

VISIONIAS

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CURRENT AFFAIRS MAY 2016

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1. POLITY AND GOVERNANCE

1.1. SC UPHOLDS LAW ON CRIMINAL DEFAMATION

Why in news?

- The Supreme Court recently upheld the validity of the criminal defamation law. The court pronounced its verdict on a batch of petitions challenging the constitutional validity of sections 499 and 500 of the Indian Penal Code providing for criminal defamation.
- The court said though free speech is a “highly valued and cherished right”, imprisonment is a proportionate punishment for defamatory remarks.

Sections 499 and 500 of IPC prescribes two years’ imprisonment for a person found guilty of defamation.

Why it should be retained? According to Supreme Court

- **Reputation** of an individual, constituent in **Article 21** is an equally important right as free speech.
- Criminalization of defamation to protect individual dignity and reputation is a “**reasonable restriction**”
- Editors have to take the responsibility of everything they publish as it has far-reaching consequences in an individual and country’s life
- The acts of expression should be looked at both from the perspective of the speaker and the place at which he speaks, the audience etc.

Other arguments

- It has been part of statutory law for over 70 years. It has neither diluted our vibrant democracy nor abridged free speech
- Protection for “legitimate criticism” on a question of public interest is available in the
 - ✓ Civil law of defamation &
 - ✓ Under exceptions of Section 499 IPC
- Mere misuse or abuse of law can never be a reason to render a provision unconstitutional rather lower judiciary must be sensitized to prevent misuse
- Monetary compensation in civil defamation is not proportional to the excessive harm done to the reputation

Why it should be deleted?

- Freedom of speech and expression of media is important for a vibrant democracy and the threat of prosecution alone is enough to suppress the truth.
- Considering anecdotal evidence, every dissent may be taken as unpalatable criticism.
- The right to reputation cannot be extended to collectives such as the government, which has the resources to set right damage to their reputations.
- The process in the criminal cases itself becomes a punishment for the accused as it requires him to be personally present along with a lawyer on each date of hearing.
- Given that a civil remedy to defamation already exists, no purpose is served by retaining the criminal remedy except to coerce, harass and threaten.
- It goes against the global trend of decriminalizing defamation
 - ✓ Many countries, including neighboring Sri Lanka, have decriminalized defamation.
 - ✓ In 2011, the Human Rights Committee of the International Covenant on Civil and Political Rights called upon states to abolish criminal defamation, noting that it intimidates citizens and makes them shy away from exposing wrongdoing.



Other issues

Section 199 of CrPC

- The court could have read down this section which allows public prosecutors to step into the shoes of allegedly defamed public servants.
- It is patently unfair to allow the State to use its legal machinery to suppress criticism without public servants concerned being required to testify in court

Constitutional bench

- This is a bigger issue and therefore, the bench could have referred this to a constitutional bench.
- Constitution bench is the name given to the benches of the Supreme Court of India which consist of at least five judges of the court which sit to decide any case “involving a substantial question of law as to the interpretation” of the Constitution of India.

Honest mistake

- The court made no mention of the fact that Section 499 does not allow for “honest mistake” as a defence.
- This very Supreme Court, 22 years ago, had found the civil law of defamation unconstitutional and a disproportionate restriction upon free speech as it did not allow for “honest mistake”.

1.2. REVIEW OF NO DETENTION POLICY UNDER RTE

Why in news?

- In reply to HRD ministry, at least 18 state governments want this section to be repealed.
- Recently, T S R Subramanian panel appointed to suggest Education policy also recommended that the government should bring back the pass-fail system from Class VI.
- Rajasthan and Delhi have also passed Bills to reverse the no-detention policy. These are waiting for the governor’s assent.

What is No Detention Policy?

- As per Section 16 of RTE Act, the students up to class VIII are automatically promoted to the next class without being held back even if they do not get a passing grade.
- This has been implemented as part of the **Continuous and Comprehensive Evaluation (CCE)** under the RTE Act to ensure all-round development of students.

Background

- Detention system led to increased dropouts among students, especially from economically and socially weaker sections, who cannot afford costly private education.
- So to overcome this, no detention policy was brought in so that an environment free from fear, anxiety and stress can be provided to children in order to learn and grown on their own pace and at the same time dropouts can be reduced as well.
- Many government school teachers and principals opined that it has become a challenge to ensure minimum learning levels among the children.
- Because of this clause students have developed a lackadaisical attitude towards study and at the same time parents also didn’t bother as their children cannot be held back in the class.
- **The 2014 Annual Status of Education Report (ASER)** has found that every second Class V student in rural India can’t read the text of a class three levels below.

Way Forward

- The RTE Act made a range of other promises such as upgrading infrastructure, upgrading quality of teaching and regular assessment through CCE. It has to go hand in hand.
- The poor learning outcomes of schools are caused by many factors such as poor student teacher ratio, lack of training of teachers, monitoring, availability of basic infrastructure, school and home environment etc.

- Government can't implement only the no-detention in letter and spirit and not adhere to other parameters.
- Bringing back the old pass-fail system without making proper course correction in other areas will undermine the egalitarian promise of the RTE.
- At the same time, to give sufficient time to all the stakeholders to understand the policy, the no-detention policy should be implemented in a phased manner so that all stakeholders understand what it entails instead of interpreting it as zero assessment.

1.3. AMENDMENT TO PREVENTION OF CORRUPTION ACT (PCA), 1988

Why in news?

The Union Cabinet gave its approval to amend the Prevention of Corruption Act, 1988 by pursuing the Prevention of Corruption (Amendment) Bill, 2013 which was pending before the Rajya Sabha.

Proposed Amendments

The proposed amendments **would fill in perceived gaps in the domestic anti-corruption law and also help in meeting the country's obligations under the United Nations Convention against Corruption (UNCAC)** more effectively.

