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INDIAN EXPRESS

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PRACTICE OF TALAQ-E-HASAN

(Syllabus: GS Paper 2 - Social Justice)

Talaq-e-hasan practice not so improper, says SC

EXPRESS NEWS SERVICE
NEW DELHI, AUGUST 16

THE SUPREME Court on Tuesday said it was of the prima facie view that the practice of talaq-e-hasan followed by Muslim men for divorce by saying 'talaq' to the wife once a month for three months, is "not so improper".

A bench presided by Justice S K Kaul also asked the woman petitioner, who said her husband gave her "unilateral extra-judicial talaq" through a lawyer when her father refused to give more dowry, whether she is willing to explore the option of divorce by mutual consent if the question of 'meher' is taken care of.

"We have also put to learned senior counsel whether in view of the allegation of respondent of irretrievable breakdown of marriage, would the petitioner be willing for a settlement by process of divorce by mutual consent on amounts being paid over and above the meher fixed. In fact, we have brought to their notice that dissolution of marriage is also possible without the intervention of the court through 'mubarat'," the bench also comprising Justice M M Sundresh said in its order.

Senior Advocate Pinky Anand, appearing for the petitioner, said she will take instructions following which the court adjourned the matter to August 29.

The petition by Benazeer Heena, a journalist, said she was married as per Islamic rituals on December 25, 2020, and a male child born out of the wedlock. Heena alleged that she was tortured by her husband and his family members over dowry, forcing her to return to her parents in December 2021. She added that though she filed a complaint with the Delhi Commission for Women and also lodged an FIR on April 5, 2022, police said that talaq-e-hasan "is permitted under the Shariah" law.

Heena contended that all extra-judicial forms of talaq, including talaq-e-hasan are "arbitrary and irrational and contrary to Articles 14, 15, 21, 25 (of the Constitution) and international conventions on civil human rights". She said that the practice "is neither harmonious with the modern principles of human rights, nor an integral part of Islamic faith. Many Islamic nations have restricted such practices, while it continues to vex the Indian society in general and Muslim women "like her in particular". The petitioner urged the court to declare it void and unconstitutional. The plea also sought a direction to the Centre to frame guidelines for "gender neutral, religion neutral, uniform grounds of divorce and uniform procedure of divorce" for all.

The bench quizzed the petitioner whether she had disclosed the fact that she had also approached the Delhi High Court. Justice Kaul pointed out that the petitioner had sought deferment of proceedings before the HC and got it listed on October 7 stating that something was pending before the Supreme Court. Advocate Ashwini Upadhyay, who also appeared for the petitioner, said they had approached the SC in April.

Justice Kaul then remarked that this is not triple talaq and that "prima facie, this (talaq-e-hasan) is not so improper". The bench said if two people cannot live together, the court grants divorce on the ground of irretrievable breakdown of marriage, and asked whether the petitioner is open to divorce by mutual consent if 'meher' is taken care of.

Context: The Supreme Court said it was of the prima facie view that the practice of talaq-e-hasan followed by Muslim men for divorce by saying 'talaq' to the wife once a month for three months, is "not so improper".

Talaq-e-Hasan

- **A form of triple talaq:** practiced in Muslim marriages.
  - It is a type of divorce practice common in Muslim marriages, where a man can divorce his wife by pronouncing "talaq" three times over the course of three months.
  - This means that the Muslim man can say "talaq" once a month for three months, leading to the end of the marriage.
- **Argument against**: violate the fundamental and constitutional rights of women.

Muslim Women (Protection of Rights on Marriage) Act, 2019

- **The Act makes all declaration of talaq**, including in written or electronic form, to be void (i.e. not enforceable in law) and illegal.
- **The Act makes a declaration of talaq a cognizable offence**, attracting up to three years imprisonment with a fine.
- **The offence will be cognizable only if** information relating to the offence is given by married woman (against whom talaq has been declared), or any person related to her by blood or marriage.
- **The Act provides that the Magistrate** may grant bail to the accused.
- **A Muslim woman against whom talaq has been declared**, is entitled to seek subsistence allowance from her husband for herself and for her dependent children.

Key provisions

The Muslim Women (Protection of Rights on Marriage) Bill makes instant triple talaq illegal and imposes a jail term of up to 3 years

BAIL PROCESS: While the proposed law will remain "non-bailable" — bail cannot be granted at the police station — the accused can approach a magistrate for bail even before the trial



BY THE AGGRIEVED ALONE: Police can register the FIR only when a complaint is made by the victim (wife) or her blood relative

BURYING THE HATCHET: If the offence is compoundable, i.e. the husband and wife can have a settlement before a magistrate, the case can be withdrawn

INDIAN EXPRESS

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START-UP FOR SENIOR CITIZENS

(Syllabus: GS Paper 3 - Economy)

Start-up backed by Ratan Tata to empower senior citizens

EESHANPRIYAMS
MUMBAI, AUGUST 16

VISITING A bakery, coffee shop or movie theatre seemed like a far-fetched idea for 74-year-old Prithwis Datta, who lives alone in Mumbai. However, over the last six months, these outings have become a part of his life, thanks to a "grandpal", who got introduced to him through Goodfellows, a start-up that helps senior citizens find empathetic young companions.

Based on the idea of making grandpals by nurturing fulfilling friendships between young graduates and senior citizens – through a fellowship aimed at providing meaningful companionship to senior citizens who live alone – the Goodfellows start-up was launched in Mumbai on Monday by Ratan Tata, Chairman Emeritus of Tata Sons.

The start-up has been founded by Shantanu Naidu, a close mentee of Tata and a general manager in his office. Tata has even provided seed capital for the start-up.

"No one should have to go to a doctor alone. Company gives you the security of sharing that experience with someone. My grandpal and I visited the doctor for my appointment one afternoon, and she later introduced me to a new-age pastry shop, where we had a small snack and returned home. I may just become a regular member of it now," Dutta said.



