

# 10 Oct 2019: UPSC Exam Comprehensive News Analysis

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### Category: **ECONOMY**

#### 1. **Data localisation plans hang in the balance**

#### Context:

India will join the **Regional Comprehensive Economic Partnership (RCEP)** countries in discussing the

**e-commerce chapter** of the RCEP agreement.

### Concerns:

- Clauses in the e-commerce chapter committing to free cross-border data flow **can scuttle India's chances to catch-up with digital industrialisation.**
- If India agrees to the provisions of **Chapter 10 on e-commerce**, as specified by most of the other countries, it will mean it won't be allowed to impose data localisation rules on companies looking to do business in India.
  - "No Party shall require a covered person to use or locate computing facilities in that Party's territory as a condition for conducting business in that territory," reads the wording in the draft chapter.
  - "A Party shall not prevent cross-border transfer of information by electronic means, where such activity is for the conduct of the business of covered person."
- This would go **against the Reserve Bank of India's (RBI's) norms on localisation of payments data** that it had ordered in April 2018.
  - In its April 2018 notification, the RBI had said that "all system providers shall ensure that the entire data relating to payment systems operated by them are stored in a system only in India."
  - This data is to include the full end-to-end transaction details, information collected, carried, or processed as part of the message or payment instruction.
- It can prevent countries from implementing national laws related to data and making use of the government procurement route to promote the ICT sector. These are critical policy tools in the unfolding data-based economic growth trajectories.

### Way forward:

- The **flow of data** now contributes **more to the world's GDP than the flow of physical goods**. The rise in importance of data and its intangibility have made the regulatory framework governing data flows complex.
- While it is increasingly difficult for countries to regulate technology, there are concerns that growing digitalisation may increase the risks to national security and consumer privacy. To enforce government right to vigilance and consumer data protection, a number of developed and developing countries are implementing data localisation measures.
- The European Union (EU) has implemented the General Data Protection Regulation (GDPR), while China's Cybersecurity Law of 2016 prohibits or severely restricts routine cross-border transfers of information.
- India's Draft National E-commerce policy is aimed at enacting a data protection regulation based on the Srikrishna Committee recommendations.
- If India agrees to the wording as it is, then the rules laid down by the RBI will also have to be reviewed, as would any future plans the government has to implement data localisation in any form.
- Negotiators must ensure that the national concerns are taken on board.
- **RCEP should not become an impediment to realising the national objectives** of increasing local production and India's ability to put its house in order to benefit from digital industrialisation.

## 2. India slips 10 places in global competitiveness index

### Context:

India has moved down **10 places to rank 68th on the annual global competitiveness index.**

### Performance of India:

- Compared to last year, India has moved down 10 places to rank 68<sup>th</sup>. India was ranked 58<sup>th</sup> last year.
- World Economic Forum has said that India is among the worst-performing BRICS nations.
- It is said that India has moved down 10 places largely due to improvements witnessed by several other economies.
- Announcing the latest index, the WEF said that India ranks high in terms of macroeconomic stability and market size, while its financial sector is relatively deep and stable despite the high delinquency rate, which contributes to weakening the soundness of its banking system.
- India is ranked also high at 15<sup>th</sup> place in terms of corporate governance, while it is ranked second globally for shareholder governance.
- **In terms of market size, India is ranked third**, while it has got the same rank for renewable energy regulation.
- **India is above its development status when it comes to innovation**, which is well ahead of most emerging economies and on par with several advanced economies.
- **Major areas of concern** for India are:
  - Limited ICT (information, communications and technology) adoption
  - Poor health conditions
  - Low healthy life expectancy
  - India's product market efficiency is undermined by a lack of trade openness.
  - Labour market is characterised by a lack of worker rights' protection, insufficiently developed active labour market policies and critically low participation of women.
  - With a ratio of female workers to male workers of 0.26, India has been ranked very low at 128<sup>th</sup> place.
  - India is also ranked low at 118<sup>th</sup> in terms of meritocracy and incentivisation
  - It is ranked at 107<sup>th</sup> place for skills.
- The WEF said the healthy life expectancy, where India has been ranked 109<sup>th</sup> out of total the 141 countries surveyed for the index, is one of the shortest outside Africa and significantly below the South Asian average.
- There is an urgent need for India to grow its **skill base**.

#### Details:

- Singapore has replaced the U.S. as the world's most competitive economy.
- Asia-Pacific is the most competitive region in the world, followed closely by Europe and North America.
- Nordic countries are among the world's most technologically advanced, innovative and dynamic while also providing better living conditions and social protection.
- In the overall ranking, India is followed by some of its neighbours including Sri Lanka at 84<sup>th</sup> place, Bangladesh at 105<sup>th</sup>, Nepal at 108<sup>th</sup> and Pakistan at 110<sup>th</sup> place.

