say in how NREGA functions in their panchayat. Audits have worked well in the past, allowing the local rights holders to be invested in decisions, and hold the administration accountable themselves. But instead of strengthening citizen-centric institutions such as social audit units and gram sabhas, the MoRD seems keener on introducing technological reforms that can be complex to understand and fundamentally inaccessible for workers.

It seems ironic that an application meant to improve citizen oversight and transparency was implemented with no consultation and discussion with NREGA workers, functionaries, or government field officials. The NMMS is consequently blind to the actual functioning of NREGA on the ground. The MoRD's habit of passing reforms with no stakeholder consultation does not fall in line with the principles of transparency and citizen-participation enshrined in NREGA. The NMMS has very clear problems that will make it increasingly difficult for workers to continue working under NREGA, eroding the right to work that underwrites the NREGA Act.

Chakradhar Buddha and Laavanya Tamang are affiliated with LibTech India

Climate change and crop failure

Since climate extremes have activated a shift in cropping system in Kerala, developing adaptation and mitigation strategies is very important to ensure food security

NAVAMY SUDHISH

At the outset, Cheriyan's two-acre cardamom farm is a thriving green landscape under the cerulean sky.

However, on closer inspection, you will see the wilted shoots and damaged pods – byproducts of an erratic weather.

The Malayalam month of Edavam has come to an end without any steady downpour, the dry spell stretching all through the third week of June except for some mild, dwindling drizzles. Plants miss that rich monsoon hue and farmers in Idukki, a district that recorded a large rain deficit of 69% during the June 1-22 period, are bracing for a possible crop failure.

"It's for the first time we are experiencing a nearly dry monsoon while the temperature keeps rising. A delayed or failed monsoon will affect the capsule formation and the yield will dip," says the 67-year-old from Kumily.

Cardamom

Cardamom is among the many thermosensitive crops hit by rising mercury levels, change in weather patterns and extreme climatic conditions, adding to the agrarian distress in the State.

Farmers complain that the inconsistent rain pattern is causing crop loss and delayed flowering, while the vagaries in temperature and humidity is triggering pest attacks. The fall in yield has hit their livelihood and at present many are staring at an uncertain future.

"The majority of residents in our village are dependent on the single crop of cardamom and it's practically impossible for us to switch. I have been cultivating cardamom for the last 22 years and the changing climate is posing a serious threat to us. We have been farmers for generations and at present we are in the middle of a major crisis," says Mr. Cheriyan, as his cousin Shaji agrees.

"There has been a steady rise in average daytime temperature. We used to grow orange in the past, but we had to quit after the spike in temperature started impacting the fruition of orange groves. The high-range climate is no more the same and the cardamom farmers are having a hard time," points out Mr. Shaji.

According to Suresh Kumar, a farmer from Kattappana, it all started with the floods of 2018 when incessant rain caused widespread crop damage. "After the first floods, the proportion of rain has never been the same and our harvest cycle also changed. During the month of June, we add manure to expedite the germination



Poor returns: Women harvesting cardamom in Idukki district. The crop has been hit by a change in climate patterns, adding to the agrarian distress in Kerala. •SPECIAL ARRANGEMENT

of charams (panicles) and if there is no rain, the growth will slow down. Though the plants currently look healthy due to the pre-monsoon rain, the yield will be very poor," he says.

Dip in yield

Mr. Kumar adds that while 250 kg of dried cardamom is the average yield you usually get from one acre, now it has come down to 160-170 kg. Though there has been a considerable dip in yield from individual holdings, the overall production of the spice has increased due to area extension during the last five years.

"In 2017/18, there was a sharp rise in demand and the prices crossed ₹4,000 per kilogram. With the prices going through the roof, many farmers stopped cultivating other crops and planted cardamom expecting bumper returns. As production and supply increased, prices came down to ₹680, which hardly covers the production cost. While huge estates that cultivate a range of crops and generate huge volumes of cardamom are not much affected, small-scale farmers are struggling," he adds.