Ratan Tata at the launch in Mumbai, Tuesday. Ganesh Shirsekar

Designed to connect the fellows to senior citizens as youth companions, and recreate the bond between grandparents and grandchildren, Goodfellow will do whatever a grandchild would do, according to Naidu.

"Whether it is accompanying the seniors for grocery shopping or doctors' appointments, outings and walks, teaching them how to use various technology, or sharing a conversation over tea, our fellows are there for it all," he added.

While the programme was formally launched at the hands of Ratan Tata in Cuff Parade in south Mumbai on Monday, Goodfellows has successfully completed a "Beta phase" over the past six months, taking 20 carefully-vetted young fellows on board and pairing them with grandpals from Mumbai.

Over the next few months, Naidu plans to expand the project within Mumbai, Pune, Chennai, Bangalore. Goodfellows will also offer travel companionship to senior citizens who hesitate to take trips.

At the launch, Tata said, "I salute this effort that gives one's time to make another person's happiness more secure, without expecting anything in return. I salute the fellows who are doing this, but don't have to do it; a group of young and intelligent young people who could do other things for themselves."

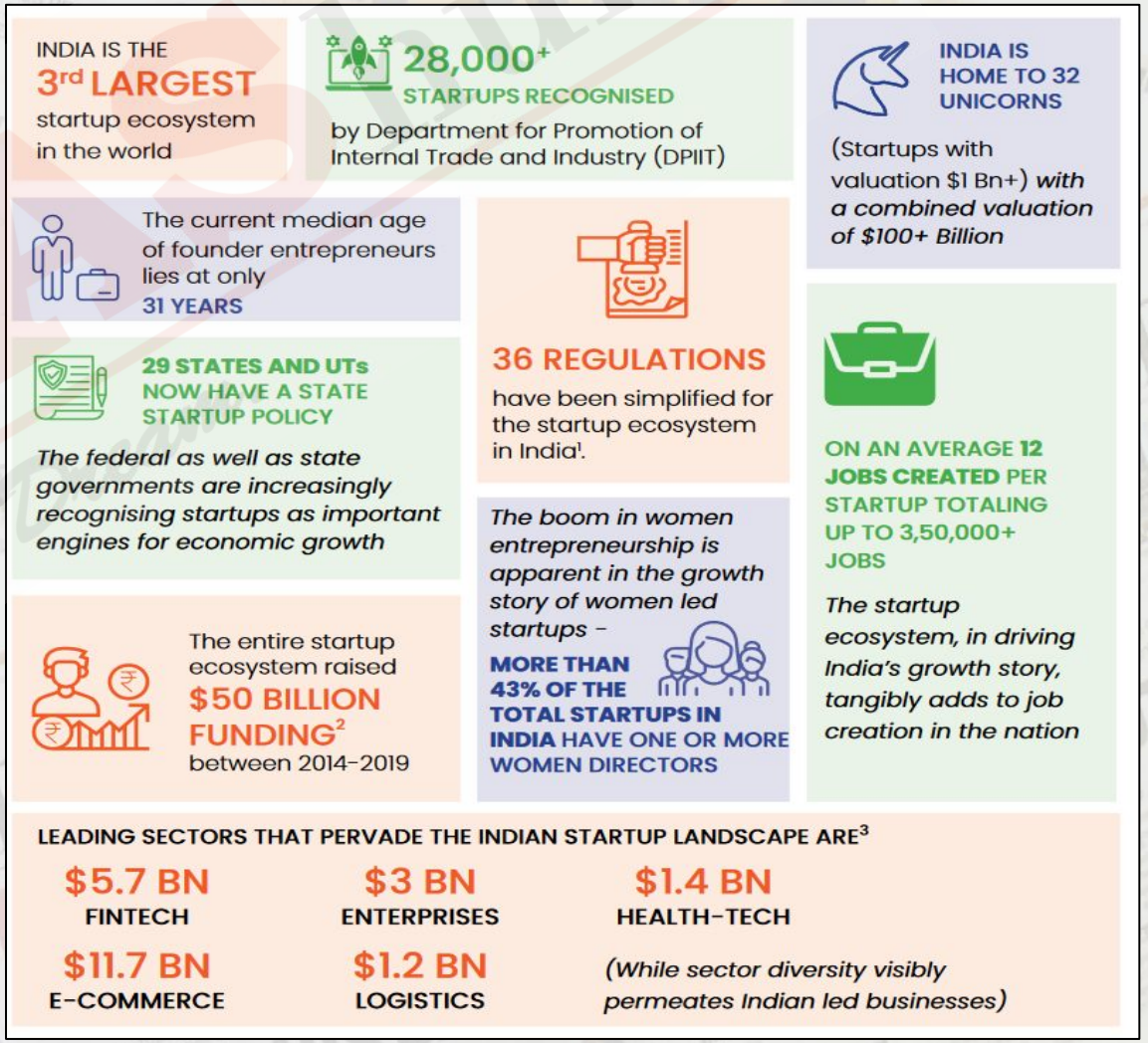
For the programme's Beta phase, Naidu received 800 applications from young graduates, of which 20 were shortlisted. Applicants were carefully vetted with an in-house psychometric test for empathy, kindness and reliability. The team also conducts background checks and police verification of the finalists.

Senior citizens can register by signing up on their website, or giving a missed call to 8779524307. While the first month of subscription is free, Goodfellows charges a nominal monthly fee thereafter.

Context: The Goodfellows start-up was launched in Mumbai by Ratan Tata.