- Providing for more stringent punishment for the offences of bribery, both for the bribe giver and the bribe taker.
- Penal provisions being enhanced from **minimum 6 months to 3 years and from maximum 5 years to 7 years**. The seven year imprisonment **brings corruption to the heinous crime category**.
- To contain gain of benefits from profits of corruption, **the powers of attachment are proposed to be conferred upon the trial Court (Special Judge) instead of the District Court**.
- Expanding the ambit of provision for **containing inducement of public servant from individuals to commercial entities** is being added to contain supply side of corruption.
- Providing for issue of guidelines for commercial organizations to prevent persons associated with them from bribing a public servant.
- The average trial period of cases under PC Act in the last 4 years has been above 8 years.
- It is proposed **to ensure speedy trial by providing a trial completion within 2 years**.
- **Intentional enriching by public servants will be construed as criminal misconduct** and possession of disproportionate assets as proof of such illicit enrichment.
- **Non-monetary gratification** has been covered **within the definition of the word gratification**.
- By way of explanation 2 to section 7(2), the obligation of a public servant has been explicitly delineated such that the public servant deters from violating a statutory duty or any set of rules, government policies, executive instructions and procedures

Background

- The Prevention of Corruption Act, 1988 was enacted in the year 1988.
- Later developments, such as India ratifying the UNCAC, international practice on treatment of the offence of bribery and corruption, etc. necessitated a review of the existing provisions of the Act.

Criticism

- The proposed amendments make all actual and potential bribe-givers offenders under the PCA.
- In our country, it is a reality that people are forced to pay bribes even to get their basic entitlements like rations, pensions, education and health facilities.
- Despite widespread public opinion against the necessity to seek the government's permission before prosecuting a public servant for corruption, the amendments seek to strengthen this provision by increasing the cover to even retired public officials.

Way Forward

- The government should reconsider offering immunity to at least **three types of bribe-givers**:
 - ✓ Those who are coerced to pay a bribe to obtain their legal entitlements.

- ✓ Those who voluntarily come forward to complain and bear witness against corrupt public officials.
- ✓ Those who are willing to turn approvers.
- The objective of combating coercive corruption would be more effectively achieved if the **government puts in place a comprehensive grievance redress mechanism.**
- The PCA **must insulate prosecuting agencies from government influence.**
- The Lokpal law has vested the power of granting sanction for prosecution in the Lokpal. The proposed amendments must reflect this.
- Wherever the procedure for granting prosecution is defined in the Lokpal or Lokayukta laws, it should be applicable.
- For all other cases, including where no Lokpal or Lokayukta has been set up, **an independent committee should be tasked with the responsibility of giving prior approval for prosecution.**

1.4. FREEBIES IN ELECTION

- In recent times, various parties are promising freebies in their election manifesto like free laptops, education loan waiver, free water supplies etc.
- The pattern is emerging more in southern states and is increasing day by day and election by election.
- It led Supreme Court to intervene in 2013 and ask the Election Commission to frame guidelines regarding what political parties can promise in their manifestos.

Election commission has added **Section 8 in Model Code of Conduct (MCC)** which says:

- Election manifesto should not contain anything against ideals of constitution and should be consistent with the spirit of the Model code of conduct.
- In the interest of transparency, level-playing field and credibility of promises, it is expected that manifestos also reflect the rationale indicate the ways and means to meet the financial requirements.
- Trust of voters should be sought only on those promises which are possible to be fulfilled.

Problems with this arrangement

- MCC is not enforceable by law.
- There is no enactment that directly governs the contents of the manifesto.
- Section 123 of RPA makes bribery an offence – but giving free things to everybody without any condition of voting to a particular party, cannot be construed as bribery

Impact of such freebies

- **On democracy**
 - ✓ It may influence and allure voters in the favor of their party.
 - ✓ Supreme Court said Freebies shake the root of free and fair elections to a large degree as it affects the level playing field.
 - ✓ But one view is that
 - Voters cannot be fooled and influenced easily through these freebies - once voter understands the fiscal implications, they are less likely to support them.
 - Secrecy of ballot ensures that goodies does not impact decision making of voters. In fact, giving freebies is a dilemma for political parties as they can rarely figure out whom they voted for.
 - some experiments have also shown no relation with likeliness to votes for a party and its promise of giving freebies
- **On economy**
 - ✓ It puts heavy burden on public exchequer when party comes into power and limits the fiscal space.
 - ✓ The debt burden of states is increasing manifold and certain states have huge revenue deficit.
 - ✓ It diverts resources from essential services and development programmes.
- **On people's welfare**
 - ✓ Certain things announced like bicycles for school girls reduces dropout rates and giving laptops increases opportunities for students

- ✓ These freebies are actually delivered with much less corruption at ground levels which is rampantly seen in the government welfare schemes
- ✓ But it shifts the social welfare of government to giving freebies and affects the attention required for basic amenities like education, health, sanitation etc.
- **On governance**
 - ✓ It streamlines decision making which leads to better service delivery in certain cases.
 - ✓ But goes against democratic nature of our polity

Way forward

- If party promises something then there should be a plan of action and clear indication of source of funds.
- Legislation can be brought with respect to rules governing election manifestos.

1.5. SC PANEL TO MONITOR MEDICAL COUNCIL OF INDIA (MCI)

Why in News?

- Agreeing with the view of Parliamentary Standing Committee report of March 2016, the Supreme Court has **used its rare and extraordinary powers under the Constitution (A.142)** to set up a **three-member committee**.
- Committee will be **headed by former Chief Justice of India R.M. Lodha**, to oversee the functioning of the Medical Council of India (MCI) for at least a year.

Background

- Centre had set up Dr. Ranjit Roy Chaudhury expert panel in July 2014 to study the Indian Medical Council Act, 1956.
- The committee submitted its report in September last year, but no action was taken on the reforms suggested by it.
- Then this year in March, the Parliamentary Standing Committee also submitted its' report on MCI.

Role of new Panel

The Supreme Court defined the below mentioned functions for the Justice Lodha committee:

- It will have the authority to oversee all statutory functions under the MCI Act.
- All policy decisions of the MCI will require approval of the Oversight Committee.
- The Committee will be free to issue appropriate remedial directions.
- The Committee will function till the Central Government puts in place any other appropriate mechanism after due consideration of the Expert Committee Report.

Note: To know more about the Parliamentary Standing Committee's report on MCI, please refer VisionIAS March 2016 Current Affairs.

Article 142 of Indian Constitution:

- It empowers the Supreme Court to pass such decree or order as may be necessary for doing complete justice in any cause or matter that is pending before it.
- The Supreme Court can make use of the powers granted to it under the article 142 in cases wherein the existing provisions of the law are inadequate to deal with the issue at hand and do adequate justice.
- The article, however, does not lay down any limitations regarding the causes or the circumstances in which the power is to be exercised.
- Also, the decision to exercise this power has been left completely to the discretion of the Supreme Court.

1.6. MONEY BILL CERTIFICATION ISSUE

Why in news? Congress RS MP Jairam Ramesh has filed a writ petition in the Supreme Court challenging the decision to treat Aadhaar as a money bill which will be heard in SC in July first week.