#### Key observations:

- The world is at a social, environmental and economic tipping point.
- Subdued growth, rising inequalities and accelerating climate change have provided the context for a backlash against capitalism, globalization, technology, and elites.
- There is gridlock in the international governance system and escalating trade and geopolitical tensions are fuelling uncertainty. This holds back investment and increases the risk of supply shocks: disruptions to global supply chains, sudden price spikes or interruptions in the availability of key resources.
- Ten years on from the global financial crisis, the world economy remains locked in a cycle of low or flat productivity growth despite the injection of more than \$10 trillion by central banks.

#### Global Competitiveness Index:

- Global Competitiveness Index compiled by Geneva-based World Economic Forum (WEF).
- It was launched in 1979 and provides an annual assessment of the drivers of productivity and long-term economic growth.
- The index maps the competitiveness landscape of **141 economies through 103 indicators organised into 12 pillars**.
- The pillars, which cover **broad socio-economic elements** are institutions, infrastructure, ICT adoption, macroeconomic stability, health, skills, product market, labour market, the financial system, market size, business dynamism and innovation capability.

## Category: SCIENCE AND TECHNOLOGY

### 1. Chemistry Nobel to trio for work on batteries

#### Context:

Three scientists have won the Nobel Prize in Chemistry for their work **developing lithium-ion batteries**.

#### Chemistry Nobel Prize:

- The prize went to **John B. Goodenough**, 97, a German-born engineering professor at the University of Texas; **Stanley Whittingham**, 77, a British-American chemistry professor at the State University of New York; and Japan's **Akira Yoshino**, 71, of Meijo University.
- Whittingham developed the first functional lithium-ion battery in 1976.
- Goodenough brought in a major improvement in 1980.
- Yoshino made the first practical-use lithium-ion battery in 1985.
- Commercially manufactured lithium-ion batteries, based on what Yoshino had developed, made their first appearance in 1991.

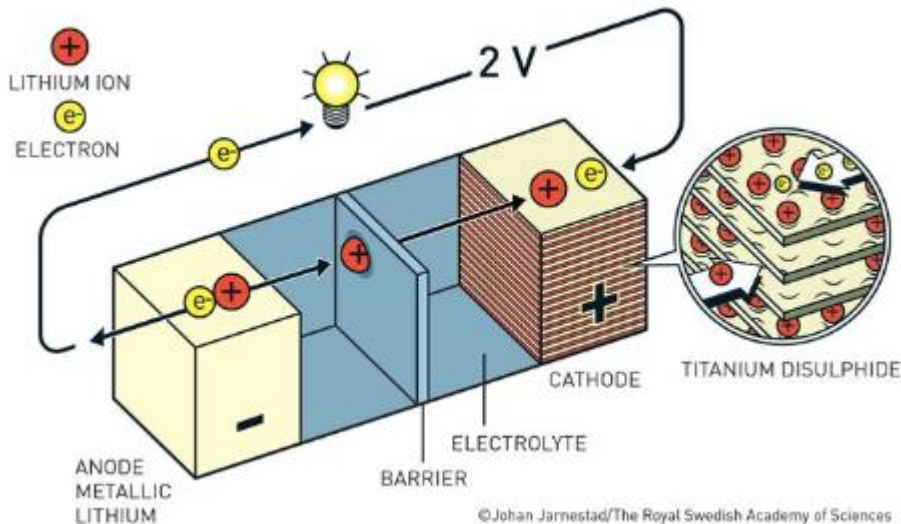
#### Details:

- The development of lithium-ion batteries have reshaped energy storage and transformed cars, mobile phones and many other devices and reduced the world's reliance on fossil fuels.
- Lithium-ion batteries are the **first truly portable and rechargeable batteries**.
- Whittingham harnessed the enormous tendency of lithium, the lightest metal, to give away its electrons to make a battery capable of generating over two volts.
  - The older rechargeable batteries used to have solid materials in the electrodes which used to react with the electrolyte and damage the battery.
  - Whittingham's innovation came from the fact that he used the atom-sized spaces within the cathode material, titanium disulphide, to store the positive lithium ions.
  - The choice of lithium was dictated by the fact that it let go of its electron quite easily and was also very light.
- Goodenough had doubled the capacity of the battery to four volts by using cobalt oxide in the cathode one of two electrodes, along with the anode, that make up the ends of a battery.
  - Whittingham's battery worked at room temperature, making it practical, but was prone to short-circuits on repeated charging.
  - An addition of aluminium, and a change of electrolyte, made it safer, but the big breakthrough was made by Goodenough who changed the cathode to a metal oxide instead of metal sulphide (titanium disulphide) that Whittingham had been using.
  - Goodenough's battery was almost twice as powerful as Whittingham's.
- Yoshino substituted petroleum coke, a carbon material, in the battery's anode. This step paved the way for the first lightweight, safe, durable and rechargeable commercial batteries to be built.
  - Yoshino started working on Goodenough's battery and tried using various lighter carbon-

based materials as the anode in order to bring down the weight further.