Startup India Initiative

- **Launched in 2016**: An initiative of the Government of India.
- **Action plan of this initiative is focussing on three areas:**
  - Simplification and Handholding.
  - Funding Support and Incentives.
  - Industry-Academia Partnership and Incubation.
- **Definition of startup**: An entity that is headquartered in India which was opened less than 10 years ago, and has an annual turnover less than ₹100 crore.
- **I-MADE program:** The government has launched the I-MADE program to help Indian entrepreneurs build 10 lakh (1 million) mobile app start-ups, and the MUDRA Bank's scheme (Pradhan Mantri Mudra Yojana).



LIVEMINT Page 2

RISK OF DEVELOPING HYPERTENSION
(Syllabus: GS Paper 2 - Health & Social issues)

Hypertension affects women more: study

Priyanka Sharma
priyanka.sharma@livemint.com
NEW DELHI

Indian women in their 50s are more likely to be hypertensive than men in the same age group, shows a study by the Public Health Foundation of India (PHFI). Researchers at PHFI said theirs is the first study to comprehensively bust the myth that Indian men are at a higher risk of hypertension.

The researchers analyzed data collected from three large national surveys—the National Family Health Survey-4, Study of Ageing and Health wave-2 and Longitudinal Ageing Study of India wave 1—which included a representative sample of Indian adults from all states and Union territories, with the sample size running up to 300,000 individuals.

After attaining 50 years of age, Indian women had more risk of developing hypertension than men

Prof Parimala Mohanty, the author of the study noted, "The results clearly show that after attaining 50 years of age, Indian women had more risk of developing hypertension than men of comparable age, busting the myth that women are less susceptible to such conditions lifelong. This is similar to what other studies have found in many Western nations, despite large socio-cultural differences between India and the West. Hence, this study dispels another commonly-prevailing perception in Indian society—that Indian women may be less prone than Western women to hypertension and allied cardiac diseases because of their traditional lifestyle."

Prof Ambarish Dutta, senior author of the study noted, "Age-related rise of blood pressure in women is sharper than men... The women-men difference keeps widening as age further increases."

Dr Lipilekha Patnaik, another senior author pins this phenomenon of hypertension in women overtaking men after 50 to mainly post-menopausal bio-hormonal changes.

Context: Indian women in their 50s are more likely to be hypertensive than men in the same age group, shows a study by the Public Health Foundation of India (PHFI).

Hypertension

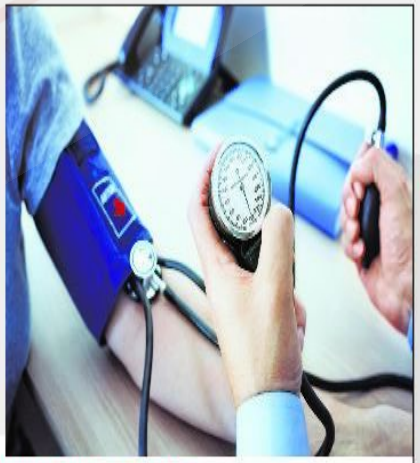
- Hypertension is when blood pressure is too high.
- **Defined as** having systolic blood pressure level greater than or equal to 140 mmHg or diastolic blood pressure level greater than or equal to 90 mmHg or/and taking anti-hypertensive medication to lower his/her blood pressure.
- **India Hypertension Control Initiative (IHCI) data**: nearly 23% out of 2.1 million Indians have uncontrolled blood pressure.

India Hypertension Control Initiative (IHCI)

- Launched in November 2017.
- The Health Ministry, the Indian Council of Medical Research, State Governments, and WHO-India began a five-year initiative to monitor and treat hypertension.
- India has committed to **a "25 by 25" goal**:
  - The goal aims to reduce premature mortality due to Non-Communicable Diseases (NCDs) by 25% by 2025.
  - One of the nine voluntary targets includes reducing the prevalence of high blood pressure by 25% by 2025.

Encouraging results, but much more to be done

Hypertension is a silent killer as most patients do not have any symptoms



Opportunistic screening: All people visiting any healthcare facility should be first screened for BP.

▪ SPECIAL ARRANGEMENT

- India has more than 200 million people with hypertension but only 14.5% of individuals with hypertension are on treatment
- Since 2018, more than two million patients have been started on treatment and tracked for BP control
- The project has demonstrated that blood pressure treatment and control is feasible in PHC settings in diverse health systems across States
- Over three years, health staff at PHCs health wellness centres have been trained to provide treatment and follow-up services
- Nearly half (47%) of the patients under care have achieved blood pressure control
- Availability of medications in the peripheral facilities made it easier for the patient to continue treatment and achieve BP control
- Based on the positive experience, several States have begun expanding the reach of the initiative beyond project districts

LIVEMINT

Page 6

WINDFALL TAX

(Syllabus: GS Paper 3 - Economy)

Higher prices help oil cos in Q1; windfall tax to keep lid on profit

With oil prices declining, analysts see some reduction in windfall taxes by the government

Ujjval Jauhari
ujjval.j@livemint.com
MUMBAI



On the production front, Oil and Natural Gas Corp. Ltd is seeing stable domestic production volumes.

Demand concerns amid the disappointing US and Chinese economic data, forecast of higher US crude production, and the progress on Iran's nuclear talks are weighing on global crude prices. Brent has slipped to below $100 a barrel from the highs of $121 a barrel in July.

Analysts said that Brent prices may remain volatile but will likely stay below $100 a barrel due to muted demand and expectations of more supplies.

On the positive side, softer crude prices are favourable for the Indian economy and, in turn, markets. However, it may not be good news for upstream oil producers such as ONGC and Oil India. The earnings of state-run oil producers depend on oil and gas realizations and production volumes, but after the windfall tax, the euphoria around crude realizations is already behind. On the production front, Oil and Natural Gas Corp. Ltd is seeing stable domestic production volumes, and its subsidiaries saw lower June quarter production, which was attributed to Russian oil sanctions.

However, with declining crude prices, analysts expect some reduction in windfall taxes by the government.