What is the Issue?

- Recently, the Aadhaar Bill and the Finance Bill were passed as Money Bills.
- This meant that the Rajya Sabha had only a recommendatory role while discussing these Bills.

- Some observers argue that these bills have not met the strict criteria of money bill as laid out in the Constitution.

Similar Case in Past

- In 2014, the Uttar Pradesh Legislative Assembly passed a Bill to amend the Uttar Pradesh Lokayukta and Up-Lokayuktas Act as a Money Bill and did not send this to the Legislative Council.
- The Act was challenged (Mohd. Saeed Siddiqui v State of U.P.) but the Supreme Court decided that the decision of the Speaker “that the Bill in question was a Money Bill is final and the said decision cannot be disputed nor can the procedure of the State Legislature be questioned by virtue of Article 212”.

Way Forward

- Our Constitution also follows the British procedure that provides the speaker with the authority to certify a bill as a money bill.
- However, there is a key difference. **The House of Commons appoints two senior members who must be consulted before the speaker gives the certificate.** In India, the speaker makes this decision on her own.
- A consultative mechanism can be developed before speaker certifies the bill as money bill.

Note: To know more about the Aadhar Bill and issue of money bill, please refer Vision IAS March 2016 Current Affairs.

- Q. What will follow if a Money Bill is substantially amended by the Rajya Sabha? (UPSC 2013)
- The Lok Sabha may still proceed with the Bill, accepting or not accepting the recommendations of the Rajya Sabha.
 - The Lok Sabha cannot consider the Bill further
 - The Lok Sabha may send the Bill to the Rajya Sabha for reconsideration
 - The President may call a joint sitting for passing the Bill
- Q. With reference to Indian Parliament, which one of the following is not correct? (UPSC 2004)
- The Appropriation Bill must be passed by both the Houses of Parliament before it can be enacted into law
 - No money shall be withdrawn from the Consolidated Fund of India except under the appropriation made by the Appropriation Act
 - Finance Bill is required for proposing new taxes but no another Bill/Act is required for making changes in the rates of taxes which are already under operation
 - No Money Bill can be introduced except on the recommendation of the President

1.7. REHABILITATION OF BONDED LABORER SCHEME TO BE MADE CSS

Why in news?

- The Centre is revising the rehabilitation of bonded labour scheme, bringing it into the Central sector.

Proposed Changes

- The Scheme proposes to increase the budget provision from Rs 5 crores to about Rs 47 crores per annum.
- Now, the most deprived and marginalised like the disabled, female and children rescued from trafficking, sexual exploitation and transgender will get Rs 3 lakhs, Special category comprising of females and the minors will now get Rs 2 lakhs and a normal adult male bonded labour will get Rs. 1 lakh.
- Under this new package the money will remain in an annuity account, controlled by the DM and a monthly earning will flow to the beneficiary account. The corpus remains untouched until decided by the DM.
- One of the special features of the new scheme is that it aims to address new forms of bondage such as **organized begging rings, forced prostitution and child labour** for which females, disabled and transgender are exploited.

Bonded Labour

- **Bonded labor** is a person's pledge of their labor or services as security for the repayment for a debt or other obligation.
- The BLS(A) Act, 1976 for the last 40 years has not been able to eradicate Bonded Labour System completely.
- Even the Rehabilitation Scheme of 1978 have been able to free 2.82 lakh Bonded Labourers in 18 States across 172 districts in the country during the past 38 years.
- Bonded Labour System is a social evil which though has declined over a period, however still exists in India despite constitutional provisions for its total eradication.

- A permanent and renewable district level rehabilitation fund of at least Rs. 10 Lakh will be available with the DM, which will be used as stop-gap arrangement before reimbursement by Central Government through the DBT system.
- The Collector is also empowered to provide several non-cash benefits such as land, house, ration and occupational support through State Programmes.
- The Collectors will also have the freedom to extend state care where bondage is not proved but the person is in distress.
- Minor children and women will remain in State care and educated & skilled as per their needs. Marriage of orphan girls will also be the responsibility of State Government.

1.8. UNNAT JYOTI BY AFFORDABLE LEDS FOR ALL (UJALA) SCHEME

Why in News?

Recently, **Unnat Jyoti by Affordable LEDs for All (UJALA)** was launched in Madhya Pradesh by its Chief Minister and Union Minister for Power, Coal and Renewable Energy.

Objective

The main objective is to **promote efficient lighting, enhance awareness** on using efficient equipment, which reduce electricity bills and help preserve environment.

Targets of the scheme

- Overall target of number of incandescent bulbs to be replaced - **200 million**
- Expected overall annual energy savings - **10.5 billion KWh**
- Expected reduction of load - **5000 MW**
- Expected annual cost reduction of consumer bills - **Rs. 40,000 crore**
- Annual estimated greenhouse gas emission reductions - **79 million tonnes of CO2**

Key Highlights

- UJALA scheme is the LED-based efficient lighting programme.
- The scheme is being monitored in a transparent manner through a national dashboard (www.delp.in).
- As of now, EESL has distributed over 10 crore LED bulbs under UJALA programme.
- State governments are voluntarily adopting this scheme and is already present in **over 13 states**.
- The bulbs will be distributed through special counters set up at designated places in the city.
- The Electricity Distribution Company and Energy Efficiency Services Limited (EESL) a joint venture public sector body of Government of India are implementing the programme.

	<p>Programme aims to improve energy efficiency and reduce power consumption of the State</p>
	<p>To benefit consumers as their energy bills will come down substantially</p>
	<p>About 47 lakh domestic and 3 lakh commercial consumers will benefit from this programme</p>
	<p>EACH DOMESTIC CONSUMER TO BE PROVIDED UP TO 10 LED BULBS OF NINE WATT EACH</p>
	<p>Commercial consumers can avail up to 20 bulbs</p>
	<p>Government to supply a nine Watt LED bulb at a subsidised rate of ₹85 with three years guarantee</p>

1.9. ISSUES IN INDIAN SPORTS

Why in News?

- In recent days, there were many incidents of administrative related issues in Indian Sports.
- In few cases, even Indian judiciary had to intervene to resolve the matter. Setting up of Lodha committee and recent direction given by Delhi HC in case of selection of wrestling players for Olympics are case in point.

