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## **GENERAL STUDIES-2**

### **POLITY**

#### **CHILD BRIDES AND SC'S TAKE**

The Supreme Court, in a landmark judgement, has held that sexual intercourse by a man with his wife, who is below 18 years of age, is Rape.

#### **Exceptions ended**

With this judgment, the court ended the decades-old disparity between Exception to Section 375 IPC and other child protection laws like the Prohibition of Child Marriage Act of 2006, Protection of Children from Sexual Offences Act and Juvenile Justice Act, all which define a "child" as someone who is below 18 years of age. The court has sought to harmonise the various laws in which any person under 18 is a minor.

The court held that the exception clause to rape, carved out in the IPC, created an unnecessary and artificial distinction between a married girl child and an unmarried girl child.

#### **Backgrounder**

A girl child below the age of 18 cannot be treated as a commodity having no say over her body or someone who has no right to deny sexual intercourse to her husband.

The harsh reality is that most of the child brides are even below the age of 15 years. There is a practice in many parts of the country where children, both girls and boys, are married off, even before they attain puberty.

By ruling that marriage cannot be a licence to have sex with a minor girl, the Supreme Court has corrected an anomaly in the country's criminal law.

#### **A major relief to the child bride**

Though child marriage is prohibited, it is not automatically void under India's civil laws. The court criticised the fact that PCMA (Prohibition of Child Marriage Act of 2006) makes child marriage only voidable, that is, the burden is placed on the child bride to approach a court to declare her

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marriage a nullity. She has to do this within two years of attaining majority that is by the time she is 20 years old. If not, the marriage continues.

Human rights of a girl child are very much alive and kicking whether she is married or not and deserve recognition and acceptance.

The judgement is a major relief to the child bride because an unmarried girl child can prosecute her rapist, but a married girl child aged between 15 and 18 could not even do that due to the exception given to the Section 375, IPC.

### **Conflict between IPC 375 and POCSO Act**

Till now sexual intercourse with minor wife did not amount to rape if she was over 15 years of age. This was in the Indian Penal code (IPC) as an exception to Section 375 which is the law of the land regarding Rape.

This came into conflict with 2012 POCSO (Protection of Children from sexual offences) Act that defines 'children' as those aged below 18.

In January this year, Nobel Prize winner Kailash Satyarthi through his organization Bachpan Bachao Andolan appealed to the SC to clear the conflict between the IPC and POCSO Act.

- In its ruling the Apex court said the exception was arbitrary and violated the constitution and bodily integrity of a girl child.
- It had even the effect of turning a blind eye to trafficking of the minor girl children in the guise of marriage.
- The SC also asked the centre and States to take proactive steps to prohibit child marriages.

### **Government's stand on this issue**

Even as the court slammed the government for trying to "somehow legitimise" the exception clause, the government had urged the court not to interfere with the exception clause as it was introduced keeping in view the age-old traditions and evolving social norms.

### **Implications of the ruling**

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The SC judgment is in keeping with the reformist view that early marriage is a serious infringement of child rights. The judges draw extensively on studies that demonstrate child marriage is a social evil that adversely affects the physical and mental health of children, denies them opportunities for education and self-advancement, infringes on their bodily autonomy and deprives them of any role in deciding on many aspects of their lives.

The practical implications of the judgment are worrying.

- It is doubtful whether it is possible to implement the statutory rape law uniformly in the context of marriages.
- Whether a person who has married a minor girl under Muslim personal law, which permits girls below 18 to be married, will be punished is still debatable.
- The age of consent under the IPC was raised in 2013 from 16 to 18 to bring it in line with the Protection of Children from Sexual Offences Act, 2012. However, the age above which marriage is an exception to rape was retained at 15, as fixed in 1940.
- POCSO criminalises even consensual teenage sexual activity and the latest ruling has brought this into the domain of marriage. A teenager could be prosecuted for a sexual offence under POCSO even if he was just a little above 18. In the same way, a teenage husband may now be threatened with prosecution for rape.

Significantly, if boys under 18 but over 16 are charged with penetrative sexual assault under POCSO or rape under the IPC, which can be termed 'heinous offences', they could face the prospect of being tried as adults, according to the juvenile law as it stands now.

## **GOVERNANCE ISSUES AND POLICIES**

### **PASSIVE EUTHANASIA ALREADY A LAW**

More than six years after sanctioning passive euthanasia as a legitimate option to end lives of people in a permanent vegetative state, the Supreme Court has decided to examine the more complex concept of a "living will" where removal of life support is authorised in case of an irreversible coma.

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SC was hearing a plea by NGO Common Cause to declare 'right to die with dignity' as a fundamental right within the fold of right to live with dignity, which is guaranteed under Article 21 of the Constitution.

### **"Living Will"**

A "living will" is a document prepared by a person in a healthy state of mind specifying that if s/he slides into a vegetative state because of an irreversible terminal illness, the debilitated existence should not be prolonged with the help of life support systems or other medical interventions.

In such a case, relatives will be spared the agonising decision of removing life support and doctors will be guided solely by the "living will". In several cases, the reluctance to pull the plug on a loved one even when s/he is in a vegetative state prolongs the pain of the patient.

### **Active and passive euthanasia:**

Active euthanasia is the intentional act of causing the death of a patient in great suffering, is illegal in India. But passive euthanasia is the withdrawal of medical treatment with the deliberate intention to hasten a terminally ill patient's death is "partially" allowed.