- He got excellent results with petroleum coke, a byproduct of the oil industry.
- This battery was stable, lightweight, and as powerful as Goodenough's.

### How batteries work?



- Batteries **convert chemical energy into electricity**.
- A battery comprises two electrodes, a positive cathode and a negative anode, which are separated by a liquid chemical, called electrolyte, which is capable of carrying charged particles.
- The two electrodes are connected through an **electrical circuit**.
- When the circuit is on, electrons travel from the negative anode towards the positive cathode, thus generating electric current, while positively charged ions move through the electrolyte.
- Single-use batteries stop working once a balance is established between the electrical charges.
- In rechargeable batteries, an external power supply reverses the flow of electric charges, so that the battery can be used again.
- Researchers have continued to look for other materials to make more efficient batteries, but so far none of these has succeeded in outperforming lithium-ion battery's high capacity and voltage.
- The lithium-ion battery itself has, however, gone several modifications and improvements so that it is much more environment-friendly than when it was first developed.

## Category: ENVIRONMENT AND ECOLOGY

### 1. Proposed alternative to NH 766 tops in wildlife roadkills

#### Context:

A recent study has found that roadkills on the proposed alternative to NH 766 route are one of the highest in the country.

#### Details:

- The eight-month study recorded **2,426 roadkills** during the period.
- Studies on roadkills are comparatively low in the country, but available studies show that the **roadkill on the proposed alternative highway is high**.
- It is suspected that the major reason for the roadkills on the alternative route is the **unrestricted vehicle movements**, especially during night hours, after the **night traffic ban was introduced on**

NH 766 since 2009.

### Concerns:

- Mananthavady-Gonikoppal Mysuru highway passes through the **Tholpetty forest range** of the **Wayanad Wildlife Sanctuary**.
- The forest range, with an extent of 77 sq km, is also a major tiger habitat.
- For large animals such as tigers and elephants, roads and railroads hardly pose any physical barrier.
- Most mammals, however, are sensitive to disturbances by humans.
- Smell, noise, and vehicle movement, as well as experiences from human encounters, may repel the animals from approaching the road corridor.

### Way forward:

- Human-wildlife conflict is one of the major threat to Indian wildlife, human activities such as deforestation, Habitat loss, Lack of prey and illegal roads cut through forest are threaten the safety and survival of wildlife in India.
- Many wild animals have been killed due to road accidents and speeding vehicles passing through the wildlife protected area.
- The Centre and the National Highways Authority of India have been repeatedly advised by the National Board for Wildlife, as well as independent researchers, to realign or modify sensitive roads.
- Speed-breakers have to be set up on the route to curb the menace.
- Speed limit reductions during these times may decrease mortality rates.
- A more robust approach would be to realign the roads.

## D. GS4 Related

*Nothing here for today!!!*

## E. Editorials

### Category: POLITY

#### 1. Affirmative Action (AA) at the crossroads

##### Meaning

- Affirmative action laws are policies instituted by the government to help level the playing field for those historically disadvantaged due to factors such as race, color, religion, sex, or national origin.
- These laws typically pertain to equal opportunities in employment, education, and business.
- It can also be looked at as eliminating or bringing down decimations against a particular set or group of people.

##### Background

- In 2014, a group called “Students for Fair Admissions” (SFFA), founded by Edward Blum, alleged that **Harvard University discriminates against Asian-American applicants** in the undergraduate admissions process.
- The lawsuit claimed that **Asian-Americans were held to higher standards compared to students from other races**, and that Harvard was using an “illegal” quota system, which informally capped the number of Asian-Americans, but gave preferential access to African-American or Latino

### A look at stats

- The Asian-Americans are roughly 6% of the U.S. population, but 23% of them entered the batch in 2018, compared to 15% African-Americans and 12% Latino students.
- Indeed, the share of Asian-Americans in the top U.S. universities is far greater than their share in the population, and this makes it prima facie difficult to understand their grievance.