Problems

India, despite being a country of 1.2 billion people, is unable to put a strong performance in many sports in international arena. Some of the problems in Indian sports are:

- **Poor Sports Infrastructure:** Lack of basic infrastructure at school and college level. There are not enough world-class stadiums in India. Players often have to go to other countries to train themselves.
- **Lack of Training and Coaching staff:** There is lack of coaching staff in India. Some sports authorities are forced to hire foreign staff for coaching which puts a lot of financial pressure on already burdened sports bodies.
- **Selection Procedures:** There is lack of transparency and accountability in selection of various athletes. Sports talent in rural areas is not recognized except few states such as Punjab and Haryana.
- **Lack of financial support:** Government has been slow in providing financial support to all the sports evenly.
- **Political Interference:** In almost all sports there is political interference in the administration of sport bodies be it Cricket, Hockey or even wrestling etc.
- **Lack of public support:** In India, athletes face extreme fluctuations in terms of public support.

Way Forward

- **Better Administration:** There should be a separation of management and playing staff.
- **Finances:** To solve the issue of finances, encourage investment through corporate sponsorship.
- To solve issue of political interference, bar politician from heading national or state sports bodies.
- To encourage more students participate in sports, integration of sports academies with schools and colleges so that students will become aware regarding career in sports since early age.
- **Transparency:** As observed by SC, sports federations should be treated as public bodies and should fall within the jurisdiction of the RTI.
- **Strict Punitive Action:** Stringent punishments against those who gets caught in corruption activities.

1.10. CONVERTING CENSUS TOWNS TO STATUTORY ULBS

Why in news?

Ministry of Urban Development has asked 28 States to convert all 3,784 Census Towns into statutory Urban Local Bodies.

What is census town?

A Census Town is an area with urban characteristics such as

- Minimum population of 5,000.
- At least 75% of the male main working force engaged in non-agricultural activities.
- Population density of at least 400 persons per sq.km.

As per 2011 Census, there are 3,784 Census Towns as against 1,362 in 2001.

What are statutory ULBs?

A Statutory urban local body (ULB) is one with a municipality, corporation, cantonment board or notified town area committee.

As per 2011 Census, there are 4,041 such towns as against 3,799 in 2001.

Need to convert

- To promote planned urban development.
- It also lead to enhanced revenues and efficient delivery of services to citizens leading to overall growth of economic activities.
- They become entitled to central assistance as per guidelines of 14th Finance commission.
- Under AMRUT mission, 50% weightage is given to the number of statutory towns in any State/UT for allocation of funds among them.

1.11. MINES AND MINERALS (DEVELOPMENT AND REGULATION) AMENDMENT BILL OF 2016

Why in news?

- The Mines and Minerals (Development and Regulation) Amendment Bill, 2016 has been approved both by the Lok Sabha and Rajya Sabha.
- Auction of non-coal mines was introduced in the new mining law amended in 2015. Before 2015, all mines in India were handed out by state governments on discretion. But the amendment only allowed transfer of mining leases to any eligible person, in cases where the mine has been acquired through auction.

Key amendments

- The Bill amends the Mines and Minerals (Development and Regulation) Act, 1957 which regulates the mining sector in India & specifies the requirement for obtaining and granting leases for mining operations
- Transfer of mining leases - It includes the provisions of allowing transfer of captive mines granted through procedures other than auction.
- Defined Leased area - as the area within which mining operations including certain defined activities in non-mineralized area.

Benefits

- It will allow for merger and acquisition of companies with captive mining leases acquired without auction.
- Acquiring companies will have raw material security through mines belonging to the acquired companies.
- **Benefits to banks:** It can liquidate stressed assets where a firm or its captive mining lease is mortgaged. It also enables banks to transfer the license to a potential buyer and recover some of their dues.

EASY ACCESS

● **Now:** MMDR Act allows transfer of leases where the mine has been acquired through auction

● **After amendment:** Transfer of leases also allowed for those mines that have been allocated

Who will benefit: Mergers and acquisitions of companies will be easier

● Banks and financial institutions can liquidate stressed assets where a captive lease is mortgaged

1.12. SC ORDER ON LAND ACQUISITION

Why in news?

Supreme Court in a recent judgment has forbidden the government from using its powers of compulsory land acquisition from farmers.

Background of judgement

- The court was dealing with acquisition of over 800 acres of land between 2003 and 2005 in Rohtak by the Haryana government for residential and commercial properties by the Haryana Urban Development Authority (HUDA).
- However, it subsequently released a major chunk of land to a real estate developer to develop a colony.

Highlights of SC judgement

- **Profiteering versus livelihood and existence of farmer**
 - ✓ Supreme Court declared land a “scarce natural resource” which should be acquired from the poor only for a compelling public purpose.
 - ✓ It should revert to its rightful owner (the farmer), if the project does not take off.
- **Rights of equality and right to property and life** are violated through nexus between the state government and the private builder.
- The Bench ordered that the land be vested back with the HUDA.

1.13. ISSUES RELATED TO RTI ACT

Why in news?

Recently in the Rajya Sabha several MPs demanded amendments to the act.

Issues raised

- The Act may be used to **blackmail public functionaries** which makes them unable to take decisions objectively.
- Large number of **frivolous RTI applications** are being filed affecting efficiency of governance.
- The Act poses **threat to national security** as anybody, without establishing their locus, can ask questions on sensitive issues such as - missile programs and international relations.

Related studies and facts

Two national studies carried out by the RTI Assessment and Advocacy Group (RaaG) in collaboration with the National Campaign for Peoples' Right to Information (NCPRI) had noted following facts which are opposite to the issue raised

- **Less than 1 per cent** applications are frivolous
- **Majority** of applicants sought **basic information** about actions of government, functioning of public authorities & use of public resources.
- A little over 1 per cent applications only require vast information which could divert time
- 70 per cent of the information sought should have been made public proactively
- Section 8 of the Act that clearly spells out the exceptions can be used in matters of national importance.

1.14. CALL DROP RULES QUASHED

Why in News?

- The Supreme Court bench has quashed the Telecom Regulatory Authority of India's (TRAI) controversial call-drop regulations.
- SC observed that these regulations are "**flawed, unconstitutional, arbitrary**" and "**unreasonable**" whose actual intent is to penalise service providers rather than ensure quality service.
- The bench said the regulation that fastens strict liability on the telecom companies for no fault of theirs is arbitrary and **violative of Article 14 of the Constitution**.
- Court also asked Parliament to frame a law on the lines of the U.S. Administrative Procedure Act.