- The patient, family, friends and legal guardians can't take the decision on their own, but need a high court's approval bill for stopping treatment.

### **Euthanasia in law:**

The government told the court that there was already a law on passive euthanasia and it had drafted a 'management of patients with terminal illness-withdrawal of medical life support bill'.

### **Aruna Shanbaug case:**

In 2011, the Supreme Court, while hearing the case of Aruna Shanbaug, who was in a vegetative state for nearly 30 years, had legalised passive euthanasia partially.

A nurse at KEM Hospital in Mumbai, Shanbaug was in a vegetative state since 1973 after a brutal sodomisation and strangling with a dog-chain

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during a sexual assault. She died in 2015 while on a ventilator for several days after suffering from pneumonia.

### **Opinions**

Doctors have a mixed reaction to legalising euthanasia. They say the government needs to take a careful approach before legalising passive euthanasia when the measures to prolong the life of the patient are withdrawn.

Most doctors, however, agree that euthanasia should be made legal in cases where there is no scope of a patient recovering. But many feel that India is not yet ready for a decision like this which requires a mix of sensitivity and maturity.

A major concern is the misuse of the law. If it is legal to passively allow or actively hasten death, what's to say an aged parent won't be hastened in favour of an inheritance, or a spouse have treatment withdrawn for the sake of a hefty insurance payout?

## **WELFARE SCHEMES AND DEVELOPMENTAL GROUPS**

### **SANKALP & STRIVE SCHEMES**

#### **Why in news?**

The Cabinet Committee on Economic Affairs has approved two new World Bank supported schemes– Skills Acquisition and Knowledge Awareness for Livelihood Promotion (SANKALP) and Skill Strengthening for Industrial Value Enhancement (STRIVE).

#### **SANKALP and STRIVE:**

SANKALP is a Centrally sponsored scheme including a loan support from World Bank whereas STRIVE is a central sector scheme, with half of the scheme outlay as World bank loan assistance.

- SANKALP and STRIVE are outcome focused schemes marking shift in government's implementation strategy in vocational education and training from inputs to results.
- SANKALP will provide market relevant training to 3.5 crore youth. STRIVE will focus to improve on the quality and the market

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relevance of vocational training provided in ITIs and strengthen the apprenticeship programme through industry-cluster approach.

**Benefits:**

The schemes shall provide the required impetus to the National Skill Development Mission, 2015 and its various sub missions. The schemes are aligned to flagship Government of India programs such as Make in India and Swachhta Abhiyan and aim at developing globally competitive workforce for domestic and overseas requirements.

**SAMPOORNA BIMA GRAM YOJANA**

With an aim to provide affordable life insurance services to people, particularly those living in rural areas of the country, the government has launched Sampoorna Bima Gram (SBG) Yojana and expanded the coverage of Postal Life Insurance (PLI).

With this, apart from government employees, PLI will now cover professionals also. The decision has been taken to enlarge the cover of social security and bring the maximum number of people under the protection of Postal Life Insurance (PLI).

**Details**

Under the Sampoorna Bima Gram (SBG) Yojana, at least one village (having a minimum of 100 households) will be identified in each of the revenue districts of the country, wherein endeavour will be made to cover all households of that identified village with a minimum of one RPLI (Rural Postal Life Insurance) policy each. Coverage of all households in the identified Sampoorna Bima Gram village is the primary objective of this scheme.

Rural Postal Life Insurance (RPLI), introduced in 1995 on the recommendations of the Malhotra Committee, provides insurance cover to people residing in rural areas, especially weaker sections and women living in rural areas.

**Postal Life Insurance:**

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Postal Life Insurance (PLI) was introduced in 1884. In the beginning, the upper limit of life insurance was only Rs 4000, which has now increased to Rs 50 lakh. It covers employees of Central and state governments and their institutions. security

## **INDIA AND ITS INTERNATIONAL RELATIONS**

### **INDIA AND SCO**

#### **Why in news?**

India has been for the first time invited to join Shanghai Cooperation Organisation (SCO) contact group meeting on Afghanistan to discuss prevailing security situation and economic potential.

The meeting is being held in Moscow and comes as a feather in the cap for India's Afghan strategy after successful US backed Indo-Afghan trade and investment show in Delhi. The development is viewed as acknowledgement of India's stake in the war-torn country.

#### **Backgrounder:**

The SCO contact group on Afghanistan had become defunct in 2009. With Russian intervention now, it has been revived.

India is working with both US and Russia to contribute to stability of Afghanistan. SCO membership that put India into the heart of Eurasian geo-politics enabling a larger say in Afghanistan that has direct bearing on security situation here. However, India's deeper engagement with Afghanistan has been opposed by Pakistan and its Army.

Pak-backed Taliban and Haqqani network continue to target Indian interests and assets in the landlocked country as it strives to achieve "strategic depth".

#### **SCO:**

The SCO was established in 2001 in Shanghai by six countries. At the 2016 summit held in Uzbekistan, the SCO leaders signed memorandums on the accession of India and Pakistan to the organization.



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### **CAN 'DEEP SEA FISHING' BE THE SOLUTION?**

A work shop was organised in Chennai on deep sea fishing. The idea of deep sea fishing to fully exploit the fishery resources and increase the capture fish production. Proponents of deep sea fishing argue that the lure of better catch in far-off seas and avoiding the risks of cross-border fishing in Sri Lankan waters will ensure its success.

Earlier, The Sri Lankan Parliament unanimously passed an act that declared the method of fishing by bottom trawling an offence. It is aimed at curbing local trawlers as well as trawlers from Tamil Nadu.