### How Harvard decides on the quota?

- Harvard acknowledged that they did, indeed, use **race as one factor among many, mainly to ensure a diverse student body**. They claimed that their use of race was consistent with law.
- Harvard's applicant pool consists of students with outstanding academic credentials, and the process is very competitive.
  - In 2019, it received 37,000 applications for 2,000 seats; more than 8,000 of these had perfect grades, and more than 5,000 had perfect mathematics or verbal SAT scores.
  - Thus, to choose from this pool, **a strong candidate cannot be defined only on the basis of test scores; non-academic aspects have to be considered.**
- Harvard claims that they judge 'excellence in a variety of forms, and include students with diverse experiences, backgrounds, skills and interests'.

### Indian parallel

- In India, the fact that entry-level **cut-offs are lower for reserved category students** is seen as proof that the **reservation policy is "anti-merit"**, and leads to its corollary, viz., abolition of reservations is needed in order to improve merit.
- AA, or reservations in India, is essentially a **policy of compensatory discrimination**, which discriminates in favour of groups that are traditionally discriminated against, stigmatised and marginalised, such as African-Americans, Latinos in the U.S.; **Dalits and Adivasis in India**.
- Because of historical and contemporary discrimination, these groups would typically be under-represented in formal institutions, and in order to compensate for that, preferential policies such as quotas are needed.

### Other methods of college admissions unchallenged

- **"Legacy" Admissions, I.E. Preferential Admissions** for students whose parents graduated from Harvard or Radcliffe (its former sister school)
  - According to 2018 data, 42% of private institutions and 6% of public institutions in the U.S. consider legacy status as a factor in admissions.
- What did the lawsuit say about legacy admissions? Nothing. Those against AA turn this logic on its head and argue that the **preferential policies are unfair and foster inequality**, because they use criteria other than "merit" for admissions (race in the U.S., caste and tribal status in India).
- However, these critics are **blind to the elephant in the room: legacy admissions in the U.S., or their Indian counterpart: discretionary management quotas or donations-based admissions.**
- These methods of entry are opaque, completely divorced from "merit" (even in the narrowest sense of examination scores), and blatantly favour those with means and privilege.

### Conclusion

- Earlier the Federal District court ruled in favour of Harvard.
- However, if the case goes to the Supreme Court and if it strikes down the use of race as a criterion for admissions, it would mean an end to affirmative action (AA).

- This is a complicated and important case not just for the future of AA in the U.S., but because it has the potential to impact anti-AA sentiment everywhere.

## Category: INTERNATIONAL RELATIONS

### 1. Maintaining the India-China stride length

#### Introduction

[CNA dated 9th Oct 2019](#)

#### Three historical forces that shaped India-China relations.

Some of these forces have been pushing **both countries towards competition and some impelling them towards cooperation** and collaboration.

- The first is a **changing world order and the rise of Asia**, a phase that is generally traced to the period after the 2008 global economic crisis.
- The second is the idea that with the **West's declining capacity** and inclination to responsibly manage international and Asian affairs, India, China and other re-emerging powers are being thrust into new order building roles that would require coordination and cooperation to preserve global stability and co-develop new governance institutions and norms.
- The third is a **changing South Asia with China's 2013 and 2014 policy declarations** of deepening ties with its periphery including with subcontinental states, followed soon after with the ambitious Belt and Road initiative and the China-Pakistan Economic Corridor in April 2015.

While all three factors contributed to the complexity of India-China relations in the period leading up to 2017, the region became the **main arena of interaction, with both sides adopting antagonistic approaches and strategies.**

- The acrimonious build-up can be traced to **China's decision to expand linkages with its southwestern periphery** and India's perception and reaction to that process. The result, Doklam episode.

#### Three-Point Road Map

Going forward, India's China policy should be guided by three grand strategic goals:

- an inclusive security architecture in Asia that facilitates a non-violent transition to multipolarity without disrupting economic interdependence;
- a fair and rules-based open international order to better reflect Indian and developing economy interests;
- Geopolitical peace and sustainable economic development in the neighbourhood.

#### Conclusion

- The historian Odd Arne Westad recently advised, "The more the U.S. and China beat each other up, the more room for maneuver other powers will have." One could equally apply that mantra to India and China. **Unrestrained competition only benefits other powers.**
- The recent stability in India-China relations is a choice made by both sides. History is obliging both countries to step up and play constructive roles to shape the emerging world order even as it is



impelling both sides to learn to co-exist in a common neighbourhood.