Background

- TRAI had made it mandatory for Telcos to pay consumers Rs 1 per call drop, subject to a cap of Rs 3 a day.
- The license conditions allow up to **2% calls to be dropped**. But as per TRAI directive, service providers would have to pay consumers for all dropped calls. This was a violation of the license conditions.
- Also as per a **survey nearly 67% of call drops** were due to **signal failure**, for which the network provider was not responsible.
- Rather, call drops are attributable to a combination of factors like several tall buildings between phone and the tower, jammers in high security areas and premises occupied by VVIPs, restrictions in border areas and a busy network.

2. INTERNATIONAL/INDIA AND WORLD

2.1 INDIA AND IRAN

Prime Minister paid his first official visit to Iran. During the visit, the two sides signed 12 agreements on economy, trade, port development, culture, science, and academic cooperation.

Chabahar port agreement

India and Iran signed the “historic” Chabahar port agreement, which has the potential of becoming **India’s gateway to Afghanistan, Central Asia and Europe.**

- A contract for the development and operation for 10 years of two terminals and five berths.
- Extension of credit lines of \$500 million and Rs. 3,000 crore for importing steel rails and implementation of the port.
- MoU on provision of services by Indian Railways, including financing to the tune of \$1.6 billion, for the Chabahar-Zahedan railway line — also part of the trilateral agreement between India, Iran and Afghanistan on a transit and trade corridor.
- India will invest in setting up industries —from aluminium to urea plants — in **Chabahar free trade zone**



New Delhi and Tehran had agreed in 2003 to develop the port, near the Iran-Pakistan border. But the project did not take off, mainly owing to international sanctions against Iran over its nuclear programme, but also on account of **inertia in Delhi.**

Economic significance of Port

- Once the Chabahar port is developed, Indian ships will get direct access to the Iranian coast; a rail line to the Afghan border town of Zaranj will allow India a route around Pakistan.
- The Zaranj-Delaram road constructed by India in 2009 can give access to Garland Highway, setting up access to 4 major cities in Afghanistan — Herat, Kandahar, Kabul and Mazar-e-Sharif.
- This will boost trade with Iran and Afghanistan.
- Goods from India will not only travel up to Afghanistan, but beyond, along the yet-to-be developed International North-South Transport Corridor (INSTC) to Central Asia.

Strategic significance

- Chabahar is situated just 100 km from Pakistan’s Gwadar port, the centrepiece of a \$46 billion economic corridor that China is building.
- It will act as a gateway for India to Central Asia bypassing the China-Pakistan arc.
- India’s presence in Chabahar will offset the Chinese presence in Pakistan port of Gwadar.

The trilateral trade treaty

- India, Afghanistan and Iran signed the trilateral trade treaty for developing the port.
- A trilateral transport corridor project has the potential to alter the geopolitical map of South and Central Asia, and has been described as a “game changer”.

2.2. INDIA AND NEW ZEALAND

President Mukherjee paid an official visit, first ever presidential visit from India to New Zealand.

Outcome of visit

- President talked about cooperation in agriculture, dairy, food processing, education and skill development as well as high technology between the two countries.

- During the course of the visit, India and New Zealand also signed a deal that opens the door for direct flights between the two countries with an aim to boost tourism and trade sectors.

Significance of New Zealand

- Trade: Bilateral trade between India and New Zealand stood at \$ 885 million in 2015, of which Indian exports accounted for \$ 429 million in 2015. There is ample scope to enhance bilateral trade. Both countries are in process to finalize free trade agreement (FTA).
- Indian diaspora: New Zealand is home to more than 170,000 people of Indian origin.
- Opportunity for skilled migrants from India who can contribute to New Zealand's economy.
- Higher education: Indian students constitute the second largest number of foreign students in New Zealand.
- New Zealand supports India's aspirations for permanent membership of the UN Security Council.
- New Zealand has great technological abilities in cold storage supply chain management and post—harvest technologies, which are of interest to India.
- Two nations have “shared stakes” in a peaceful Asia-Pacific region and can successfully work as partners in promoting security and stability there.
- New Zealand is important country for India's ‘Act East’ policy.
- New Zealand has strong influence on the **Pacific Island countries**

2.3. INDIA AND ITALY

Italian marine case

UN arbitration tribunal has ruled that Italian marine can return to Italy until it decides a dispute raised by Italy **about India's jurisdiction to try him and his colleague** for the killing of two Indian fishermen in 2012.

- Subsequent to tribunal ruling, The Supreme Court ruled that Girone (Italian marine) can return to Italy while an international tribunal decides on a jurisdictional issue between India and Italy. The Supreme Court laid down conditions for releasing Mr. Girone.
 - ✓ He continues to remain under **the jurisdiction of the Supreme Court** and report to the local police station in Italy once every month. Also, the Italian authorities will keep the Indian embassy informed.
 - ✓ **Envoy's responsibility:** The Italian Ambassador will take the responsibility of ensuring his return within a month in case the tribunal rules in favour of trial in India.

Background of the Case

Two Italian marines - Massimiliano Latorre and Mr. Girone are facing the charge of murdering two Indian fishermen in 2012 off the Kerala coast.

Italy's position

- The Italian position is that the two marines positioned on board a merchant tanker, the *Enrica Lexie*, had opened fire to thwart what they **perceived as a pirate attack, 20.5 nautical miles off** Kochi.
- It is further argued that the death of fishermen occurred in the course of **discharge of their operational duties**, and hence **functional immunity could** be invoked as related to the military personnel of any nation.
- Italy argues that the case should not be heard in India because the incident occurred in **international waters**.

India's position

India has steadfastly rejected Italian argument and **has invoked its sovereign right to prosecute** the accused under the provisions of Indian law.

International Tribunal for the Law of the Sea (ITLOS)

In June 2015 Italy approached the International **Tribunal for the Law of the Sea (ITLOS)** in Hamburg.

- ITLOS is an intergovernmental organization created by the mandate of the Third United Nations Conference on the Law of the Sea.
- It was signed at **Montego Bay, Jamaica**, in 1982.
- The tribunal is based in **Hamburg, Germany**.
- The Tribunal has the power to settle disputes between party states

- The tribunal is adjudicating only on the limited question of whether India or Italy has the jurisdiction to try the two marines.
- In August 2015 ITLOS ordered that: “Italy and India shall suspend all court proceedings and refrain from initiating new ones which might aggravate or extend the dispute submitted to the Annex VII arbitral tribunal or might jeopardise or prejudice the carrying out of any decision which the arbitral tribunal may render.”
- After the ITLOS ruling, both parties agreed that the dispute would be resolved under the UNCLOS tribunal.
- **May 2, 2016:** A U.N. arbitration court rules that India should release Italian marine Salvatore Girone.

