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DAILY NEWS ANALYSIS

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FOREWORD

We, at Team Vedhik is happy to introduce a new initiative - "Vedhik - Daily News Analysis (DNA)_The Hindu" compilations to help you with UPSC Civil Services Examination preparation. We believe this initiative - "Vedhik - Daily News Analysis (DNA)_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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India, China should seek a common ground for development, says envoy

Press Trust of India
NEW DELHI

As neighbours, it is natural for China and India to have some differences but the focus should be to seek common ground for development while resolving the pending issues through dialogue, outgoing Chinese Ambassador to India Sun Weidong said on Tuesday.

His comments came at the end of his tenure of a little over three years that saw the ties between the countries coming under severe strain following the Galwan Valley clashes in 2020. "China and India are important neighbours to each other. It is only natural to have some differences. The key is how to handle the differences," Mr. Sun said in his farewell remarks.



 The two sides should strive to manage and resolve differences, and look for a proper solution through dialogue and consultation

SUN WEIDONG
Chinese Ambassador to India

"We should be aware that the common interests of the two countries are greater than differences. Meanwhile, the two sides should strive to manage and resolve differences, and look for a proper solution through dialogue and consultation, instead of defining China-India relations by differences," he said.

Mr. Sun said the two countries need to respect each other's political systems and development

paths, and uphold the principle of non-interference.

"If the Western theory of geopolitics is applied to the China-India relationship, then major neighbouring countries like us will inevitably view each other as threats and rivals. Consequently, competition and confrontation will be the main mode of interaction, and zero-sum game will be inevitable result," he said.

Rishi Sunak becomes Britain's first non-white Prime Minister

The 42-year-old former Chancellor of the Exchequer is of Indian descent; he vows to fix 'mistakes' committed by former PM Liz Truss; Labour Party leader tweets that he has 'no mandate and the British people have had no say'

Sriram Lakshman
LONDON

Tuesday was a historic day for the United Kingdom, which got its first-ever non-white Prime Minister in Rishi Sunak, the former Chancellor of the Exchequer and Britain's youngest Prime Minister in recent times.

Mr. Sunak, 42, is of Indian descent and was born to parents who migrated to Britain from East Africa. The former investment banker and hedge fund manager will have the daunting task of trying to get the British economy back on the rails while attempting to unite the Conservative Party, which has produced three Prime Ministers in under two months.

"Rishi Sunak becoming



In the hot seat: British PM Rishi Sunak outside No 10 Downing Street on Tuesday. GETTY IMAGES

the first British Indian Prime Minister is an historic moment. This simply would not have been possible even a decade or two ago," Sunder Katwala, director of British Future, a

think tank that works in the area of identity and race, wrote on Monday when Mr. Sunak became Prime Minister-designate.

"This will be a source of pride to many British

Asians – including many who do not share Rishi Sunak's Conservative politics," he said.

Mr. Sunak is married to an Indian citizen, Akshata Murthy, who is the daughter

of Infosys founder N.R. Narayana Murthy, and they have two daughters.

He was chosen by his fellow Conservative MPs to lead the party and country, following former Prime Minister Liz Truss's announcement last Thursday that she was resigning, having lost the support of her fellow MPs after a failed 'mini budget' that deeply rattled markets.

"Rishi Sunak has been crowned by Tory MPs. It's a coronation not an election," Angela Rayner, deputy leader of the Labour Party tweeted on Monday.

"He has no mandate and the British people have had no say. #GeneralElectionNow," she said.

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Sunak becomes Britain's first non-white PM

"I will place economic stability and confidence at the heart of this government's agenda," Mr. Sunak said, adding that his government would be run with "integrity, professionalism and accountability". Former Prime Minister Boris Johnson's scandal-ridden government had collapsed in July leading to Ms. Truss replacing him after she beat Mr. Sunak in a vote by Conservative Party members.

Ms. Truss, who had been in office just 49 days, defended her policy decisions in a speech on the way out of Downing Street on Tuesday morning. The new Prime Minister said he admired Ms. Truss's "restlessness" and that her goal of creating economic growth was "noble".