#### **A part of Blue revolution**

Deep sea fishing has been an integral part of the country's Blue Revolution vision to exploit fishing resources to the maximum within the 200 nautical mile exclusive economic zone (EEZ). The aim is to promote deep sea fishing as an alternative to trawling in the Palk Bay.

#### **Issue with Bottom trawling**

Bottom trawling, an ecologically destructive practice, involves trawlers dragging weighted nets along the sea-floor, causing great depletion of aquatic resources. Bottom trawling captures juvenile fish, thus exhausting the ocean's resources and affecting marine conservation efforts. This practice was started by Tamil Nadu fishermen in Palk Bay and actively pursued at the peak of the civil war in Sri Lanka.

The Palk Bay fishing conflict has figured prominently in high-level meetings between India and Sri Lanka, and is a prolonged issue.

#### **India's deep-sea fishing plan**

The solution to bottom trawling issue lies in transition from trawling to deep-sea fishing.

- The activity of catching fish that live in the deep parts of the sea/ocean is called deep-sea fishing.
- The boats are designed in such a way that fishermen get access to the deeper parts of the ocean and fish species.



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- It is practiced worldwide, especially in the coastal areas with no ecological damage.
- The depth of water should be at least 30 meters to be considered a deep sea fishing zone.
- The time period for this transition is three years (2017-2020).
- Financial assistance and loans at subsidized rates to own new vessels will be provided by central and state governments

### **Concerns raised**

There is a need of clarity on sufficient stocks of fish in the adjacent waters of the Bay of Bengal and Gulf of Mannar to make deep sea fishing economically viable for a large and new fleet of vessels

Since oceanic resources are transboundary, they are targeted by a number of other countries too. Limited skills of fishermen and their interest for deep sea fishing is a cause of concern.

Doubts about the high operational costs of deep sea fishing and the loan repayment schedule imposed by the Bank.

### **Conclusion**

The Palk Bay conflict requires a multi-dimensional approach. The government should involve in developing a comprehensive fisheries policy to benefit all stake holders in fisheries.

Various other solutions such as buy-backs, alternative livelihoods and skill development need to be rolled out.

## **INTERNATIONAL AFFAIRS**

### **GLOBAL HUNGER INDEX RANKING**

Global Hunger Index for the year 2017 has been released.

**Released by:** International Food Policy Research Institute (IFPRI).

### **Parameters**

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The hunger index ranks countries based on undernourishment, child mortality, child wasting (low weight for height) and child stunting (low height for age).

The GHI ranks countries on a 100-point scale. Zero is the best score (no hunger), and 100 is the worst, although neither of these extremes is reached in practice.

### **Performance of India:**

India has a “serious” hunger problem and ranks 100th out of 119 countries on the global hunger index. India stood at 97th position in last year’s rankings.

India ranks below many of its neighbouring countries such as China, Nepal, Myanmar, Sri Lank and Bangladesh. It is ahead of Pakistan and Afghanistan.

India has the third highest score in all of Asia — only Afghanistan and Pakistan are ranked worse.

- The country’s serious hunger level is driven by high child malnutrition and underlines need for stronger commitment to the social sector.
- However, India has made considerable improvement in reducing its child stunting rate, down 29% since 2000, but even that progress leaves India with a relatively high stunting rate of 38.4.

### **Concerns:**

India’s high ranking on the Global Hunger Index again this year brings to the fore the disturbing reality of the country’s stubbornly high proportions of malnourished children. More than one-fifth of Indian children under five weigh too little for their height and over a third are too short for their age.

The on-going efforts are expected to make significant changes in improving the existing situation. India has developed and launched an action plan on ‘undernourishment free India’ by 2022. The plan shows stronger commitment and greater investments in tackling malnutrition in the coming years.

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### **U.S., ISRAEL QUIT UNESCO**

The U.S. has announced its withdrawal from the United Nations Educational, Scientific and Cultural Organization (UNESCO). As a follow up as required by the law, the U.S. has stopped funding UNESCO. The U.S. withdrawal will take effect on December 31, 2018.

#### **Reason for withdrawal**

US accuses India of “continuing anti-Israel bias.” Besides the US, Israel has also decided to pull out of UNESCO. The US and UNESCO have actually been at loggerheads since 2011.

- In October 2011, UNESCO admitted the Palestinian territories to the organization as an independent member-state called Palestine. This triggered a US law which cut off American funding for any

#### **UNESCO:**

UNESCO is a United Nations organization that helps preserve historical and cultural sites worldwide.

- It is a special multi-country agency, formed in 1945 and based in France, that promotes sex education and literacy as well as improving gender equality in countries around the world.

It is also known for its work to preserve cultural and heritage sites such as ancient villages, ruins and temples, and historic sites such as the Great Mosque of Samarra in Iraq, which at one point came under threat of being destroyed by the Islamic State.

organization that recognized an independent Palestine

- In 2013, after the US missed several rounds of payments to UNESCO, the organization suspended US voting rights in its core decision-making bodies. So the US hasn't been a real UNESCO member for a while.

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## **GENERAL STUDIES-3**

### **INDIAN ECONOMY**

#### **MULLING AN ATTRACTIVE GST COMPOSITION SCHEME**

##### ***Why in news?***

The GST Council, chaired by finance minister, has constituted a group of ministers to make the composition scheme more attractive and to revisit the goods and services tax rates on restaurants.