2.4. INDIA AND PHILIPPINES

Kolkata-based public sector yard Garden Reach Ship Builders (GRSE) has emerged as the lowest bidder to supply two warships to the Philippines Navy. GRSE has offered the Kamorta class Anti-Submarine Warfare (ASW) ships.

- India exported its first warship to Mauritius in December 2014, an offshore patrol vessel.
- It is also set to supply 4 patrol vessels to Vietnam under \$100 million line of credit extended by India in 2014.

‘Act East’ policy

- India has been actively beefing up relations in the region as part of its ‘Act East’ policy under which **maritime security and defence cooperation** are assuming a central role.

2.5. POLITICAL CRISIS IN IRAQ

Protesters loyal to cleric **Moqtada al-Sadr** stormed Baghdad’s government seat, occupied the Iraqi parliament and even attacked a senior lawmaker.

Demands of the protesters

- **Political reforms**, including the formation of a **non-sectarian technocratic Cabinet**.
- Abandonment of **the sectarian quota system** that has underpinned Iraqi governments since 2003.

Reason of latest crisis

- **Low oil prices** have weakened the economy, eroding further the govt capacity to deliver public services.
- **Endemic corruption** has resulted in great public anger against the government.
- Parliament has been **dysfunctional** over the last few months.
- The government failed in providing security as **extremist violence continues to target civilians**.
- Above all, almost one-fourth of Iraqi territory is controlled by the Islamic State.
- Prime Minister did not succeed in forging **national unity**, unable to win the trust of the Sunnis and the Kurds.

Impact of current crisis

- Political stability in Iraq is critical to the ability of the U.S. to continue anti-ISIS operations, not only to defeat ISIS but also to prevent its reconstitution.
- Iraq’s growing political paralysis will further alienate a large chunk of the Sunni population.

2.6. CONFERENCE ON INTERACTION AND CONFIDENCE BUILDING MEASURES IN ASIA (CICA)

It is an inter-governmental forum for enhancing cooperation towards promoting peace, security and stability in Asia.

- CICA, which has 26 members including India, was formed based on a proposal by Kazakhstan President Nursultan Nazarbayev in 1992 to further inter government consultations.
- Fifth foreign ministers’ meeting of the Conference was held in Beijing, China.

During the conference Chinese president unveiled security doctrine to counter **U.S. 'pivot'**

- China has invited Asian countries to join Beijing in framing a security governance model with “**Asian features**” to counter the **U.S. 'rebalance'** to the region.
- President Xi Jinping urged participants “to build consensus and step up dialogue” to foster “a security governance model with Asian features”.

Maritime dispute

- Tensions between the U.S. and China have spiked after the Chinese responded to the 'pivot' with fresh activism in the South China Sea.
- Washington has dubbed the growing Chinese assertion as a danger to “**freedom of navigation**” which could hamper the \$5.3 trillion trade passing through the South China Sea.
- China has objected **outside powers, or internationalisation**, for resolving differences among Asian countries
- The Chinese side has repeatedly slammed Manila's decision to petition the Permanent Court of Arbitration in The Hague to settle its maritime claims with Beijing.

2.7. RESPONSIBILITY TO PROTECT (R2P)

R2P or RtoP is a global political commitment endorsed by all member states of the United Nations at 2005 World Summit to prevent genocide, war crimes, ethnic cleansing and crimes against humanity.

Pillars of R2P

The three pillars of the responsibility to protect, as stipulated in the Outcome Document of the 2005 United Nations World Summit and formulated in the Secretary-General's 2009 Report on Implementing the Responsibility to Protect are

- The State carries the primary responsibility for protecting populations from genocide, war crimes, crimes against humanity and ethnic cleansing, and their incitement;
- The international community has a responsibility to encourage and assist States in fulfilling this responsibility;
- Also, it has a responsibility to use appropriate diplomatic, humanitarian and other means to protect populations from these crimes.
- If a State is manifestly failing to protect its populations, the international community must be prepared to take collective action, in accordance with the Charter of the United Nations.

Criticism of R2P doctrine

The R2P doctrine has been used selectively for regime change rather than humanitarian causes. The critics worry that intervention of the Western variety ignores causes and produces poor outcomes.

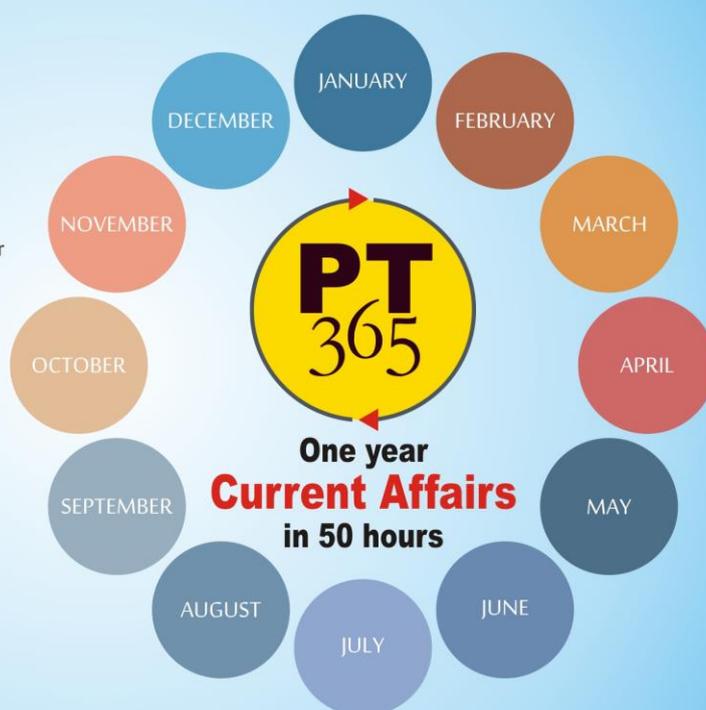
- **Libya:** An uprising against the Libyan government in February 2011 provided the opportunity to test R2P.
 - ✓ UN resolution authorized NATO “to protect civilians and civilian populated areas under threat of attack,” yet NATO regarded it as a permission to bring upon regime change.
 - ✓ NATO exceeded the mandate of U.N.
 - ✓ Washington celebrated the success of the intervention - not for Libya's sake, but for the sake of humanitarian intervention.
- **Israel- Palestine conflict:** The test for R2P came not during Israel's bombing of Gaza in Operation Cast Lead (2008-09), after which a U.N. report found prima facie evidence of war crimes.
- **Syria:**
 - ✓ There is no consensus about military intervention in Syria because in case of Libya North Atlantic Treaty Organisation (NATO) forces exceeded the U.N. mandate given to them. As a consequence, the BRICS are now suspicious of any resolution regarding Syria. Syria shows why the concept of “Responsibility to Protect” is in crisis.