In the June quarter, ONGC reported an Ebitda of ₹25,930 crore (up 113% year-on-year and 39% sequentially) at a standalone level, primarily due to higher crude and gas prices and helped by oil realization at $108.5 a barrel, up 65% from the year ago and 14% sequentially. ONGC's gas price on the basis of gross calorific value came in at $6.10, up 240% from the year-ago following domestic gas price revisions in line with international gas prices.

Nevertheless, despite the strong performance, analysts have downgraded earnings. "We trim FY23 and 24 EPS estimates by 28% and 11%, respectively, on lower crude oil realization at $74 and $75 a barrel from earlier estimates of $95 and $90 per barrel given $30 a barrel windfall tax," Elara Securities (India) Pvt Ltd analysts said.

To control inflation, the government imposed ₹23,250 per tonne ($40 a barrel) windfall tax on crude oil on 1 July, which was to be reviewed periodically. It is now reduced to ₹17,750 per tonne (about $30 a barrel).

Hence, ONGC's profitability is likely to be capped. ONGC's crude oil realization will be at $60-70 a barrel; thereby, it will not benefit from soaring commodity prices, said analysts at Prabhudas Lilladher.

Oil India Ltd's net crude realizations were estimated at $65 a barrel for FY24 by JM Financials analysts. They said for every $5 a barrel change in net crude realization, it results in earnings per share (EPS) and valuation change by 14%. For ONGC, every $5 a barrel reduction in net crude realization results in 10% EPS and valuation change, said JM Financials.

With crude realizations capped, some benefits may accrue from higher gas prices for both ONGC and Oil India, and analysts said there is no talk of windfall taxes as of now.

ONGC's crude production was up 3.2% from a year earlier to 4.742 mt. Crude production from joint ventures was at 0.5 mt, falling 10%. This was primarily due to lower production from ONGC Videsh Ltd (OVL). JM Financial said OVL's production and earnings were hit due to the sanctions on Russia. For Oil India, however, production triggers exist due to ongoing expansions. Oil India has delivered good volumes in the first quarter and is confident of growing by 7% in FY23 and at least by 10% in FY24, Antique Stock Broking analysts said.

EARNINGS CAP

BRENT prices may stay volatile but below $100 a barrel on muted demand and hopes of more supplies

THE earnings of state-run oil producers depend on oil and gas realizations and production volumes

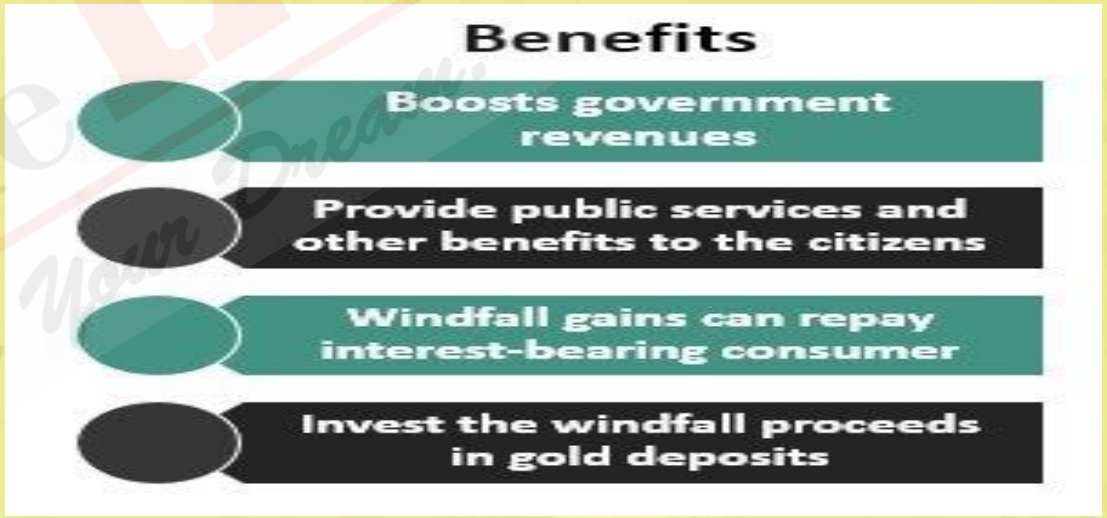
BUT after the windfall tax, the euphoria around crude realizations is already behind

WITH crude realizations capped, some benefits may accrue from higher prices to ONGC and Oil India

Context: Softer crude prices are favourable for the Indian economy and, in turn, markets.

Windfall tax

- A higher tax rate on sudden big profits levied on a particular company or industry.
- Levied only on profit.
- Transitory in nature.
- **Aim/Objective**: increasing local supplies and boosting its revenues.



THE HINDU Page 14

CHILD MORTALITY IN INDIA
(Syllabus: GS Paper 2 - Social Issues)

Child mortality has dipped to 35 per 1,000 births: Minister

Govt. launches new app, Paalan 1000, to guide parents

SPECIAL CORRESPONDENT
NEW DELHI

India has taken rapid strides in reducing child mortality since 2014 from 45 per 1,000 live births to 35 per 1,000 live births in 2019, Union Minister of State for Health Bharati Pravin Pawar said here on Tuesday.

Dr. Pawar was speaking after the virtual launch of the 'Paalan 1000' National Campaign and Parenting App at the Early Childhood Development Conclave in Mumbai.

'Paalan 1000' focuses on the cognitive development of children in the first two years of their life. The app will provide practical advice to caregivers on what they can do in their everyday routine and will help clear doubts.



The app will give advice to caregivers. ▪ RAGU R

Highlighting the importance of the early phases of a child's life as their impact can last a lifetime, Dr. Pawar said, "A baby's brain development begins during pregnancy and is influenced by the pregnant woman's health, nutrition and environment."