"But some mistakes were made," he said, as he vowed to improve the National Health Service and control borders. Mr. Sunak is a supporter of the Johnson government's plan to send certain asylum seekers from Britain to Rwanda. He also voted for Brexit in 2016 (i.e., Britain to leave the European Union) and said on Monday that he would deliver on the Conservative manifesto promise of embracing the "opportunities of Brexit".

The Sunday Times Rich list estimated Mr. Sunak and Ms. Murty's financial worth – the overwhelming share of which is hers – at £730 million. Accused of being out of touch with the common man's problems because of his wealth, Mr. Sunak, who won praise for overseeing the COVID-19 lockdown-related financial assistance as Chancellor, said he would "bring that same compassion" to the current challenges the U.K. faces.

However, he cautioned that there were limits to what could be done, especially now. Soon after being appointed to the top job, Mr. Sunak began a Cabinet reshuffle while retaining some Ministers in their posts. Dominic Raab – a steadfast supporter of his through the summer campaign – was appointed Deputy Prime Minister and Justice Secretary. James Cleverly was reappointed Foreign Secretary. Earlier in the day, Mr. Cleverly had made calls to several of his counterparts, including External Affairs Minister S. Jaishankar.

On Mr. Sunak's to-do list will be overseeing his government completing a trade deal with India, which has proved challenging, partly due to the controversial comments on migration made by Suella Braverman, the Truss government's Home Secretary, in addition to reported interference from Ms. Truss. Significantly, Mr. Sunak re-appointed Ms. Braverman to her former role on Tuesday afternoon.

Jeremy Hunt, Ms. Truss's second Chancellor, was re-appointed to his post and Ben Wallace was re-appointed Defence Secretary, Downing Street announced. On Wednesday, Mr. Sunak will appear in Parliament for his first Prime Minister's Questions.

Betting on change: an American dream

There are three countries in which the West in general and the U.S. in particular would like to see regime change: Iran, Russia and China. Iran is the most promising; China, the least.

Once the Ayatollahs took over Iran in 1979, they demanded handover of the Shah from America where he had taken refuge. The U.S. refused and the Islamist students took over the American embassy in Tehran, holding the diplomats hostage for 444 days. Ever since, the relations between Washington and Tehran have been extremely unfriendly. A superpower, humiliated, must not rest until the regime is toppled. During the eight-year-long Iran-Iraq war, the Americans were clearly on Iraq's side, which gave further cause to the Iranians to hate the US.

Iran's nuclear programme has been the subject of prolonged negotiations between the U.S. and Iran. America had no objection per se in Iran having nuclear weapons so long as Shah was in power; indeed, they set up several nuclear plants in Iran. Once the mullahs declared their determination to drive Israel into the sea, the Americans had no choice but to pressure Iran to give up its nuclear programme and to impose stringent economic sanctions against it. There were opportunities to reach an agreement on this festering issue, but they were not seized. Mr. Trump denounced the nuclear deal worked out by President Obama; he too had little choice in the face of Israel's stubborn opposition to any deal with Iran.

The U.S. is looking at the current wave of protests in Iran as an opportunity to bring the regime down. Even the Iranian oil industry has joined in the protests. This is not as farfetched as it might appear. The mullahs surely remember how the CIA in 1953 brought down the democratically elected Prime Minister Mossadegh, who had nationalised the Iranian oil industry. Tehran



Chinmaya Gharekhan

is a former Indian diplomat

There is chaos aplenty on the horizon as the West, especially U.S., imagines a new regime in Iran, Russia and China

accuses the U.S. as being behind the protests sparked by the death of an Iranian woman during police custody. Can one dismiss their claim altogether? The protests, combined with the dire economic situation, might pose existential threat to the regime. The mullahs must not underestimate the capability of CIA to elevate the protests into a civil war, or of the staying power of the protesters. Even a strong man like Hosni Mubarak in Egypt had to step down despite controlling the military and intelligence. Iran would do well to reach an agreement on the nuclear issue.

As for Russia, President Biden publicly called for Mr. Putin's removal. "For God's sake, that man, (meaning President Putin,) cannot remain in power," he said in Warsaw on May 26. Does Putin's war on Ukraine open up, however slightly, the door for a regime change in the Kremlin? The war has gone extremely badly so far for Mr. Putin. He too is facing humiliation and has repeatedly threatened to use nuclear weapons. His counter sanctions against the West by denying energy supplies to them are unlikely to produce change of behaviour just as the Western sanctions have not worked in making Mr. Putin sue for peace. However, even Mr. Gorbachev had to pull out of Afghanistan; his country could no longer afford to remain in Afghanistan and the

families of the fallen soldiers generated almost unbearable protests. Mr. Putin may face a similar situation at some stage.