##### ***Lukewarm response***

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Businesses with turnover of up to Rs 1 crore can opt for the composition scheme and they can pay taxes in the range of 1-5% and file returns quarterly. However, only 15.5 lakh of the total 98 lakh businesses have registered under the GST regime opting for the composition scheme.

### **The Composition scheme**


The composition scheme is an alternative method of levy of tax designed for small taxpayers whose turnover is up to Rs 75 lakh — Rs 50 lakh in the case of eight north-eastern states and the hilly state of Himachal Pradesh. The objective behind it is to bring simplicity and reduce the compliance cost for small taxpayers.

- The scheme is optional under which manufacturers other than those of ice cream, pan masala and tobacco products have to pay a 2% tax on their annual turnover. The tax rate is 5% for restaurant services and 1% for traders.
- As per the Central GST Act, businesses are eligible to opt for the composition scheme if a person is not engaged in any inter-state outward supplies of goods and not into making any supply of goods through an electronic commerce operator who is required to collect tax at source.

### **3<sup>RD</sup> SERIES OF SOVEREIGN GOLD BOND SCHEME**

The government has launched the Sovereign Gold Bond Scheme 2017-18 – Series-III, which will be issued by the Reserve Bank India on behalf of the Government of India.

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<b>MAIN FEATURES OF THE SOVEREIGN GOLD BOND</b>			
<p><b>ISSUANCE</b> To be issued by Reserve Bank of India on behalf of the Government</p>	<p><b>TAXATION</b> Interest on the bonds shall be taxable as per the provision of Income Tax Act, 1961 (43 of 1961). Physical gold rules apply to capital gains tax too</p>		<p><b>SALES CHANNEL</b> Bonds will be sold through banks and designated Post Offices, as may be notified, either directly or through agents</p>
<p><b>ELIGIBILITY</b> The bonds will be restricted for sale to resident Indian entities including individuals, HUFs, trusts, universities, charitable institutions</p>	<p><b>DENOMINATION</b> The bonds will be denominated in multiples of grams of gold with a basic unit of 1 gram</p>		<p><b>TENOR</b> The tenor of the bond will be for a period of 8 years with exit option from 5th year to be exercised on the interest payment dates</p>

The sovereign gold bond was introduced by the Government in 2015. While the Government introduced these bonds to help reduce India's over dependence on gold imports, the move was also aimed at changing the habits of Indians from saving in physical form of gold to a paper form with Sovereign backing.

**Minimum and Maximum limit:**

The minimum permissible investment limit will be 1 gram of gold, while the maximum limit will be 4 kg for individual, 4 kg for HUF and 20 kg for trusts and similar entities per fiscal (April-March) notified by the government from time to time.

**Collateral:**

Bonds can be used as collateral for loans. The loan-to-value (LTV) ratio is to be set equal to ordinary gold loan mandated by the Reserve Bank from time to time.

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## **NOBEL FOR ECONOMICS**

**Who?** US economist Richard Thaler

### **For what?**

For his contributions in the field of behavioural economics.

- By exploring the consequences of limited rationality, social preferences, and lack of self-control, he has shown how these human traits systematically affect individual decisions as well as market outcomes.
- Richard Thaler's contributions have built a bridge between the economic and psychological analyses of individual decision-making.

### **About the prize**

The economics prize, officially called the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, was established in 1968. It was not part of the original group of awards set out in Nobel's will.

### **Behavioural economics**

The field of behavioral economics brings together psychology and economics, and provides some valuable insights that individuals are not behaving in their own best interests. Behavioral economics provides a framework to understand when and how people make errors. Lessons from behavioral economics can be used to create environments that nudge people toward wiser decisions and healthier lives.

This branch looks at the impacts of social, psychological and emotional factors in making decisions about money that aren't in a person's best interest. It's kind of the opposite to the rational decision makers that are usually described in economic theory.

## **UDAY KOTAK COMMITTEE RECOMMENDATIONS**

**Set up by:** SEBI in June 2017

**Why was it set up?**



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The corporate governance committee was set up with a view to enhance the standards of this regime of listed entities in India.

**Chairman:** Uday Kotak, MD, Kotak Mahindra Bank

### **Recommendations**

The Committee has proposed that Board of directors shall comprise not less than six directors. Not less than 50% directors shall be non-executive. There shall be at least one woman as an independent director.

- It also recommended that these boards shall meet at least 4-5 times a year
- It has set clear guidelines on Minimum compensation and remuneration for independent directors

### **Implications**

If these proposals are implemented, some companies on NSE will need to increase their board size and will have to appoint a woman director. Also, the ministry of corporate affairs (MCA) has opposed 12 out of the 24 key proposals and said the changes are not feasible and in many instances will cause a regulatory overlap and unnecessarily make the functioning of boards tougher.

## **SIX WAYS TO TACKLE JOBLESSNESS**

India is indeed the fastest growing large economy in the world. Growth should be inclusive and sustainable. One of the crucial determinant of the same is it should be employment intensive. There has been a low job growth due to several factors such as low investment, capacity utilization in industry, agriculture growth and low plant load factor.

Although growth is relatively high it is the pattern of growth that is an area of concern. One of the concerns is that manufacturing sector has not been the leading sector driving growth. Manufacturing should drive productivity in the whole economy. Services cannot, as services by definition 'service' the distribution of produced goods.

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Expectations from India's manufacturing sector are high. These include, among other objectives, job creation, exports and a force that will drive future economic growth.