## 2. Infinite crisis: On Turkish incursion into Syria

### Context

- President Donald Trump's has withdrawn U.S. troops out of northeastern Syria on the border with Turkey

### Details

- Post withdrawal the Turkish Armed Forces, together with the Syrian National Army, launched **Operation Peace Spring**
  - Turkey says the operation aims to **clear the region of YPG/PKK terrorists**.
- The **Syrian Democratic Forces (SDF)**, led by the **Kurdish People's Protection Units (YPG)**, was **Washington's main ally in Syria in the fight against ISIL**.
  - In recent years, they have expanded their control in northern and eastern Syria, in a vast area stretching 480km (300 miles) from the Euphrates River to the Iraq border.
- Turkey, which is fighting a violent Kurdish insurgency led by the **Kurdistan Workers Party (PKK)** in its Kurdish territories, sees an empowered YPG and a Kurdish autonomous government across the border a growing security threat to itself.

### PKK (Kurdish: Partiya Karkerên Kurdistanê)

- It is a Kurdish far-left militant and political organization based in Turkey and Iraq.
- Since 1984 the PKK has been involved in an armed conflict with the Turkish state (with a two-year cease-fire during 2013–2015), with the initial aim of achieving an independent Kurdish state, later changing it to a demand for equal rights and Kurdish autonomy in Turkey