Mr. Biden is in no hurry. The U.S. is not interested in a ceasefire. The war does not cost them anything. The arms industry is booming and American blood is not being shed. As and when Ukraine begins to rebuild itself, it is mostly the American companies that will reap all the contracts.

{A thought regarding Ukraine. While the big powers are indulging in irresponsible talk of nuclear war and Armageddon, the rest of the world is suffering grievously, particularly the developing countries. They must not continue to sit with folded hands. One of them, such as India, either singly or with like-minded partners, should table a resolution in the Security Council demanding immediate end to the hostilities in situ, to be followed by intense diplomacy by the Secretary General with all the parties to explore avenues to find face-saving formula that might satisfy or dissatisfy everyone equally.}

China is a different story. The Chinese Communist Party, with its 90 million members, is firmly, though perhaps not too comfortably, entrenched. Its economy is the second largest in the world. Its military, growing more powerful by the day, is well disciplined; at least so it appears. What sustains the CCP is its remarkable feat in reducing poverty and improving the living standards of the people. So long as the party can increase prosperity, it is safe. Hence, the economic war with China which Mr. Trump started and Mr. Biden is continuing and ratcheting up almost every week.

There have been some rumblings, reported in the media, among senior echelons of the CCP; how true, one does not know. All in all, China offers the least potential for regime change, but the U.S. will not abandon the goal. One of Mr. Biden's successors, however removed, might succeed.



ASSOCIATED PRESS

Jaishankar holds talks on bilateral relations with Britain's Foreign Secretary

Kallol Bhattacharjee

NEW DELHI

External Affairs Minister S. Jaishankar on Tuesday discussed relations between India and the U.K. with his British counterpart James Cleverly.

The call took place just before Mr. Cleverly was confirmed to continue in the post of Foreign Secretary by the newly appointed British Prime Minister, Rishi Sunak.

The two Ministers discussed several issues but the announcement of the telephone call did not include the state of negotiation of the India-U.K. Free Trade Agreement (FTA) which missed the Deepavali deadline that was given earlier this year by former Prime Minister Boris Johnson during his visit to India.

Dialogue on track

“Received a call from U.K. Foreign Secretary James Cleverly. Discussed counter-terrorism, bilateral re-



Union Minister S. Jaishankar with U.K. Foreign Secretary James Cleverly. FILE PHOTO

lations and the Ukraine conflict,” Dr. Jaishankar said in a social media announcement.

The telephone call showed high-level dialogue between the two sides has been on track despite the political developments in London, including the resignation of Liz Truss and appointment of Mr. Sunak as her successor.

Prime Minister Narendra Modi congratulated Mr. Sunak on Monday, extending Deepavali greetings, and said that he looked “forward to working close-

ly together on global issues, and implementing Roadmap 2030.”

Roadmap 2030

The Roadmap 2030 was launched on May 4, 2021 during the India-U.K. virtual summit led by Mr. Modi and Mr. Johnson.

One of the main focus areas of the Roadmap 2030 was the Free Trade Agreement between the two countries that received further boost during Mr. Johnson’s visit to India in April this year. He had announced that the deal would be ready by Deepavali.

However, both sides had reconciled to the possibility of missing that deadline last week when British media reported that the deal was “put on hold”.

The official spokesperson of the Ministry of External Affairs, Arindam Bagchi, however, responded saying that the negotiation should be left to the concerned officials and the deal was on track.

TV dominates as news source, despite poor trust levels

Only 13% "strongly trusted" private TV news channels compared to 31% who said so about newspapers, says CSDS survey

DATA POINT

The Hindu Data Team

Indian news consumers' trust in private TV news channels is relatively much lower than their belief in newspapers and yet television continues to be the dominant news source. Notably, their trust in online news websites is lower than even the private channels, while the former is the third preferred source for accessing news after news channels and newspapers despite a surge in smartphone usage.