### **3 groups in need of jobs**

In India's highly segmented labour market, there are at least three demographic groups that are in urgent need of jobs: a growing number of better educated youth; uneducated agricultural workers who wish to leave agricultural distress behind; and young women, who too are better educated than ever before.

### **Growth and employment**

Growth generates employment and employment generates further growth. In general, employment corresponds to the qualitative aspect of growth. If a country is on the growth trajectory, it will generate more employment opportunities and while the growth declines, people start losing jobs.

Jobless growth is an economic phenomenon in which a macro economy experiences growth while maintaining or decreasing its level of employment.

The aim should be at growth that is driven both by improvements in productivity and modernizations of its labour force — especially since better jobs are crucial to improving the lives of millions.

### **Main factors of India's jobless growth**

The transition peasants into factory workers requires basic training, which is not keeping in pace with job needs. Moreover, the main contributor in India's GDP is service sector which is not labour intensive and thus adds to jobless growth.

The other factor is related to small and medium enterprises (SMEs). Their labour intensity is four times higher than that of large firms. SMEs, which employ 40 per cent of the workforce of the country and which represent about 45 per cent of India's manufacturing output and 40 per cent of India's total exports, are in a better position to create jobs. But it is not able to do so because of poor infrastructure, lack of skilled labour and also they don't have easy access to loans.

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### **Reviving job growth**

1. An industrial and trade policy which are in consonance are needed. The Department of Industrial Policy and Promotion (DIPP) is preparing an industrial policy. It is essential that trade policy is prepared too. Otherwise the two may work at cross purposes and undermine each other's objectives.

- National Manufacturing Policy came in 2011, was not implemented fully.
- Excessive imports have been decimating Indian manufacturing.
- An inverted duty structure has also hurt Indian manufacturing

The automobiles sector in India faced no inverted duty structure, and has thrived.

2. Special packages are needed for labour-intensive industries such as food processing, leather and footwear, wood manufacturers and furniture, textiles and apparel and garments to create jobs.
3. There should be cluster development to support job creation in micro, small and medium enterprises (MSMEs).
  - Most of the unorganised sector employment is in MSMEs, which tend to be concentrated in specific geographic locations.
  - There is a cluster development programme of the Ministry of MSMEs, which need to be funded adequately and better designed to create more opportunities.
4. Align urban development with manufacturing clusters to create jobs. The Ministry of Urban Development has a programme called AMRUT (Atal Mission for Rejuvenation and Urban Transformation) aimed at improving infrastructure for small towns. Infrastructure investment by the government creates many jobs.
  - Hence an engagement between the Urban Development and MSME Ministries is necessary to attract more investment to industrial clusters and increase non-agricultural jobs.
5. Girls are losing out in jobs, or those with increasing education can't find them, despite having gotten higher levels of education.
  - Skilling close to clusters is likely to create more no of jobs.

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- The problem with skilling programmes has been low placement after skilling is complete.
- The availability of jobs close to where the skilling is conducted will also enhance the demand for skilling.

6. Public investments in health, education, police and judiciary

### **In Conclusion:**

Government schemes rarely create largescale jobs. International evidence is that when consumer demand grows consistently, whether from domestic or international markets, that is when jobs grow. That requires an industrial policy. Ease of doing business improvement and infrastructure investment increases should improve the economic environment. And also it is crucial to align policy across sectors and upgrade the country's social infrastructure.

### **RISING IMPORTS AND DECLINING MANUFACTURING**

Data suggests that demonetisation broke domestic supply chains, and disruption caused by GST compounded problems; meanwhile, with remonetisation, demand rose, and was met by imports.

### **Take it with a pinch of salt**

A 4.3% year-on-year increase in the index of industrial production (IIP) for August is being hailed as signalling a turnaround. Even, the markets have celebrated

While it is necessary to be optimistic — business is ultimately about sentiment and the confidence that things will get better — caution is warranted on at least two counts.

#### **1. Stocking and destocking**

It's not clear how much of the apparent rebound is due to the so-called restocking effect. Prior to the Goods and Services Tax (GST), distributors and retailers resorted to "destocking" – selling from their inventories, rather than purchasing new goods which would attract the then existing

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state value added taxes, on which claiming credit under the new regime wouldn't be easy.

It led to manufacturers, then, cutting output in June. Uncertainty around the new tax regime meant that production even in July was at a low key. Only in August would it have resumed at full throttle, and mainly to “restock” warehouses ahead of the festival season. The trend seemingly confirms this hypothesis. But restocking alone, which is a one-time affair, cannot obviously sustain a recovery in the months ahead.

## **2. Look at the individual sectors**

The August data itself needs to be looked at more closely. The manufacturing sector, which has a 77.6% weight within the IIP, registered a mere 3.1% annual growth in August. And out of its 23 subsectors, as many as 13 posted negative growth--most of which are highly employment-intensive industries.

### **What do these trends indicate?**

Manufacturing has clearly taken a hit from the twin blows of demonetisation and GST, one following the other. Earlier, the sector was chugging along. The liquidity crunch resulting from demonetisation basically ended up disrupting domestic production supply chains. Small and medium-sized enterprises (SMEs) in manufacturing clusters, paying workers mostly in cash, were the worst affected.

Liquidity did return to the system around February-March. As the pace of remonetisation picked up — the notes in circulation by end-March, according to the Reserve Bank of India, had almost reached three-fourths of their pre-demonetisation levels — demand was somewhat restored. But by this time, many domestic manufacturing units, especially SMEs, had shut shop or significantly cut back on production. And with GST subsequently adding to their woes, it meant that the demand — even if not fully back to normal — was increasingly being supplied not by domestic production, but imports.