"The first 1,000 days encompasses conception as well as the first two years of a child's life and during this period, the growing child needs the right nutrition, stimulation, love and support. The first 1,000 days establishes a solid platform for a child's physical, mental, emotional, cognitive and social health," she said.

Context: India has taken rapid strides in reducing child mortality since 2014 from 45 per 1,000 live births to 35 per 1,000 live births in 2019.
Child mortality or the under-five mortality rate refers to the probability of a child dying between birth and exactly 5 years of age, expressed per 1,000 live births.

Child Mortality in India

- **Sample Registration System (SRS) Bulletin**: The Infant Mortality Rate (IMR) has reduced from 37 per 1000 live births in 2015 to 30 per 1,000 live births in 2019 at National Level.
  - Infant Mortality Rate in Kerala - 7
  - Infant Mortality Rate in Madhya Pradesh – 48
  - Nagaland has the best Infant Mortality Rate which is at 4.
- **Census 2011:**
  - The infant mortality rate has shown a considerable decline from 129 per 1000 live births in 1971 to 110 in 1981 and from 80 in 1991 to 44 in 2011.
  - The child mortality rate has depicted a perceptible decline from 51.9 in 1971 to 41.2 in 1981 and from 26.5 in 1991 to 12.2 in 2011.
- The 32 is the IMR at the national level. The rate varies between 6.9 and 5.0 in urban areas and rural areas respectively.

THE HINDU Page 14

LONGEST FREIGHT TRAIN

(Syllabus: GS Paper 3 - Economy & Infrastructure)

Super Vasuki's maiden trial a hit

The 3.5-km-long train can carry over 27,000 tonnes of coal

SPECIAL CORRESPONDENT
NEW DELHI

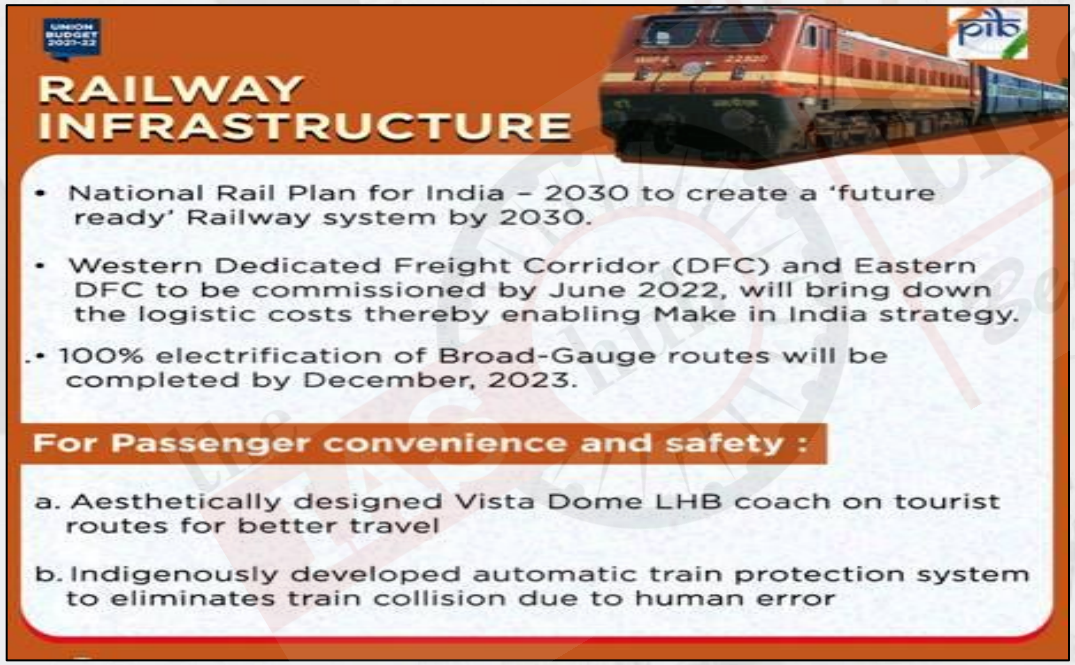
The Railways conducted a test run of its longest freight train, Super Vasuki, with 295 loaded wagons carrying over 27,000 tonnes of coal, on August 15, as part of *Azadi Ka Amrit Mahotsav* celebrations.

The 3.5-km-long freight train covered the distance of about 267 km between Korba in Chhattisgarh and Rajnandgaon in Nagpur, and was run by the South East Central Railway (SECR).

This is the longest and heaviest freight train ever run by the Railways, the national transporter said, adding that the train takes about four minutes to cross a station.

The amount of coal carried by Super Vasuki is enough to fire 3,000 MW of power plant for one full day, officials said. This is three times the capacity of existing railway rakes (90 cars with 100 tonnes in each) that carry about 9,000 tonnes of coal in one journey.