Pointing to the deformed pods fallen from the plant, Baby, a farmer from Udumbanchola, says pest attacks have become more frequent with the change in climate. "We are unable to control these pests with very high resistance and as they easily adapt to changes. We are forced to spray pesticides to salvage what is left of our crop," he adds.

He confirms that they make regular trips to pesticide dealers to buy what is called 'vesham' (poison) in local parlance.

"It may be highly toxic and we have no idea if it's legal or whether the ratio is correct. We also fear that they might ruin the soil in the long run, but we don't have any other options since we hardly get any support from authorities. We lack any other means to cope," Mr. Baby adds.

While climate change is a factor impacting the crop, this indiscriminate use of chemical pesticides can give rise to a spate of adverse consequence, says Muthusami Murugan, professor and head of the Cardamom Research Station at Pampadumpara, Idukki. "Climate change has brought a lot of variations in rainfall behaviour including intensity and rainy days on annual and seasonal scale. This has had a positive effect on pest pressure and affected the cardamom yield. But high-intensity chemical use will affect the growth, development, flowering and capsule setting of cardamom under the changing climatic conditions in the Indian cardamom hills," he says.

Cashew nut

The Aralam Farming Corporation Kerala Limited in Kannur, which produces around 90% of the raw cashew nut in Kerala, saw a record fall in yield this season. Spread across 350 hectares, Aralam orchards produce high-quality nut that enjoys a huge demand in the internal market. "Our total yield during the last season was 184 tonnes and this time it came down to 90, which means there was more than 50% dip in production," says S. Bimalghosh, managing director of the farm. While excess rainfall during the flowering season affected the fruit setting

around 25 lakh high-yielding grafts over the last five years.

At present, the cultivation is spread over one lakh hectares of land and a surge in annual nut production was also reported during the last season.

"But the picture has changed this time and the farmers have reported an unprecedented dip in production. The rain that continued till November caused the flowers to fall and the rise in temperature during December-January was also not favourable for the crop. There was a consistent increase in production till 2018, but we are seeing variations during the last couple of years," says Shirish Kesavan, special officer (cashew) and chairman, Kerala State Agency for the expansion of Cashew Cultivation (KSACC).

Spike in pest population

Variations in temperature and relative humidity often facilitate the emergence of new pests and diseases, leaving many crops susceptible to attacks and outbreaks. "While these changes will accelerate fungal infection in some crops, you will see minor pests turning into major pests for some. With the rise in temperature, the number of lifecycles will increase and there will be a spike in pest population. In the future, controlling these pests and diseases will be a key concern," says P. Shajeesh Jan, Department of Agricultural Meteorology, Regional Agricultural Re-

search Station (RARS), Wayanad.

While natural enemies are multiplying in the warm weather conditions, extreme rainfall events have been wiping out soil nutrient reserves, generating a negative impact on the crops.

"Excessive rainfall will lower soil fertility and turn it acidic. With the top soil washed away there will be a depletion in organic matter," he adds.

According to a study conducted by the Indian Cardamom Research Institute under the Spices Board and College of Climate Change and Environmental Science under Kerala Agricultural University, thermosensitive crops like cocoa, black pepper, cardamom, coffee and tea may be under threat as the temperature range across the Cardamom Hill Reserve (CHR) of Idukki district is increasing.

It also finds an increase in the surface air temperature across the State and calls for proactive measures to alleviate risks related to the quality and quantity of the crops. While poor rain affects pepper pollination, leading to a dip in production, change in humidity levels will influence the size and quality of coffee bean.

A worrying shrinkage in paddy farming area is one of the major finds in the study on 'Climate change and cropping pattern of plantation crops and spices in Kerala'. "The increase in area under banana, areca nut and rubber is mostly at the expense of paddy fields. Rubber has encroached on more and more areas of the State. The paddy cultivating areas of the high ranges have either paved the way for rubber cultivation or to pineapple, areca nut, banana and other seasonal crops," it says.