### **Import led growth?**

During April-August, manufacturing growth has averaged just 1.6%. Compared to this, the country's overall imports for the same period have surged 27.5% year-on-year. Even after excluding crude petroleum and

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gold — both of which are, in any case, imported — the growth rate amounts to 23.2%. Imports rising by 20%-plus, in an economy combating a severe growth and investment slowdown, is quite unusual. If imported goods are what are largely being moved today, it might not be the best of news — whether for the current account deficit or for jobs in India.

### **Course correction**

Rebuilding broken domestic supply chains will involve either the SMEs adjusting to the new tax regime or the formal sector filling in the space ceded by informal manufacturers. Both these will take time. Until then, imports are inevitable. And without manufacturing getting back on the rails and the capital expenditure cycle resuming, there can be no recovery either.

## **INDUSTRY, INFRASTRUCTURE AND INVESTMENT**

### **INDIA'S FIRST SEWAGE TREATMENT PLANT UNDER HYBRID ANNUITY MODE**

A tripartite agreement has been signed between National Mission for Clean Ganga (NMCG) and the state level executing agencies for setting up of India's first Sewage Treatment Plants under Hybrid Annuity mode.

**Where?** Haridwar and Varanasi

### **Details**

The agreement is a major step forward in realizing the dream of Nirmal Ganga

- Under this agreement the maintenance of the project will be the responsibility of the concessionaire for which there will be performance based phased manner of payment. This would ensure continued performance of the sewage infrastructure assets created

#### **Hybrid Annuity Model**

Under this model, the development, operation and maintenance of the sewage treatment STPs will be undertaken by a Special Purpose Vehicle (SPV) to be created by the winning bidder at the local level. As per this model, 40% of the Capital cost quoted would be paid on completion of construction while the remaining 60% of the cost will be paid over the life of the project as annuities along with operation and maintenance cost (O&M) expenses.

One of the most important features of this model is that both the Annuity and O&M payments are linked to the performance of the STP. This will ensure continued performance of the assets created due to better accountability, ownership and optimal performance.





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The Nobel for Physiology went to Jeffrey C Hall, Michael Rosbash and Michael W Young “for their discoveries of molecular mechanisms controlling the circadian rhythm”. Their discoveries of the body clock, and how it adapts to the rhythms of day and night, used the fruit fly as a model organism by which to study this daily rhythm.

The discoveries were based on a school of scientific enquiry called neurogenetics developed by Seymour Benzer, the American molecular biologist. Among those in his team was a young Obaid Siddiqui, who went on to set up TIFR-NCBS at Bengaluru in the late 1980s, and was its first director from 1991 to 1997.

India has a strong and vibrant community of fruit fly scientists because of labs established some three or four decades ago. It is considered one of the leaders in the field of research on the fruit fly

### **NEW VACCINE ON WAY COULD BE A GAMECHANGER FOR FLU**

Developed by: A team from Oxford University in the United Kingdom.

The clinical trial will be carried out through Britain’s publicly funded national healthcare system, the National Health Service (NHS).

#### **What kinds of influenza will the new vaccine target?**

Influenza or flu is a viral seasonal respiratory disease to which older people and young children are the most vulnerable. Influenza viruses are classified into A, B, C and D types

- A. A and B are known to cause seasonal epidemics;
- B. C causes mild respiratory illness, but not an epidemic.
- C. Influenza D affects cattle.

Influenza viruses annually affect about a billion people worldwide, and cause 250,000 to 500,000 deaths, mainly in the over-65 age group. According to Oxford University, the new vaccine will target influenza viruses A, B and C.

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### **Why is the new vaccine significant?**

The researchers believe that the “different mechanism” of the new vaccine will provide stronger protection against the flu, and could reduce its severity and duration. The hope is to reduce clinic visits, hospitalisations and deaths, if the vaccine works as predicted.

### **What is this “different mechanism”?**

Under a microscope, the flu virus looks like a spherical pin cushion with lots of pins sticking out of it. Available vaccines use surface proteins that lie on the outside of flu cells — the heads of the pins — to stimulate the immune system, which ultimately produce antibodies. But every year, as the virus changes, the surface proteins (hemagglutinin and neuraminidase) also change.

Currently, every year, scientists are going back to the drawing board to predict how the virus might change, and what the new strain of flu might look like. Often, the vaccine doesn’t work well because “by the time the vaccine has been made, the strain of virus that is causing the illness has changed”, say experts.

The new universal vaccine uses core proteins of the virus — lying inside the cushion — rather than the ones on the surface.

The new vaccine will stimulate the immune system to boost influenza-specific T-cells (the body’s own immunity-building cells), instead of antibodies, that kill the virus as it tries to spread through the body. Everyone has some influenza-specific T cells already, but their numbers are often too low to be protective. Previous research found that these T-cells can help fight more than one type of flu virus and this, according to the researchers, means more people could be protected and the severity and duration of flu may be reduced.

### **What is the influenza burden in India. How is the new vaccine expected to help?**

The flu burden in India is huge; and the number of deaths was close to 2,000. If it (the vaccine) passes all tests of safety and immunogenicity, it will be a breakthrough, and will further help all countries struggling to tackle the worldwide problem of influenza.