2.8. NUCLEAR SUPPLIERS GROUP (NSG)

Nuclear Suppliers Group (NSG) is a multinational body concerned with reducing nuclear proliferation by controlling the export and re-transfer of materials that may be applicable to nuclear weapon development and by improving safeguards and protection on existing materials.

- The NSG was founded in response to the Indian nuclear test in May 1974 and first met in November 1975.
- As of 2014 the NSG has 48 members.
- China's announced that it intends to oppose India's membership of the Nuclear Suppliers Group unless it agrees to sign the Non-Proliferation Treaty (NPT).
- Beijing links Delhi's membership with Pakistan entry to the NSG.
- India got an exemption from the NSG for **nuclear imports in 2008**, following the civil nuclear deal with the U.S., despite not being a signatory to the NPT
- As the 48-member **NSG works by consensus**, not majority, India is reaching out to every possible country, much like the push at the UNGA for reforms.
- Four UN member states have never joined the NPT: **India, Israel, Pakistan and South Sudan.**

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3. ECONOMY

3.1. BANK CONSOLIDATION

Why in news?

State Bank of India (SBI) has started the process of merging five of its subsidiaries and Bharatiya Mahila Bank (BMB) with itself.

Why the need? A bigger SBI capable of taking on global giants when banking sector is opened up in future. Large banks to get benefits of scale, better diversification of risks and higher profitability

Background

- Since 1991, with Narasimham committee report, creation of large size banks is demanded. Second edition of **Gyan Sangam** (the annual banker's conclave) also discussed the need for consolidation of banks.
- Particularly this time, the trigger for consolidation is the **high NPAs** which are eroding, not the net worth but the profitability of many public sector banks and the government is under pressure to capitalize them.

Advantages of merger of SBI with associate banks

- SBI will have **global presence** among top 50 Banks, bringing confidence, investment and greater lending.
- SBI can become one of the **anchor banks to finance large infrastructure projects** like dedicated freight corridor, solar energy, Sagarmala etc.
- It will **increase networking of SBI all over India**, thus better services of SBI compared to its associate branches will be able to reach remote locations.
- It will **reduce duplication** as SBI and its associates target the same clients with similar products.
- It will **consolidate resources and infrastructure**, reducing the cost on operations, human resource and technological solutions, overlapping bank branches, reduce inter-bank transaction cost etc.

Disadvantages of merger

- Presently these banks have **huge NPAs** thus merger should be planned after sufficient capital is injected.
- **Banking competition may be affected**, as SBI is likely to be five times larger than its nearest competitor.
- RBI has declared SBI as **Domestic Systemically Important Bank (D-SIBs)** and its failure can shock other parts of financial system.
- Past example of large banks and their failure with financial crisis in Japan, USA, etc.
- **Workers resistance** from associations like AIBEA calling for strikes
- India has poor financial inclusion, thus needs variety of banks and differentiated services.

Way forward

Consolidation is a right move but needs proper planning, strict measures and compliance with guided norms to avoid future risks.

3.2. AMENDMENT OF DTAA WITH MAURITIUS

Protocol to amend the 30-year old Double Taxation Avoidance Agreement (DTAA) with Mauritius has been signed recently.

What is DTAA?

- Taxes are usually of 2 types - source based & resident based.
- While western countries mostly rely on resident based taxation (as they have more global income), developing countries like India favour source-based taxation due to investment opportunities here.
- Problem of Double Taxation arises when both source country and country of residence concurrently exercise their rights of taxation; in order to avoid this DTAA is signed.

Why amendment was needed

- As per the treaty signed in 1983, only Mauritius was allowed to tax capital gains. But generally Mauritius did not impose it. So companies were fully tax exempt.
- This resulted in large inflow of FDI via Mauritius route (34% of total FDI in India) largely for tax evasion.

Main features of the amendment

- India can now tax capital gains even on a company based in Mauritius
- The limit is 50% of Indian rates for transitional period of two years till 2019- this 50% benefit will accrue to a company only if it passes the main purpose and legitimate business test; a company will be termed a shell/conduit company if its total expenditure on operations in Mauritius is less than 27 lakhs in the preceding 12 months.
- It will also apply to Singapore treaty

Benefits

- This will help in preventing the misuse of the treaty for round-tripping of funds (Treaty-shopping), in streamlining investments, prevent double non-taxation and lift tax uncertainty
- There will not be any incentive for creating a shell company in Mauritius for tax evasion.
- This will ensure India's conformity to OECD and G-20 guidelines on tackling BEPS
- Similarity of treatment would attract more foreign investments in long-run

• **Base Erosion and Profit Shifting (BEPS)** refers to tax planning strategies that exploit **gaps and mismatches in tax rules** to artificially shift profits to low or no-tax locations where there is little or no economic activity, resulting in little or no overall corporate tax being paid.

• BEPS is of major significance for developing countries due to their heavy reliance on corporate income tax, particularly from multinational enterprises (MNEs).

Problems

- Fall in FDI; Together Mauritius and Singapore constitute 50% of FDI flow in India
- Routing of money could be done via other jurisdictions like Cyprus and Netherlands
- Presence of opaque methods of investments in debts and share instruments like P-Notes.

3.3. SOCIAL PROGRESS INDEX (SPI)

What is Social Progress Index?

It is an aggregate index of social and environmental indicators that captures 3 dimensions of social progress: Basic Human Needs, Foundations of Wellbeing, and Opportunity. It measures social progress strictly using the outcomes of success rather than the effort made by the country.