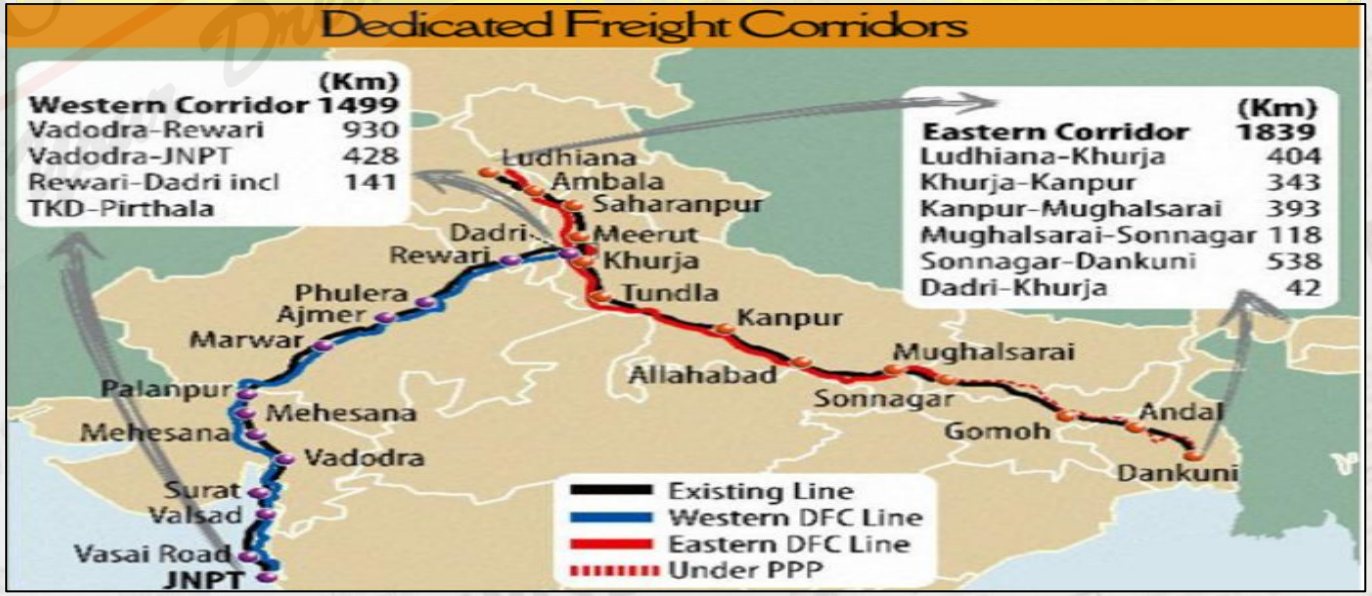
The Railways plans to use this arrangement (longer freight trains) more frequently, especially to transport coal in peak demand season to prevent fuel shortages of power stations, the officials said.



Context: The Railways conducted a test run of its longest freight train, Super Vasuki, with 295 loaded wagons carrying over 27,000 tonnes of coal, on August 15, as part of Azadi Ka Amrit Mahotsav celebrations.

Dedicated Freight Corridor (DFC)

- A high speed and high capacity railway corridor that is exclusively meant for the transportation of freight, or in other words, goods and commodities.
- It involves the seamless integration of better infrastructure and state of the art technology.
- **Dedicated Freight Corridor Corporation of India Ltd:** under the Ministry of Railways, a special purpose vehicle tasked with planning and completion of 3,306 kms of DFCs.
- Headquartered in New Delhi and is a Public Sector Undertaking (PSU).
- **It engages in the planning and development**, deployment of monetary resources, building, upkeep, and the operation of the DFCs.



TIMES OF INDIA

Page 1

FIFA SUSPENDED INDIA

(Syllabus: GS Paper 1 - Sports and awards)



India suspended by Fifa, may lose rights to host women's U-17 World Cup

Hauled Up For 'Undue Third Party Interference'

Marcus.Mergulhao
@timesgroup.com

Panaji: Hours after India celebrated 75 years of independence, Fifa, the governing body for world football, suspended the All India Football Federation for "undue interference by a third party", a first since the federation was formed in 1937.

Since this May 18, AIFF is being run by a three-member committee of administrators (CoA), appointed by the Supreme Court after removing Praful Patel and his executive committee, whose term ended in December 2020. The appointment of CoA is considered third-party interference and goes against Fifa statutes that ask federations to "manage their affairs independently".

The suspension means no Indian team, club or country can play international matches. India will lose hosting rights of the Fifa U-17 Women's World Cup, scheduled to kick off this October 11. However, Fifa left the doors open by not announcing a new host.

SOLUTION TODAY?

- Appointment of CoA by SC to run AIFF is considered third-party interference and goes against Fifa statutes
- CoA says it is 'surprised' by the timing of Fifa's decision as talks are already on between Fifa, AFC, AIFF, CoA and sports ministry as per SC's direction
- A solution may be found today when SC hears a review petition filed by the Centre

▶Hockey federation also faces suspension, P 23
▶Delhi HC hands over IOA's functioning to a CoA, P 23
▶Expresses surprise, P 23

Context: World football governing body FIFA suspended India for "undue influence from third parties.
Impact: India can no longer host the U17 Women's World Cup or play international football matches against other nations.

FIFA (Fédération Internationale de Football Association in French)

- The **highest global governing body** of football (also known as soccer to distinguish it from American football), the world's most popular game.
- FIFA is also the international governing body for futsal (a kind of mini football played indoors on a hard court between two teams of five players each) and beach soccer (five-a-side, played on a beach).
- **Objective:** to oversee international competitions among the national football associations of a handful of West European countries.
- **Role of FIFA**: FIFA is responsible for organising and promoting football's major international tournaments, most importantly the football World Cup, which began in 1930, and the Women's World Cup which began in 1991.
- **Membership of FIFA now comprises** 211 national football associations around the world.
- Each of these national associations are members of one of the six confederations into which the footballing world is divided: Africa, Asia, Europe, North & Central America and the Caribbean, Oceania, and South America.

All India Football Federation

- The **governing body of football in India** under jurisdiction of Ministry of Youth Affairs and Sports, Government of India.
- **Formed in 1935 founded at Darbhanga**, the federation was one of the founding members of the Asian Football Confederation, the overseer of football in Asia.
- The **AIFF sanctions and runs all competitive football tournaments** and leagues at a national level, namely the Indian Super League, I-League and Super Cup.
- The federation also indirectly **manages local football competitions** through the state associations.
- The **federation is also responsible for managing the India national football team**, as well as the women's team and the various youth national sides.
- The AIFF is **also part of the South Asian Football Federation**, the organization that runs football in South Asia. The federation is currently based in Dwarka, Delhi.