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## **ENVIRONMENT**

### **EL NINO AND CO2**

NASA scientists have found that the impact of the 2015-16 El Nino-related heat and drought occurring in tropical regions of South America, Africa and Indonesia was responsible for the largest annual increases in atmospheric carbon dioxide (CO<sub>2</sub>) concentration seen in at least 2,000 years.

The findings are based on analysis of the data from NASA's Orbiting Carbon Observatory-2 (OCO-2) satellite.

#### **Details**

These record increases occurred even though emissions from human activities in 2015-16 are estimated to have remained roughly the same as they were prior to the El Nino.

South America, Africa and Indonesia released 2.5 gigatonnes (a billion tonnes) more carbon into the atmosphere than they did in 2011. In 2011, weather in the three tropical regions was normal and the amount of carbon absorbed and released by them was in balance.

#### **Ideas**

These findings should lead to improved predictions of how our planet may respond to similar conditions in the future. These findings imply that if future climate brings more or longer droughts, as the last El Nino did, more carbon dioxide may remain in the atmosphere, leading to a tendency

#### **El Nino:**

El Nino, Spanish for 'The little boy', is a weather disturbance.

Under normal weather conditions, trade winds ferry warm ocean currents westwards, from the eastern and central Pacific towards Indonesia and Australia. Warmer ocean waters in these regions then heat up the air above, leading to cloud formation and triggering the prodigious monsoon.

- But in the years where the El Nino takes shape, eastern and central Pacific regions experience abnormal warming of the sea.

ia This leads to increased cloud formation and torrential rains in Peru and some sections of America. The ocean currents in the western Pacific remain cool, which means weak monsoon rains in Indonesia and Australia and sometimes in India. 277

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to further warm Earth.

### **DISPLACEMENT DUE TO CALAMITIES IN INDIA**

According to a study by the UN Office for Disaster Risk Reduction (UNISDR), calamities displace 23 lakh people every year in India.

#### **Some details from the report**

India ranks the highest among the world's most disaster-prone countries for displacement of residents, uprooted due to calamities such as floods, cyclones and earthquakes. Rise in homelessness will continue.

The report however notes that the estimation of displaced people in India may be on the lower side considering that, in the recent Bihar floods alone, about 1.75 crore were affected. Floods hit at least half a dozen other states this year.

Most of this displacement is being driven by flooding, which is on the increase in a warming world where population growth in hazard-prone

#### **UNISDR:**

The United Nations Office for Disaster Risk Reduction (UNISDR), created in 1999, is the successor to the secretariat of the International Decade for Natural Disaster Reduction.

It was established to ensure the implementation of the International Strategy for Disaster Reduction. It is part of the United Nations Secretariat and its functions span the social, economic, environmental as well as humanitarian fields.

- UNISDR supports the implementation, follow-up and review of the Sendai Framework for Disaster Risk Reduction adopted by the Third UN World Conference on Disaster Risk Reduction on 18 March 2015 in Sendai, Japan.

UNISDR's vision is anchored on the four priorities for action set out in the Sendai Framework:

- Understanding disaster risk.
- Strengthening disaster risk governance to manage disaster risk.
- Investing in disaster risk reduction for resilience.
- Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction.

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parts of the globe has increased exposure.

### **PONDICHERRY SHARK, RED SEA TORPEDO AND TENTACLED BUTTERFLY RAY EXTINCT?**

Three marine species, the Pondicherry Shark, the Red Sea Torpedo and the Tentacled Butterfly Ray might have become possibly extinct in the oceanic waters of the Arabian Seas Region (ASR) since no evidence of its existence has surfaced in the last three decades.

#### **Status of other species:**

The Guitar fish found in coastal waters of Kerala and Tamil Nadu and the Ganges Shark found in Arabian Sea were classified as Critically Endangered, among others.

#### **Threats:**

By-catch was found to be the biggest threat to the majority of chondrichthyan fishes besides the “pressure from artisanal and industrial fisheries.”

Also, increasing decline in the extent and quality of habitat as a result of coastal development and other anthropogenic disturbances, particularly for those critical habitats that many species depend on coral reefs, mangroves, sea grasses pose a serious threat to the survival of many species.

#### **ASR:**

The ASR covers the waters of the Red Sea, Gulf of Aden, Arabian Sea, Sea of Oman, and the Gulf. The region is also bordered by 20 countries including India, Bahrain, Egypt, Iraq, the Islamic Republic of Iran, Israel and Pakistan.

### **NAMAMI GANGE PROGRAMME**

#### **Why in news?**

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National Mission for Clean Ganga recently approved projects on sewage management, treatment of drains through bio-remediation and inventorization and surveillance of river Ganga.

**Namami Gange Programme:**

It was launched as a mission to clean river Ganga with the active involvement of all stakeholders, especially from five major Ganga basin States – Uttarakhand, Uttar Pradesh, Jharkhand, Bihar and West Bengal.

- The program would be implemented by the National Mission for Clean Ganga (NMCG), and its state counterpart organizations i.e., State Program Management Groups (SPMGs).
- In order to improve implementation, a three-tier mechanism has been proposed for project monitoring comprising of
  - High level task force chaired by Cabinet Secretary assisted by NMCG at national level
  - State level committee chaired by Chief Secretary assisted by SPMG at state level
  - District level committee chaired by the District Magistrate.

**Components**

River Surface Cleaning, Sewerage Treatment Infrastructure, River Front Development, Bio-Diversity, Afforestation and Public Awareness.