The conclusions are based on a survey done in 2022 by the Lokniti programme of Centre for the Study of Developing Societies, in partnership with Konrad Adenauer Stiftung. The study was conducted in 19 States among 7,463 citizens aged 15 years and above. The survey covers all segments of the society - the rural as well as the urban citizens, the rich and the poor, the young and the old, men and women, and the non-literate as well as the educated.

Table 1 shows how people are "accessing news" through various sources. Over 70% of consumers said they watch news channels, while 48% read newspapers. About 37% also said that they visit websites to consume news.

Table 2 shows the dominant news source among participants. Over 40% said TV and about 22% said new media (internet/social media/mobile phone) as their dominant sources for news. Only 6% and 1% said newspaper and radio are the main sources respectively.

Table 3 shows the presence of media and communication sources in Indian homes. Three out of every four homes have a television set, close to one in four get a newspaper daily or often and in 13% homes get magazines periodically or often. There is a music system or a transistor in 22% homes, whereas 76% have at least one smartphone owning member.

Interestingly, the number of persons who carry a mobile phone that is not "smart" has become miniscule. While 84 of every 100 homes have at least one mobile phone owning member, 76 of every 100 homes have a smartphone owning member. When individuals are considered, the survey shows that 26% of individuals owned an ordinary mobile phone and 43% owned a smartphone. This meant that more individuals in India today own a smartphone than an ordinary mobile phone, which was not the case till about three years ago. In 2019, a national survey by Lokniti had found 40% owned an ordinary mobile phone and 33% a smartphone.

Survey also shows that online websites are the least trusted among news sources. Only 11% "strongly" trust them, fewer than 13% who said the same for private TV news channels. In contrast, more than twice the share - 31% - said they strongly trust newspapers. Over 60% "strongly or somewhat" trust newspapers. The trends are captured in Table 4.

Interestingly, 50% or more respondents "highly or moderately" trusted Twitter, WhatsApp and YouTube while less than half said the same about Facebook, Instagram and Telegram as listed in Table 5.

Table 6 shows that over 50% of active internet users are concerned about receiving or being misled by fake news on the internet, social media and WhatsApp.

Table 7 shows that 47% social media users have been misled by fake news at least once and about 38% shared such news unknowingly at least once and later realised that it was not true.

Put together, the results bring out a curious pattern of news consumption in India. Despite a surge in smartphone usage, TV and newspapers continue to beat websites in news consumption. And the trust in TV news is much lower than newspapers but it still is the dominant source of news.

Patterns of news consumption

The tables show the mediums used by Indians to access news, trust levels in news disseminated and their experience with fake news. Data were sourced from a survey conducted in 2022 by the Lokniti programme of the Centre for the Study of Developing Societies, in partnership with Konrad Adenauer Stiftung



Table 1 | Proportion of Indians accessing news through various means

Watch news channels	71
Read newspapers	48
Visit news websites	37

Table 2 | Through which medium do you mostly get/obtain news?

Television	42
Newspaper	6
Radio	1
New media (internet/ social media/ mobile phone)	22
People (family/ friends/ neighbours/ others)	18
Difficult to say/not interested	11

Table 3 | Presence of media and communication sources in Indian homes

Traditional sources	
Television set	75
Newspaper (get it daily or often)	27
Magazine (get it periodically or often)	13
Music system or transistor	22
New sources	
At least one mobile phone-owning member (includes smartphone)	84
At least one smartphone-owning member	76
Computer/laptop/tablet	19
Private internet connection at home	12

Table 4 | How much do you trust the news disseminated through these news media?

	Strongly trust	Somewhat trust	Don't trust much	Don't trust at all	Non-committal
DD's news channels	34	30	16	8	12
Newspapers	31	29	16	9	15
Private news channels	13	28	20	13	26
AIR news	15	20	15	15	35
Online news websites	11	23	19	15	32

Table 5 | Trust in information or news received from various social media platforms

	High trust	Moderate	Very little	None at all	Non-committal
Twitter	17	33	21	12	17
WhatsApp	16	38	21	13	12
YouTube	14	37	22	13	14
Facebook	14	35	26	14	11
Instagram	11	33	27	15	14
Telegram	11	30	24	17	18

Table 6 | How concerned are you about receiving or being misled by inaccurate or fake information on the internet, social media and/or Whatsapp?