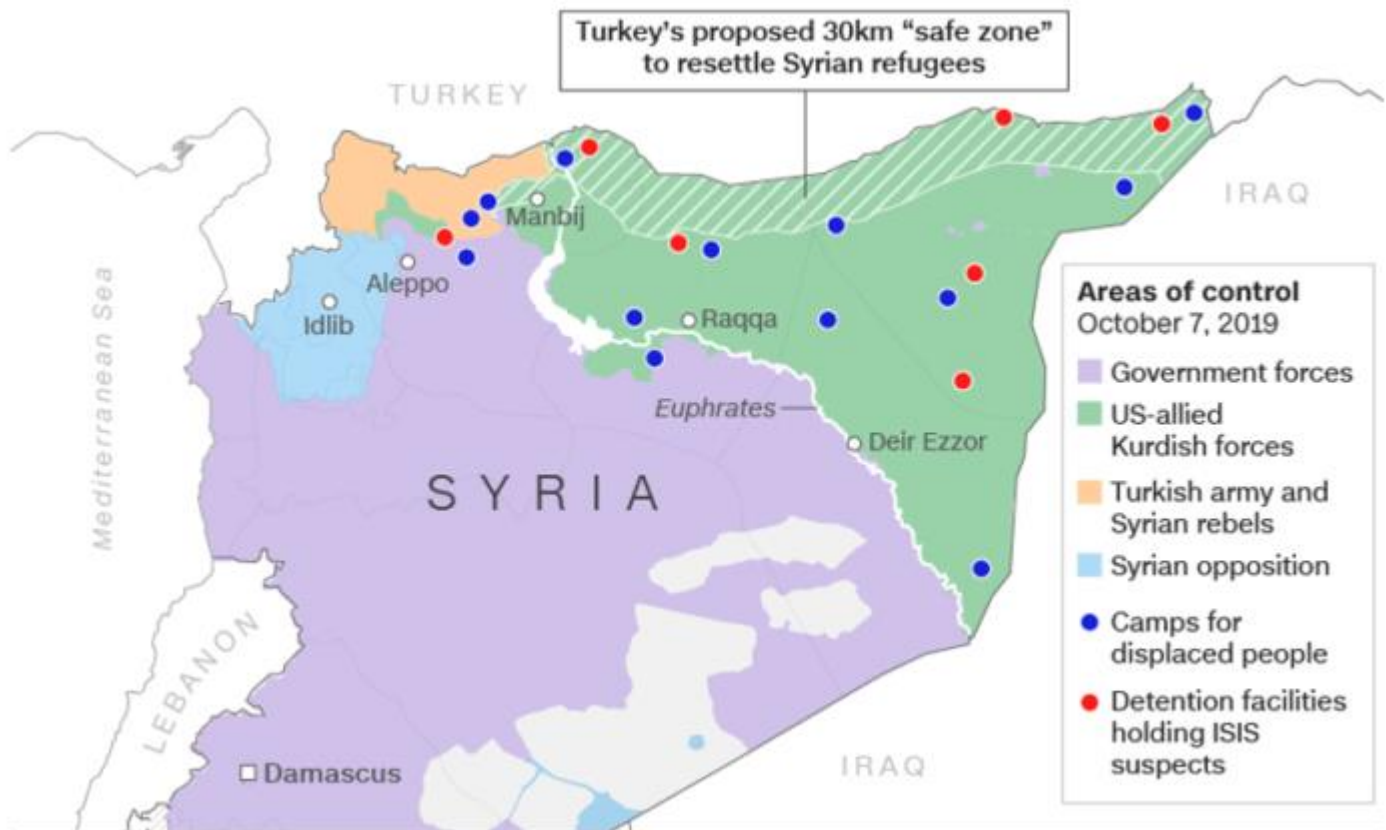
### USA's Pledge to protect SDF

- In August 2019, the US military vowed to shelter the SDF from a Turkish attack, agreed to a "security mechanism" with Ankara, under which Kurdish forces **would be pulled back from the Turkey-Syria border and a "safe zone" would be set up for the return** of some of the 3.6 million refugees currently in Turkey.
- Following the agreement, the SDF destroyed YPG "fighting positions" in northeast Syria, before beginning to pull back from near the border.

But Ankara, increasingly unnerved by the Kurdish presence near its border, has long accused Washington of taking "too long" to act on the security deal, and Erdogan announced an imminent "air and ground" operation to clear the border region of "terrorists".

### What Turkey intends to do?

- Turkish President Recep Tayyip Erdoğan's plan is to **carve out a buffer between the border and the Rojava**, which will be **controlled by pro-Turkish Syrian rebels**.
- He also plans to resettle some Syrian refugees here. In its previous intervention, Turkey had already pushed the YPG out of Afrin, a border town.



**Why American withdrawal is advantage Turkey and disadvantage Kurds?**

The U.S. withdrawing troops is not the problem. The problem is the way in which it is abruptly disengaging itself and the potential consequences.

- The **Kurds have played a critical role in defeating the IS**, whose fall began in **Kobane, the Kurdish town** which was liberated by the YPG in early 2015.
- Also, if there is a Kurdistan government in northeast Syria today, it is because the Kurds have captured all the major cities in the region, including **Raqqa, the de facto capital of the IS**, with U.S. support.
- But now, with the destruction of the IS “caliphate”, the U.S. seems to be abandoning the Kurds. This has led to furor as this is **tantamount to betraying the Kurdish forces** who were in the forefront of the war against the Islamic State.
- The **American presence may have held Mr. Erdoğan back**, but with the White House saying that the U.S. troops “will not support or be involved” in the Turkish operation, the decks were cleared for Ankara.
- Trump could have opted for an orderly exit from Syria with security guarantees from Turkey for the Kurds. Instead, **he has just given in to Turkey’s demands.**

**Conclusion**

This will lead to more destruction and chaos in the region with the untimely exit as IS cadres will now be activated.

- The IS caliphate was destroyed, not the IS. The remaining IS fighters have retreated to the Iraqi and Syrian deserts waiting for an opportunity to strike back.
- The Turkish incursion into Syria will not just set back the advances the Kurds have made in Rojava, but also **weaken the most potent anti-jihadist force on the ground**, besides throwing the whole

region into disorder. It is a recipe for tragedy.

## Category: HEALTH

### 1. For a happy childhood

#### Introduction

- India has over 18% of its population in the age group of 10-17 years of age. The future of the country will be driven by this age group.
- But recent surveys have pointed out disturbing trends of Mental Health Disorders in the younger generation.

#### A look at stats

- According to the **National Mental Health Survey of 2016**, the prevalence of mental disorders was 7.3% among 13-17-year-olds.
  - With many resorting to self-harm, statistics suggest that **suicide among adolescents is higher than any other age group.**
- According to the **Global Burden of Disease Study 1990-2016**, in India, the suicide death rate among 15-29-year-olds **was highest in Karnataka (30.7)**, Tripura (30.3), Tamil Nadu (29.8), and Andhra Pradesh (25.0).
- **India's contribution to global suicide deaths** increased from 25.3% in 1990 to 36.6% in 2016 among women.
  - Though suicides among women have decreased overall, **the highest age-specific suicide death rate among women in 2016 was for ages 15-29 years and 75 years or older.**

#### Issues concerning Mental Disorder

- Half of all mental health disorders in adulthood starts by 14 years of age, **with many cases being undetected.**
- **Technology** has created loneliness, isolation and unrealistic expectations for adolescents in number of cases
- Studies relate suicidal behaviour to **absenteeism from school**, sexual and/or physical abuse and depression, bullying and peer pressure.
- Overall, a poor social environment and **difficulties in discussing problems with parents** increase the odds of poor mental health.
- Most are unable to correctly identify approaching mental health professionals as a good solution due to the **stigma around mental health issues and lack of understanding** of how good support can help them feel and do better.