Since the onset, distribution and behaviour of the monsoon have changed over the years, virippu (rainy season) paddy, which is heavily dependent on monsoon, is under severe threat in many parts. "Since virippu paddy is mainly a rainfed crop, farmers will not have resources for supplemental irrigation. This year water was released from the Malampuzha dam to save the crop in Palakkad which has the largest acreage of paddy farms. Since the first crop is always rainfed, we irrigate the farms only during the mundakan season (second crop) from October to December. Water deficit is a major challenge for paddy and this change in pattern has altered our traditional crop calendar," says climatologist Gopakumar Cholayil.

Paddy

Paddy farmers are a worried lot since incessant summer showers had wreaked havoc in Kuttanad,

destroying the harvest-ready pancha crop in April 2022. "Heavy downpours started in the beginning of the harvest season and within no time the paddy polders were inundated. It was practically impossible to drain the water and the crop started rotting in front of our eyes. Continuing crop failure and mounting debts are making our life miserable," says Purushan, a farmer from Alappuzha.

While many farmers could not reap the harvest, those who managed were unable to transport it and the quality of the produce was very mediocre at many polders. "Moreover, heavy summer rainfall aggravated bacterial leaf blight disease in paddy and this year a lot of farmers had to suffer yield losses due to that," adds Mr. Cholayil.

Prolonged dry spells, delayed monsoons, intensity shifts and cloudbursts - they all point to the fact that the rainfall scenario in the State has changed. In January 2021 Munmar recorded sub-zero temperature and the cold wave had a devastating impact on the vegetable tracts in Vattavada.

Sugar cane

"In Marayur, sugar cane farmers lost an entire season and it's a clear-cut example of the climate change," he observes. During the time Kerala witnessed an exceptionally high rainfall of 105.5 mm against the normal of 110 mm.

"In Idukki daytime temperature is rising while night temperature is falling. In the long run, this widening gap in temperature range will adversely affect the high-range crops growing in forest-agro ecosystems," he says. As the shift in rainfall and temperature trends are becoming more pronounced, farmers are forced to opt for crops that have comparatively higher resilience.

Since climate-related crop failure has activated a shift in cropping system where non-foodgrain crops are steadily replacing foodgrain crops, developing adaptation and mitigation strategies is very important. "We cannot formulate the strategy without consistent studies. Our research should focus more on spell analysis instead of monthly or yearly statistics. Heavy rain within a short span of time, variations in high-range temperature, extreme weather events – all these indicate that the climate is changing and it can have a serious impact on the food security of the State. We need short-term and long-term programmes instead of looking for quick-fixes during climate-related contingencies. A joint effort of experts from various streams is crucial for developing the strategy," says Mr. Cholayil.

Seasonal rainfall | June 1 to 22, 2022

SUBDIVISION/DISTRICTS	ACTUAL RAINFALL (MM)	NORMAL RAINFALL (MM)	PERCENTAGE DEPARTURE (%)
Kerala	192.9	463.9	-58
Lakshadweep	281	261.4	7
Alappuzha	198.5	415.8	-52
Kannur	202.4	622.4	-67
Ernakulam	264.7	510.7	-48
Idukki	156.8	510.3	-69
Kasaragod	257.1	699.3	-63
Kollam	125.7	323.6	-61
Kottayam	266.6	472	-44
Kozhikode	286.2	637.6	-55
Malappuram	197.6	446.1	-56
Palakkad	87.5	316.5	-72
Pathanamthitta	209.4	371.9	-44
Thiruvananthapuram	103.5	247	-58
Thrissur	307.1	519.2	-41
Wayanad	117	461.2	-75
Mahe	259.8	587.8	-56

Percentage departure from normal value

Large excess: +60% and above | Excess: +20% to +59%

Normal: +19% to -19% | Deficient: -20% to -59%

Large deficient: -60% to -99% | No rain: -100%

Invasive weed, 17 plants stifling Kaziranga

These green invaders have proved to be most damaging

RAHUL KARMAKAR
GUWAHATI

A Vitamin D3-rich weed and a shrub with roots that wild boars love to gorge on are among the 18 invasive plants stifling the Kaziranga National Park and Tiger Reserve, the best-known address of the greater one-horned rhinoceros on the Earth.

Kaziranga has had to deal with encroachment, poaching, and annual floods for decades. But none of these has been as damaging to the health of the 1,300-sq. km tiger reserve as the green invaders that have gone under the radar until now.