	High	Moderate	Little	None at all
All internet users	16	25	17	42
Active internet users	21	31	20	28

Table 7 | Social media users' experience with fake news

	Very often	Few times	Once or twice	Never
Been misled by fake news on internet or social media	7	18	22	53
Shared fake news/ information unknowingly and realized later that it was false	5	14	19	62

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CCI imposes ₹936 cr. fine on Google

The Hindu Bureau

NEW DELHI

The Competition Commission of India on Tuesday imposed a penalty of ₹936.44 crore on Google for “abusing its dominant position with respect to its Play Store policies”, in the second such penalty on the Net giant within a week.

The CCI also issued a cease-and-desist order. It directed the search giant to allow app developers to use any third-party billing services and set out a clear and transparent policy on data collected on its platform.

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In another CCI rap, Google fined ₹936 cr.

“The app developers are left bereft of the inherent choice to use payment processor of their liking from the open market,” the order said adding that during the investigation it found that Google is following discriminatory practices by not using the GPBS for its own applications such as YouTube.

The CCI noted that if the app developers do not comply with Google’s policy of using the GPBS, they are not permitted to list their apps on the Play Store and thus, would lose out the vast pool of potential customers in the form of Android users. Pointing out that there were “glaring inconsistencies” and wide disclaimers in presenting various revenue data points by Google, the CCI, however, has in the interest of justice quantified the provisional monetary penalties on the basis of the data presented by Google.

“Accordingly, the CCI imposed a penalty @ 7% of its average relevant turnover amounting to ₹936.44 crore upon Google on provisional basis, for violating Section 4 of the Act. Google has been given a time of 30 days to provide the requisite financial details and supporting documents,” it said. The anti-trust regulator, on October 20, slapped a fine of ₹1,337.76 crore on Google for abusing its dominant position in multiple markets in the Android mobile device ecosystem.

India's exports to China growing faster than inbound shipments'

PLI schemes for different sectors will help reduce dependence on imports over time; technical regulations framed for products such as toys, electronics, chemicals and fertilizers will check sub-standard imports, says government official

Vikas Dhoot
NEW DELHI

India's trade equation with China has been improving in recent years with outbound shipments rising faster than imports, whose growth is being driven largely by vital raw materials and to meet demand from high-growth sectors such as telecom and power, a senior government official said.

China is one of India's large trading partners, with trade flows between the two countries having grown 59% from about \$72 billion in 2014-15 (FY15), to \$115.4 billion in FY22.



Trade balance: Major imports from China include electronics, IT hardware, telecom gear and organic chemicals. PTI

"Since India-China trade started picking up, the growth in exports to China has been much higher than

the import growth," a Commerce Ministry official told *The Hindu*. From \$11.9 billion in FY15, India's ex-

ports to China had risen 78.1% to \$21.25 billion last year, while imports stood at \$94.16 billion, 55.8% over the \$60.4 billion recorded in FY15. By contrast, imports from China had increased 192% between 2006-07 and 2013-14, when they had crossed \$51 billion, he pointed out.

Intermediate goods account for more than a third of India's imports from China, while capital goods constitute another 19.3%, with telecom and power sector gear being key drivers, which helped meet domestic demand in these fast-expanding sectors, the official said. The major

items of import from China are electronic components, computer hardware and peripherals, telecom instruments, organic chemicals, industrial machinery for dairy, residual chemicals and allied products, electronic instruments, bulk drugs and intermediates.

The production-linked incentive schemes for different sectors will help reduce the dependence on such imports over time, even as technical regulations framed for products such as toys, electronics, chemicals and fertilizers will check sub-standard imports, he emphasised.

Ending dominance

Mobile users of digital powerhouses need an environment of real choice

The recent order of India's competition regulator against Google for abusing its dominant position in the Android mobile device ecosystem is significant not just for the amount of penalty imposed but also for the drastic changes in business practices that it requires the IT giant to undertake. On Thursday, the Competition Commission of India imposed a penalty of about ₹1,337 crore, said to be a provisional amount, on Google, while coming down heavily on it for having such restrictive clauses in its agreements with original equipment manufacturers (who use its Android platform) that it can keep competition at bay. And because of such agreements, the order said, "Google ensured that users continue to use its search services on mobile devices which facilitated un-interrupted growth of advertisement revenue for Google." It, therefore, concluded that the whole idea of Google imposing such restrictions on its device partners was to "protect and strengthen its dominant position in general search services and thus, its revenues via search advertisements". This decision, both the penalty and the regulator's direction to Google "to modify its conduct", will be welcomed by anyone who realises the power of the big IT platforms to shut out competition and, therefore, choice for the users.