DOWN TO EARTH

August 17

UNAUTHORISED USE OF HAZARDOUS PESTICIDES

(Syllabus: GS Paper 3 - Environment & Ecology)



Unauthorised use of 4 highly hazardous pesticides, claims report

Unapproved use of chlorpyrifos, fipronil, atrazine and paraquat in crops point to non-compliance with national regulation

NEXT NEWS >

By Zumbish

Published: Tuesday 16 August 2022

Context: Safety of agricultural produce and environmental contamination is at risk due to the rampant use of four highly hazardous pesticides (HHP), according to a recent report.

Unapproved and unauthorised use of the agrochemicals - chlorpyrifos, fipronil, atrazine and paraquat - was found across the country.

Key points

- Chlorpyrifos is approved for 18 crops in India, while the study found it was used for 23 crops.
- Fipronil is approved for nine crops but was used in fields for 27 crops.
- Atrazine and paraquat dichloride are approved for one and 11 crops, respectively, but field uses were noted for 19 and 23 crops, respectively.
- About 40 per cent of total registered pesticides in India qualify to be categorised as highly hazardous pesticides owing to their potential for environmental health damages.

Pesticides usage in India

- India is the **fourth-largest producer of pesticides** in the world, with the market segmentation tilted mainly towards insecticides, with herbicides on the increase in the recent past.
- It is reported that **eight states consume more than 70% of the pesticides** used in India.
- **Amongst the crops, paddy accounts for the maximum share** of consumption (26-28%), followed by cotton (18-20%), notwithstanding all the hype around Bt technology.
- There are **292 pesticides registered** in the country, and it is estimated that there are around 104 pesticides that are continued to be produced/ used in India that have been banned in two or more countries in the world.
- The **industry has grown to be an INR 20,000 crores** business in India, with the top 3 companies having a market share of 57%.
- **Related law:**
    - **Insecticides Act, 1968**: to regulate the import, manufacture, sale, transport, distribution and use of insecticides with a view to prevent risk to human beings or animals, and for matters connected therewith.

PIB August 17

COAL GASIFICATION TECHNOLOGY

(Syllabus: GS Paper 3 - Sci & Tech

Dr. Mansukh Mandaviya, Minister of Chemicals and Fertilizers reviews progress of Hindustan Urvarak & Rasayan Limited (HURL)-Sindri and Barauni projects and progress of Talcher Fertilizers Ltd. (TFL), country's first urea plant based on Coal Gasification technology

"More than 25 LMTPA of indigenous production of Urea added; will help in reduction of equivalent amount of imported urea"

Production of indigenous urea from these plants will be a step towards achieving "Aatmanirbhar Bharat" and "Aatmanirbhar Krishi"- Dr. Mansukh Mandaviya

"India will be Atmanirbhar in Urea"

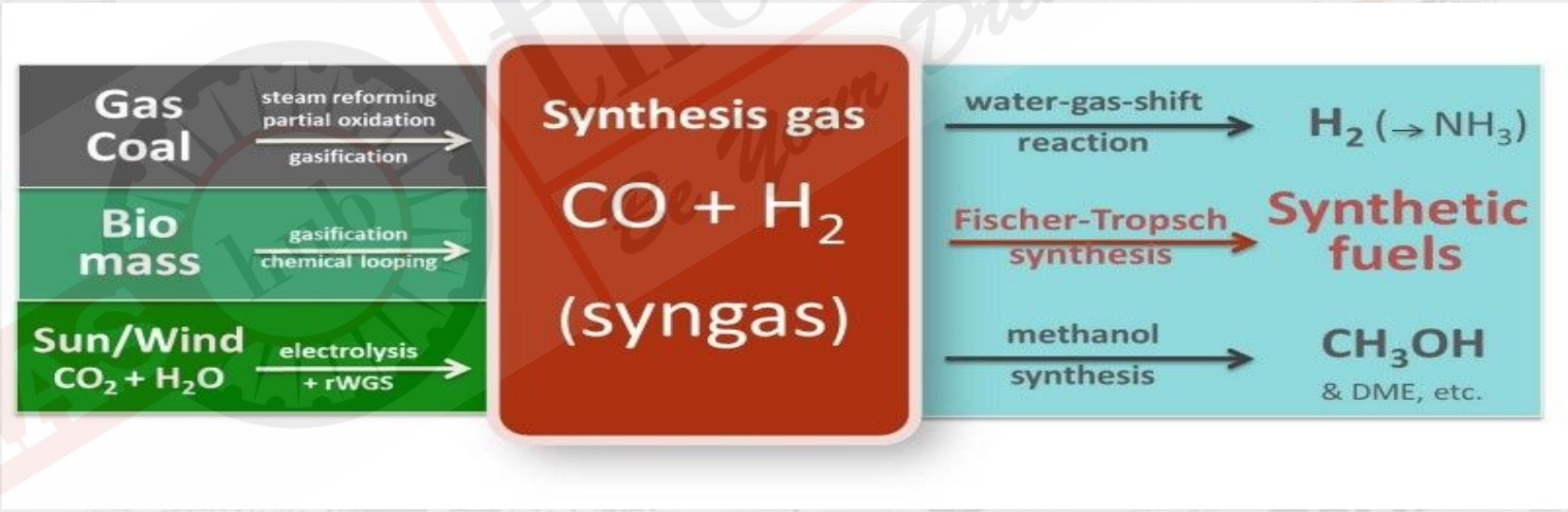
Context: The Union Minister reviewed the progress of Talcher Fertilizers Ltd. (TFL), the country's first urea plant based on Coal Gasification technology for production of ammonia/urea.

TFL Urea Project: TFL is setting up the 1.27 million tonne per annum capacity urea plant based on coal gasification technology in Odisha with an estimated investment of Rs. 13,277 crore.

- only plant to produce the nitrogenous soil nutrient (urea) through coal gasification route.