Soon after taking over as the Kaziranga's Field Director a few months ago, Jatindra Sarma began identifying the invasive plants and documented 18 of them silently taking over the landscape at the cost of indigenous grasses, shrubs and trees the herbivores of the park sustain on.

The list he submitted to the Wildlife Institute of India (WII) did not contain the "usual culprits" of many protected areas in India - parthenium and lantana that threaten more than 40% of India's tiger reserves, according to a global study in 2020.

It did mention ipomoea (*Ipomoea carnea*) and mimosa (*Mimosa himalaica*) but marked them as largely controlled and not much of a worry now.



Leea macrophylla or 'kukura thengia' and (below) forest guards patrolling in a weed-dominated part of the Kaziranga park. ■ SPECIAL ARRANGEMENT

Parthenium (*Parthenium hysterophorus*) is believed to have come to India as contaminants in a consignment of wheat imported from the U.S. in the 1950s while lantana (*Lantana camara*) was brought by the British as ornamental plants from South America two centuries ago.

In a letter to the State's Principal Chief Conservator of Forest (Wildlife) a few days ago, Mr. Sarma sought permission for experimental culling, cutting, slashing, burning, uprooting and girdling of the invasive plants under the National Tiger Conservation Authority (NTCA) following discussions with the WII experts. The WII had earlier advised the Field Director to weed out the invasive plants for the indigenous Kaziranga flora to breathe easier.

"The NTCA has underta-

ken the management of the invasive plants in other tiger reserves but this is the first time that such species have been identified with threat estimation. Many like the *Bombax ceiba* and *Lagerstroemia speciosa*, trees locally called 'semul' and 'ejhar', need immediate attention to save the grasslands vital for the survival of the rhino and other herbivores," Mr. Sarma, a botanist, told *The Hindu*.

Invasive plants are fast clogging paths and grasslands.

The herbivores usually avoid the invasive plants which regenerate at an alarming speed and threaten to edge out the indigenous flora. Some of the invasive plants have a toxic impact on the landscape after remaining underwater, which is often for two months every

monsoon.

Outweighing utility

Some weeds have herbal properties, but their toxicity outweighs their utility. For instance, wild boars love to gorge on the succulent rootlets of the *Leea macrophylla* or 'kukura thengia' that is fast clogging the patrolling paths and grasslands.

Another one is the *Cestrum diurnum* or day-blooming jasmine of West Indies origin "coming up gregariously" on the Brahmaputra sandbars. The plant is otherwise a source of Vitamin D3.

"Once the modalities are finalised, this weed can be turned into a commercial crop for the people in the vicinity of the Kaziranga. Pharmaceutical companies need tonnes of dry leaves of this plant periodically," Mr. Sarma said.

General Studies Paper I	
A	History of Indian culture will cover the salient aspects of art forms, literature and architecture from ancient to modern times;
B	Modern Indian history from about the middle of the eighteenth century until the present-significant events, personalities, issues;
C	Freedom struggle-its various stages and important contributors / contributions from different parts of the country;
D	Post-independence consolidation and reorganization within the country;
E	History of the world will include events from 18 th century such as industrial revolution, world wars, re-drawing of national boundaries, colonization, decolonization,
F	Political philosophies like communism, capitalism, socialism etc.-their forms and effect on the society
G	Salient features of Indian Society, Diversity of India;
H	Effects of globalization on Indian society;
I	Role of women and women's organization;
J	Social empowerment, communalism, regionalism & secularism
K	Salient features of world's physical geography;
L	Geographical features and their location- changes in critical geographical features (including water bodies and ice-caps) and in flora and fauna and the effects of such changes;
M	Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc.
N	Distribution of key natural resources across the world (including South Asia and the Indian subcontinent);
O	Factors responsible for the location of primary, secondary, and tertiary sector industries in various parts of the world (including India);
P	Population and associated issues;
Q	Urbanization, their problems and their remedies
General Studies Paper II	
A	India and its neighbourhood- relations;
B	Important International institutions, agencies and fora- their structure, mandate;
C	Effect of policies and politics of developed and developing countries on India's interests;
D	Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.
E	Indian Constitution, historical underpinnings, evolution, features, amendments, significant provisions and basic structure;
F	Comparison of the Indian Constitutional scheme with other countries;
G	Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure, devolution of powers and finances up to local levels and challenges therein; Inclusive growth and issues arising from it;
H	Parliament and State Legislatures - structure, functioning, conduct of business, powers & privileges and issues arising out of these;
I	Structure, organization and functioning of the executive and the judiciary, Ministries and Departments;