**CRACKERS SALE BAN IN DELHI**

The Supreme Court has suspended the sale of firecrackers in Delhi and NCR till November 1, 2017

**Why?**

To test whether a Deepavali without firecrackers this year will have a “positive effect” on the health of citizens and a steadily deteriorating air quality.

**Backgrounder:**

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There is evidence of deterioration of air quality at alarming levels in Delhi. Burning of firecrackers during Deepavali in 2016 had shot up PM [particulate matter] levels by three times, making Delhi the worst city in the world, insofar as air pollution is concerned. Direct and immediate cause thereof was burning of crackers during Deepavali.

### **Opposing view:**

Few experts see court's decision to re-impose a ban on the sale of firecrackers in Delhi and surrounding towns till November 1 as extreme, unjustified and, perhaps, inadequately thought move.

- Also, the court has not considered what this will do to the firecracker industry and, more importantly, to the livelihood of thousands of shopkeepers and traders, many of whom are small roadside vendors or corner shops.

### **Way ahead**

The problem of firecrackers in Delhi has been around for decades. Better strategies like imposing a stricter timeframe, reducing the 10 pm limit to 9 or even 8 pm, could have been devised. The SC could have asked the government to stage firework displays in a handful of strategic locations, broadcast by TV channels, so people can do without their own. London does this on New Year's Eve.

### **"known health effects"**

In November 2016, as a great smog enveloped Delhi for days after Diwali, the Environment Pollution (Prevention & Control) Authority (EPCA) told the Supreme Court that the capital's terrible air quality had been "compounded" by the burning of firecrackers. The EPCA is the pollution watchdog that the central government created for the National Capital Region, based on a 1998 order of the Supreme Court.

Following the EPCA's submission, the court ordered the Central Pollution Control Board (CPCB) to study the harmful effects of firecrackers.

While the CPCB did not carry out the detailed study that the Supreme Court asked for, it did review existing literature on the subject, and put together a summary, which was submitted to the court. It listed the "known health impacts" of fireworks, going into the chemical processes of



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what makes them emit light and sound, and the toxic substances that are spread in the atmosphere during the process.

### **Chemistry of fireworks**

It has four primary ingredients — oxidiser, fuel, colouring agents, and binder — combine.

Burning requires oxygen — the oxidisers in fireworks are chemicals that release oxygen to allow the explosion to take place. Nitrates, chlorates and perchlorates are used most commonly. Fires need fuel to burn; the commonest fuel in Indian fireworks is charcoal. The combination of fuel and oxidiser — or gunpowder — causes the explosion.

Colouring agents are chemical compounds that give fireworks their colour. Aluminium compounds produce brilliant whites, barium nitrate produces greens, and the addition of copper results in blue light. Binders are used to hold the mixture of the firework together in a paste... the binders don't actually begin to work until the firework has been lit and are potentially dangerous.

Also, the CPCB says, “metals (like aluminium, titanium, copper, strontium, barium etc)... [are] added to regulate the speed of the [chemical] reaction”

So, in the case of a rocket, the combination of fuel and oxidisers, or gunpowder, propels the firework upwards. The fuse has finer particles of gunpowder that burns the charge at a controlled rate, giving the person who is lighting the fuse time to step back. The burning charge then lights up the larger particles of gunpowder at the bottom of the firework, and the resultant explosion fires the rocket up in the air. Pellets of gunpowders packed into its body are ultimately what burst it apart. Binders, most commonly a starch called dextrin, binds the fuel oxidisers and colourants into these pellets.

### **Existing guidelines**

For four types of explosive firecrackers — atom bombs, chinese crackers, garland crackers and maroons — guidelines exist. The guidelines for these four categories — out of 40 notified categories — were drawn up by PESO in 2008 after the Supreme Court ordered the Department of Explosives (as PESO was then called) in 2005 to notify regulations.

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According to these guidelines, the sulphur, nitrates and aluminium powder contents were regulated. The guidelines were silent on heavy metals such as cobalt, copper and magnesium, extremely toxic compounds of which are widely used as colouring or regulating agents. It was only in July 2016 that the Supreme Court ordered that “no firecrackers manufactured by the respondents shall contain antimony, lithium, mercury, arsenic and lead”, and that it was the “the responsibility of the Petroleum and Explosives Safety Organisation (PESO) to ensure compliance”.

### **How firecrackers impact health?**

all fireworks contain carbon and sulphur — which are necessary for burning — apart from a wide range of chemical compounds.

Adults exposed to high levels of ambient air pollution have shown increased prevalence of chronic cough, phlegm, and breathlessness and are, therefore, at an increased risk of developing respiratory symptoms, asthma, chronic obstructive pulmonary disease, allergic rhinitis, lower respiratory tract infections, and lung cancers.

Children are susceptible in particular, since their defences against particulate matter and other gaseous air pollutants are weaker. Also, for children engaged in greater physical activity, increases the intake of polluted air into their lungs.

## **SECURITY CHALLENGES**

### **MITRA SHAKTI 2017**

It Is the fifth India-Sri Lanka Joint Training Exercise

**Held at:** Pune.

**Objective:**

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The exercise is based on Counter Terrorist Operations. The aim of the joint training is to exchange the best of military practices of the two countries and build a strong military-to-military relation between the two armies.

**Significance**

The training exercise is considered an important effort in India's response to China's growing influence in South Asia and the Indian Ocean region. It is expected to send a strong signal to the world that both India and Sri Lanka understand the emerging threat of terrorism and stand shoulder to shoulder in countering this menace.