Significantly, it will not be business-as-usual for Google, as the regulator has issued a cease and desist order against it, according to which it will have to drastically change the terms of the deals it enters into with original equipment manufacturers. For instance, as per the Competition Commission order, Google should not henceforth force original equipment manufacturers to choose from its bouquet of apps to pre-install on the device. Nor should it, the order says, require device makers to pre-install its apps such as Google search, Chrome, YouTube, Maps, among others, as a precondition for licensing of its Play Store. It also has been directed against restricting users from uninstalling its pre-installed apps. One of the requirements, in fact, targets Google's primary revenue generator. It says, "Google shall allow the users, during the initial device setup, to choose their default search engine for all search entry points." These, among a slew of such requirements, could well mean that Google will have to tweak its business model in India. Google has termed the order a "major setback" for Indian businesses and consumers, saying it opens up security risks while also possibly raising the cost of mobile devices. While the option of legal review is open, it is to the regulator's credit that Google's anti-competitive practices have been called out. What the mobile users of a potential digital powerhouse such as India need is an environment of real choice.

A renewable energy revolution, rooted in agriculture

The beginnings of a renewable energy revolution rooted in agriculture are taking shape in India with the first bio-energy plant of a private company in Sangrur district of Punjab having commenced commercial operations on October 18. It will produce Compressed Bio Gas (CBG) from paddy straw, thus converting agricultural waste into wealth.

It has become common practice among farmers in Punjab, Haryana and western Uttar Pradesh to dispose of paddy stubble and the biomass by setting it on fire to prepare fields for the next crop, which has to be sown in a window of three to four weeks. This is spread over millions of hectares. The resultant clouds of smoke engulf the entire National Capital Territory of Delhi and neighbouring States for several weeks between October to December. This plays havoc with the environment and affects human and livestock health.

Some measures

The Government of India has put in place several measures and spent a lot of money in tackling the problem. The Commission for Air Quality Management in National Capital Region and Adjoining Areas (CAQM) had developed a framework and action plan for the effective prevention and control of stubble burning. The framework/action plan includes in-situ management, i.e., incorporation of paddy straw and stubble in the soil using heavily subsidised machinery (supported by crop residue management (CRM) Scheme of the Ministry of Agriculture and Farmers Welfare). Ex-situ CRM efforts include the use of paddy straw for biomass power projects and co-firing in thermal power plants, and as feedstock for 2G ethanol plants, feed stock in CBG plants, fuel in industrial boilers, waste-to-energy (WTE) plants, and in packaging materials, etc.

Additionally, measures are in place to ban stubble burning, to monitor and enforce this, and initiating awareness generation. Despite these efforts, farm fires continued unabated.



Ramesh Chand
is Member, NITI Aayog



Konda Reddy Chavva
is Assistant FAO Representative, India

In Punjab, a project to use paddy straw to produce compressed bio gas is one that is replicable across India, and can transform the rural economy

Though paddy stubble burning in northwest India has received a lot of attention because of its severity of pollution, the reality is that crop residue burning is spreading even to rabi crops and the rest of the country. Unless these practices are stopped, the problem will assume catastrophic proportions.

A project in place

In its search for a workable solution, NITI Aayog approached FAO India in 2019 to explore converting paddy straw and stubble into energy and identify possible ex-situ uses of rice straw to complement the in-situ programme. In technical consultations with the public and private sectors, the FAO published its study on developing a crop residue supply chain in Punjab that can allow the collection, storage and final use of rice straw for other productive services, specifically for the production of renewable energy.

The results suggest that to mobilise 30% of the rice straw produced in Punjab, an investment of around ₹2,201 crore (\$309 million) would be needed to collect, transport and store it within a 20-day period. This would reduce greenhouse gas (GHG) emissions by about 9.7 million tonnes of CO₂ equivalent and around 66,000 tonnes of PM_{2.5}. Further, depending on market conditions, farmers can expect to earn between ₹550 and ₹1,500 per ton of rice straw sold, depending on market conditions.