#### Coping mechanisms

- Parents and peers can play an important role by being understanding and communicative.
- By moving away from strict rules and diktats, parents should gently discuss the role of technology to bring adolescents to the **realisation that limiting screen time and engaging in social activities** may improve how they feel.
- By learning more about mental health, **parents and school administrations should sensitise themselves about what constitutes 'warning signs'** like erratic sleep patterns and mood swings.
- **Peer support systems and trained counsellors** can encourage dialogue around seeking support

### Way forward

- **SPIRIT (Suicide Prevention and Implementation Research Initiative)** in India, aims to reduce suicides among targeted adolescents and implement research-based suicide interventions.
- They also aim to **empower regional policymakers** to integrate evidence generated from implemented research on suicide prevention in policymaking.
- India requires multiple similar interventions for change and for disseminating mental health awareness backed by progressive government policies, based on evidence-based approaches.

## Category: ECONOMY

### 1. Government to peg MGNREGA wages to inflation

#### Context

- Staring at a slump in rural demand and a slowdown in the rural economy, the Centre plans to inject more money into the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme by linking wages under the Act to an updated inflation index, which will be revised annually.
- It hopes this will increase wages, thus increasing purchasing power and reviving rural demand.

#### Issues with MGNREGA

- MGNREGA workers get paid much lower than market rates.
  - The national average wage of an MGNREGA worker is ₹178.44 per day, less than half of the ₹375 per day minimum wage recommended by a Labour Ministry panel earlier this year in 2019.
  - The **Base Rate** is low for MGNREGA, so it may not be enough to link it to inflation
- The **consumption basket of CPI-AL [which determines MGNREGA wage revisions]** has not been updated for more than three decades, and rural consumption patterns have changed drastically in that time
  - Food items make up more than two-thirds of the CPI-AL consumption basket, but rural workers today spend a much smaller percentage of their money on subsidised food, and an increasingly larger amount on health, education and transport costs.

Minimum wages are neither a dole nor an act of charity. They are a legal mandate that are arrived at by calculating the minimal nutritional requirement and basic needs of an individual.

- In fact, **the Fair Wages Committee of the Ministry of Labour (1949)** noted in a progressive report that a “living wage” should also include education, healthcare and insurance besides the bare essentials.
- In **Sanjit Roy v. State of Rajasthan (1983)**, the Supreme Court held that paying less than minimum wages is akin to “forced labour”.
- In **Workmen v. Management of Raptakos Brett (1991)**, it said “living wage” is important to ensure basic dignity of life.

#### Future Course

Indices are (weighted) averages of the prices of a basket of goods consumed and the index must be based on the main items of consumption for rural households.

- **NREGA daily wages are to be indexed with an updated inflation index** called the Consumer Price Index-Rural (CPI-R) instead of the older Consumer Price Index-Agricultural Labourers (CPI-

AL).

- The calculation of CPI-AL involved more food items in the consumption basket
- While the calculation of CPI-R involves more non-food items such as healthcare and education. CPI-R better reflects the rural consumption basket compared to CPI-AL.
- Although this new indexation is critical, **it will have a sizeable impact on increase in rural incomes only if the base NREGA wages are high.**
  - For example, let's assume a 10% increase in wages due to the new indexation. Then NREGA wages in Kerala at ₹271 per day, one of the highest, would become ₹298.
  - However, if NREGA wages were equal to the State minimum wages, the wages in Kerala would increase from ₹490 to about ₹540.
  - A substantial increase in NREGA wages and subsequent indexation with CPI-R would be meaningful for the workers and the economy.

## F. Tidbits

*Nothing here for today!!!*

## G. Prelims Facts

### 1. GEMINI system to warn fishermen of danger

- GEMINI - a portable receiver linked to ISRO satellites has been developed to warn fishermen of danger.
- **Gagan Enabled Mariner's Instrument for Navigation and Information (GEMINI)** is a low-cost device for ocean states forecast and mapping potential fishing zones.
- The system was developed to avoid communication blackouts that led to 20 fishermen going missing in the aftermath of Cyclone Ockhi in 2017.

The topic has been covered in detail in 9<sup>th</sup> October PIB Summary and Analysis. Follow this link:

<https://byjus.com/free-ias-prep/upsc-pib-summary-analysis-oct09-2019/>

### 2. Mamallapuram

- Mamallapuram is a **World Heritage Site** famed for its rock-cut sculptures.
- The Group of Monuments at **Mamallapuram** is a collection of 7th- and 8th-century CE religious monuments in the coastal resort town of Mamallapuram, Tamil Nadu.
- It is regarded as the city of **Mamalla or Narasimhavarman-I** (630-668 CE) of the **Pallava dynasty**.
- Mahabalipuram or Mamallapuram was the capital region during the reign of Pallava Dynasty in the 7th century AD. The Pallavas rulers used to hold the ultimate command in the southern part of India, after the decline of the Gupta Dynasty.
- Pallava rulers were popular for their inclination towards **Tamilian art and culture**.
- The site has 400 ancient monuments and Tamil religious temples including one of the **largest open-air rock reliefs in the world**: the Descent of the Ganges or Arjuna's Penance.
- This place has a number of names, such as Mamallapuram, Mahamallapuram, Mallapuram and Mavalipuram.
- The sailors from Europe named Mahabalipuram as the Land of Seven Pagodas because of the seven pinnacles or stupas of its temples.