Coal Gasification: process of converting coal into synthesis gas (also called syngas), which is a mixture of hydrogen (H2), carbon monoxide (CO) and carbon dioxide (CO2).

- **India's target:** By 2030 it will gasify 100 million tonne of coal under four major projects with an overall investment of Rs. 20,000 crore.



DST

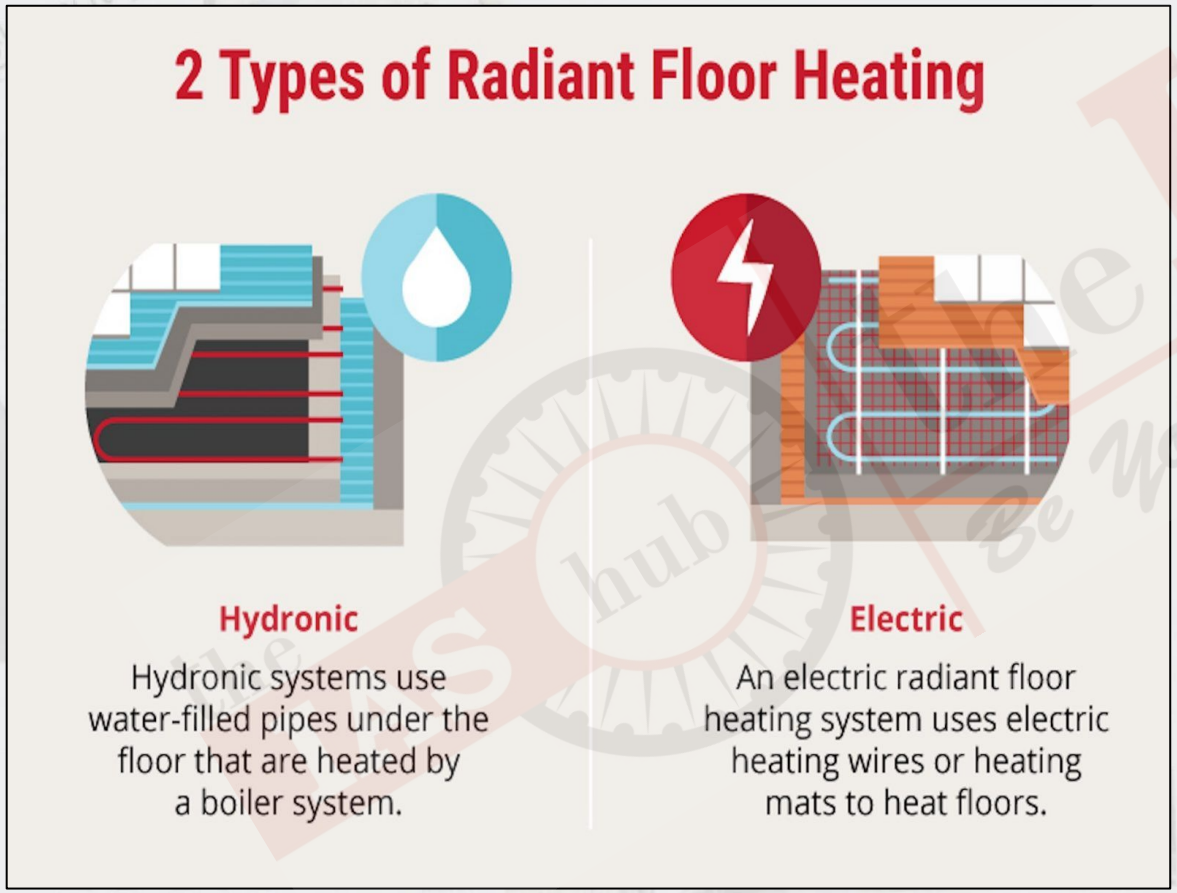
August 17

RADIANT FLOOR HEATING SYSTEM

(Syllabus: GS Paper 3 - Sci & Tech

New biogas-based radiant floor heating system to bring warmth to Leh village

In a small freezing cold village called Thiksey in Leh, the extremely cold temperatures at the place has led people to cut down trees in large amount to obtain wood for burning in cold winters. Electricity generation through solar panels is well suited in summers, but during winters, the absence of sunlight hampers the production of solar power.



Context: A new sustainable technology solution called Nilaya housing may soon bring them some comfort from the cold without worries of incurring high energy loads and costs of heating during the cruel winter months when the temperature hits the mark of -30 deg celcius in winters.

Key points:

- **Developed by** SMEF's Brick School of Architecture and Pimpri Chinchwad College of Engineering.
- **A radiant heating system t**hat uses biogas to heat water in a closed system of pipes.
- The water transfers heat by circulation and is accompanied with a radiant floor heating system.
- **Overcome the extreme cold temperatures of Leh – Ladakh**: The innovation will obviate the need to cut down trees in Leh Ladakh, to purchase the wood in bulk for heating the Bukhari, and also prevent any greenhouse effect generated due to burning of coal and emitting out carbon on higher level.

Mechanism

- The mechanism of the radiant heating system involves supply of generated greywater to the boiler with an external source.
- This water is then heated inside the boiler with biogas as eco-fuel.
- The water is heated up to 60 deg maximum and then transferred to the pipes that are laid under the floor in the spaces.
- The pipes carrying the hot water get heated and radiate the heat upwards. Here, the flooring system also plays an important role.
- The radian pipes are covered with materials with high conductivity from top, and the layer beneath the pipes has a material with low conductivity so that the heat does not radiate to the ground in the opposite direction.
- The water in the pipes, after dissipating all its heat to the space, is collected into the boiler tank with the help of pump.
- This is carried out with a thermostat that turns the pump on, which again transports the water back to the boiler.
- The same water is used in the cycle for 15-20 days.

THANK YOU!

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