A techno-economic assessment of energy technologies suggested that rice straw can be cost-effective for producing CBG and pellets. Pellets can be used in thermal power plants as a substitute of coal and CBG as a transport fuel. With 30% of the rice straw produced in Punjab, a 5% CBG production target set by the Government of India scheme, "Sustainable Alternative Towards Affordable Transportation (SATAT)" can be met. It could also increase local entrepreneurship, increase farmers' income and reduce open burning of rice straw. In Punjab, Sangrur, Ludhiana and Barnala were recommended as the most promising districts for

these interventions. Verbio India Private Limited, a 100% subsidiary of the German Verbio AG, got approval from the Punjab government in April 2018 to set up a bio-CNG project that will utilise about 2.1 lakh tonnes of a total of 18.32 million tonnes of paddy straw annually. The plant is in Bhutal Kalan village of Lehragaga tehsil in Sangrur district, Punjab. The plant will use one lakh tonnes of paddy straw produced from approximately 16,000 hectares of paddy fields. Paddy residue will be collected from this year to produce 33 tons of CBG and 600-650 tonnes of fermented organic manure/slurry per day – this will reduce up to 1.5 lakh tonnes of CO₂ emissions per year.

Many benefits

Thus, from paddy stubble, CBG valued at ₹46 per kg as per the SATAT scheme will be produced. Paddy straw from one acre of crop can yield energy output (CBG) worth more than ₹17,000 – an addition of more than 30% to the main output of grain. This initiative is an ideal example of a 'wealth from waste' approach and circular economy.

There are several other benefits: the slurry or fermented organic manure from the plant (CBG) will be useful as compost to replenish soils heavily depleted of organic matter, and reduce dependence on chemical fertilizers. The plant will also provide employment opportunities to rural youth in the large value chain, from paddy harvest, collection, baling, transport and handling of biomass and in the CBG plant. This will boost the economy of Punjab. It is pertinent to mention that straw from many other crops contains higher energy than paddy straw.

This appears to be a first win-win initiative in the form of environmental benefits, renewable energy, value addition to the economy, farmers' income and sustainability. This initiative is replicable and scaleable across the country and can be a game changer for the rural economy.

The views expressed are personal

'Burning of fossil fuels killed over 3 lakh Indians in 2020'

Bindu Shajan Perappadan
NEW DELHI

An estimated over 3,30,000 people died in India due to exposure to particulate matter from fossil fuel combustion in 2020, says the 2022 report of *The Lancet countdown on health and climate change: health at the mercy of fossil fuels*, released on Tuesday. The report adds that from 2000-2004 to 2017-2021, heat-related deaths increased by 55% in India.

The new findings presented in the seventh annual global report of the *Lancet Countdown on Health and Climate Change* also pointed to the fact that governments and companies continue to follow strategies that increasingly threaten the health and survival of people, and future generations.

Among other findings in the report, 45% of urban centres in India are classified as moderately green or above. Giving an indication of the economic loss, the report states that in 2021, Indians lost 16,720 crore potential labour hours due to heat exposure with income losses equivalent to about 5.4% of the national GDP.

Stating that climate change is amplifying the health impacts of multiple crises, the report further found that from 2012 to 2021, infants aged under one experienced a higher number of heatwave days.

Additionally, it added that the duration of the growth season for maize has decreased by 2%, compared with a 1981-2010 baseline, while rice and winter wheat have each decreased by 1%.

Warning that governments are not focusing on the issue as much as required, it said that in 2019, India had a net negative carbon price, indicating that the government was effectively subsidising fossil fuels.

"India allocated a net 34 billion USD [around ₹2,80,000 crore] to this in 2019 alone, equivalent to 37.5% of the country's national health spending that year. Biomass accounted for 61% of household energy in 2019, while fossil fuels accounted for another 20%. With this high reliance on these fuels, average household concentrations of particulate matter exceeded the WHO recommendation by 27-fold nationally and 35-fold in rural homes," the report 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, redrawal 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 provision 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 & privilege and issues arising out of these;

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.