### 3. LCROSS (Lunar CRater Observation and Sensing Satellite) mission

- The Lunar Crater Observation and Sensing Satellite (LCROSS) was a **robotic spacecraft operated by NASA**.
- It was launched immediately after the discovery of lunar water by Chandrayaan-1.
- The LCROSS mission objective was to **further explore the presence of water ice** in a permanently shadowed crater near a lunar polar region.
- It was successful in confirming water in the southern lunar **crater Cabeus**.
- It was launched together with the **Lunar Reconnaissance Orbiter (LRO)** on June 18, 2009, as part of the shared Lunar Precursor Robotic Program, the first American mission to the Moon in over ten years.

## H. Practice Questions for UPSC Prelims Exam

Q1. Consider the following statements:

1. Garo, Jaintia and Khasi tribes of Meghalaya are all matrilineal communities.
2. They are clubbed as “unrepresented tribes” for nomination in Meghalaya’s autonomous tribal councils.

Which of the given statement/s is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Answer: a**

**Explanation:**

Meghalaya’s autonomous tribal councils are in the names of Garo, Jaintia and Khasi, the State’s three major matrilineal communities. The five minor tribes – Bodo-Kachari, Hajong, Koch, Mann and Rabha – are clubbed as “unrepresented tribes” for nomination in Meghalaya’s autonomous tribal councils.

Q2. Consider the following statements with respect to Comprehensive National Nutrition Survey (CNNS):

1. CNNS has been conducted by the Ministry of Health and Family Welfare and the World Health Organisation (WHO).
2. It includes children, adults and senior citizens in both urban and rural areas across India.

Which of the given statement/s is/are INCORRECT?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Answer: c**

**Explanation:**

The first-ever Comprehensive National Nutrition Survey (CNNS) has been conducted by the Ministry of Health and Family Welfare and the United Nations Children Fund (UNICEF). Comprehensive National

Nutrition Survey (CNNS) is a cross-sectional, household survey covering more than 1,20,000 children and adolescents in both urban and rural areas across India. The CNNS included three population groups – pre-schoolers 0-4 years, school-age children 5-9 years, and adolescents 10-19 years – in rural and urban areas.

**Q3. Consider the following statements:**

1. Rising carbon dioxide levels can accelerate **zinc** deficiency in crops.
2. Zinc deficiency causes diarrhoea, growth retardation, loss of appetite and impaired immune function.

Which of the given statement/s is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Answer: c**

**Explanation:**

Rising carbon dioxide levels can accelerate zinc deficiency in crops and thus in human consumption. Zinc deficiency is characterized by growth retardation, loss of appetite, and impaired immune function. In more severe cases, zinc deficiency causes hair loss, diarrhea, delayed sexual maturation, impotence.

**Q4. Consider the following statements with respect to Hypoxia – Inducible Factors (HIF)**

1. Hypoxia inducible factor, regulates production of red blood cells.
2. When the level of oxygen in the cells increases, HIF in the cells increases.

Which of the given statement/s is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Answer: a**

**Explanation:**

HIF, or hypoxia-inducible factor, is a protein that increases inside the cell when the oxygen levels fall, helping the cell survive. Hypoxia inducible factor, regulates production of red blood cells. When the level of oxygen in the cells drops, HIF in the cells increases. Hypoxia – Inducible Factors increases the activity of gene that are used in production of Erythropoietin Hormone. This increases the production of RBC. Hence, the research aids in treating anemia and cancer by controlling RBC growth. The recipients of 2019 Nobel Prize for Medicine won for their pioneering research into how the cells sense and adapt to low oxygen conditions. i.e, research on HIF got the 2019 Nobel Prize in Physiology.

## I. UPSC Mains Practice Questions

1. The war against the Islamic State will be incomplete with the withdrawal of USA and lack of support to Syrian Democratic Forces. Comment. (15 Marks, 250 Words)
2. Increasing cases of mental disorders if left unchecked could lead to large scale suicides in India. Is Mental illness India's ticking bomb? Discuss. (15 Marks, 250 Words)