J	Separation of powers between various organs dispute redressal mechanisms and institutions;
K	Appointment to various Constitutional posts, powers, functions and responsibilities of various Constitutional bodies;
L	Statutory, regulatory and various quasi-judicial bodies;
M	Mechanisms, laws, institutions and bodies constituted for the protection and betterment of these vulnerable sections;
N	Salient features of the Representation of People's Act;
O	Important aspects of governance, transparency and accountability, e-governance- applications, models, successes, limitations, and potential;
P	Citizens charters, transparency & accountability and institutional and other measures;
Q	Issues relating to poverty and hunger,
R	Welfare schemes for vulnerable sections of the population by the Centre and States, Performance of these schemes;
S	Issues relating to development and management of social sector / services relating to education and human resources;
T	Issues relating to development and management of social sector / services relating to health
General Studies Paper III	
A	Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment;
B	Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth;
C	Inclusive growth and issues arising from it;
D	Infrastructure Energy, Ports, Roads, Airports, Railways etc. Government budgeting;
E	Land reforms in India
F	Major crops, cropping patterns in various parts of the country, different types of irrigation and irrigation systems;
G	Storage, transport and marketing of agricultural produce and issues and related constraints;
H	e-technology in the aid of farmers; Technology Missions; Economics of Animal-Rearing.
I	Issues of buffer stocks and food security, Public Distribution System- objectives, functioning, limitations, revamping;
J	Food processing and related industries in India – scope and significance, location, upstream and downstream requirements, supply chain management;
K	Issues related to direct and indirect farm subsidies and minimum support prices
L	Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology;
M	Indigenization of technology and developing new technology;
N	Developments and their applications and effects in everyday life;
O	Issues relating to intellectual property rights
P	Conservation, environmental pollution and degradation, environmental impact assessment
Q	Disaster and disaster management
R	Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security;
S	Money-laundering and its prevention;

T	Various forces and their mandate;
U	Security challenges and their management in border areas;
V	Linkages of organized crime with terrorism;
W	Role of external state and non-state actors in creating challenges to internal security;
X	Linkages between development and spread of extremism.
General Studies Paper IV	
A	Ethics and Human Interface: Essence, determinants and consequences of Ethics in human actions;
B	Dimensions of ethics;
C	Ethics in private and public relationships. Human Values - lessons from the lives and teachings of great leaders, reformers and administrators;
D	Role of family, society and educational institutions in inculcating values.
E	Attitude: Content, structure, function; its influence and relation with thought and behaviour;
F	Moral and political attitudes;
G	Social influence and persuasion.
H	Aptitude and foundational values for Civil Service , integrity, impartiality and non-partisanship, objectivity, dedication to public service, empathy, tolerance and compassion towards the weaker sections.
I	Emotional intelligence-concepts, and their utilities and application in administration and governance.
J	Contributions of moral thinkers and philosophers from India and world.
K	Public/Civil service values and Ethics in Public administration: Status and problems;
L	Ethical concerns and dilemmas in government and private institutions;
M	Laws, rules, regulations and conscience as
N	sources of ethical guidance;
O	Accountability and ethical governance; strengthening of ethical and moral values in governance; ethical issues in international relations and funding;
P	Corporate governance.
Q	Probity in Governance: Concept of public service;
R	Philosophical basis of governance and probity;
S	Information sharing and transparency in government, Right to Information, Codes of Ethics, Codes of Conduct, Citizen's Charters, Work culture, Quality of service delivery, Utilization of public funds, challenges of corruption.
T	Case Studies on above issues.