Limitation of other Indices

1. **Gross Domestic Product (GDP):** While the GDP measures the economic progress of a nation, it does not include non-market activities like gardening at home; mother taking care of child etc. It also excludes factors like environment, happiness, equality, access to justice etc.
2. **Gini Coefficient:** It measures the income inequalities among citizens but ignores other aspects like health, education and other social benefits
3. **Gross Happiness Index:** Originally developed by Bhutan, it measures the happiness level but ignores elements like gender equality, quality education and good infrastructure. Further it can't be used for international comparison due to subjectivity in the meaning of happiness.
4. **Human Development Index:** It covers **life expectancy, mean years of schooling, expected years of schooling, and living standards** but it falls short in capture of unequal distribution of wealth, environmental and infrastructural development.

Benefits of using SPI

1. It is **outcome based** rather than the amount of money spent or efforts involved.
2. It is more **comprehensive** than other indicators.
3. **Relevant to all countries** as it provides a holistic measure of social progress. So, it can be suited for international comparison.
4. Can bring betterment in policy making because it measures ground level improvement.
5. It is in sync with Sustainable Development Goals and help achieve them
6. It is based on 3 fundamental pillars: basic needs for survival; access to the building blocks to improve living conditions, and access to opportunity to pursue goals and ambitions.

Ranking of Nations

1. Top 3 countries are Norway (88.36), Sweden (88.06) and Switzerland (87.97).
2. India with a score of 53.06 ranks 101 out of 133 countries.

Conclusion

The index has so far been the most comprehensive way of measuring a country's social progress and is also independent of any economic indicator, thus giving an opportunity to examine the relationship between social progress and economic growth. It can thus be used as a complementary to GDP.

3.4. WITHDRAWAL OF NOTIFICATION: GM TECHNOLOGY LICENSING

What was the notification?

- The agriculture ministry issued notification as per which licensor of an approved GM (Genetically Modified) technology (i.e. the innovator) can't refuse license to any applicant.
- It also capped the license fees for all new genetically modified seed technology and sought to regulate the bilateral agreements between seed technology license provider and licensees.
- All this effectively amounted to compulsory license extending to GM Crops technology.

Why was it withdrawn?

It was withdrawn after GM technology firms expressed their dissatisfaction because of:

- ✓ Loss of business of patented technology.
- ✓ The notification effectively meant resorting back to License Raj
- ✓ It was against WTO rules of Compulsory licensing
- ✓ It would discourage investment in research and may ultimately harm the farmers.

Current Position: The Centre has now placed the notification on public domain to elicit public response. Meanwhile its enforcement has been nullified.

3.5. PAYMENT BANKS ISSUES

What is the issue?

After initial enthusiasm in applying for payment banks, companies like Tech Mahindra, Sanghvis, Cholamandalam Investment have opted out.

What are Payment Banks?

- They are special types of banks who **can only receive deposits** upto Rs.1 lakh but are not allowed to lend. They can issue ATMs or debit cards but not credit cards.
- The objective of Payment Banks was to further **financial inclusion** in India.
- After initial scrutiny, in principle approval was given to 11 companies by RBI.

LIST OF LICENCE HOLDERS

- Reliance Industries
- Aditya Birla Nuvo (Idea Cellular)
- Airtel
- Vodafone
- Dept of Posts
- FINO Pay Tech
- National Securities Depository Ltd
- Paytm (Vijay Shekhar Sharma)

Players who dropped out

- Tech Mahindra
- Dilip Shanghvi
- Cholamandalam Investment and Finance

Why have licensed holders opted out?

- Payments banks are not allowed to lend. This will limit their earning potential
- Profits will be a challenge as margins are very thin
- As income channels are limited, payments banks will be under pressure to generate volume.
- With growing acceptance of digital money transfer like Paytm and Unified Payment System etc, viability of Payment banks are a question.
- Competition from Post Offices, which have also been allowed to set up payment banks and are seen to be more reliable.
- Other saving instruments like kisan vikas patra, gold bonds etc have better returns than payment banks
- Experience from Jan Dhan Yojna has shown that many such no-frill accounts have remained dormant , thus affecting the viability of the banks.

Way Ahead

Given the importance of payment banks in the agenda of financial inclusion, it is important that RBI brings the opted out parties into the discussion table and sort out differences. Further, RBI on its part can also look to charge some application fees to deter parties from backing out once license is granted.

3.6. FLAWS IN BANKRUPTCY CODE

Background

- The government brought the Bankruptcy Law (Insolvency and Bankruptcy Code, 2015) to speed the process of exit of unsuccessful firms. The request for insolvency could be filed by the Operational Creditor (e.g. Traders), financier creditors (banks, bond holders) or the company itself.
- Presently India has a number of laws & institution dealing with insolvency e.g. Debt Recovery Tribunal, Sick Industries Act, SARFAESI Act etc.

Issues with the present bankruptcy law

- The insolvency request can be stayed by the adjudicatory authority or an appeal against it can be filed in High court. So, the operational creditor may not have enough resource to pursue the case against the bankrupt company.
- Without repealing the existing laws, the bankruptcy law can further complicate the process.
- If the insolvency resolution plan is not submitted by the Insolvency Resolution Professional within 270 days or if it is disapproved by the adjudicatory authority then liquidation is the only option. However, the law is unclear if the corporate is given a chance to be heard before liquidation.
- The option of liquidation may also lead to parties not giving enough research towards recovery the ailing company.

Way Ahead

The Bankruptcy Law is a much needed step towards reducing NPAs and improving ease of doing business in India. However the law must be amended preferably by bringing experts from abroad countries that have experience of handling bankruptcies and distressed debt market.

3.7. TAX REFORMS

The **economic survey 2015-16** has dealt in details to improve tax earnings and spending in India. These include: **increasing of tax base, phasing out of tax exemptions, making property taxes more progressive, reducing corruption in tax collection and improving transparency.**

Apart from the above, **other reforms** in Tax Administration could be:

1. **Fixing accountability of the tax officers:** This would check misuse of various tax provisions to harass the tax payers. It would encourage citizens to reveal their income and pay taxes.
2. **Making tax laws less subjective:** In Global Energy vs. Central Electricity Regulatory Commission, Supreme Court observed that subjective laws reduce transparency. In taxation it leads to harassment of honest tax payers. Thus voter base is reduced and it also leads to increased litigation.

Budget provisions to address taxation issues:

- No penalty in respect of income tax cases with disputed tax liability up to 10 lakh and exceeding that will be subject to minimum 25 per cent penalty under the disputes resolution scheme.
- A new dispute resolution scheme, which will reduce litigation and the cost of litigation.
- no discretion to tax officer for imposing penalty of 100 to 300 per cent of the tax sought to be evaded, instead a penalty of 50 per cent in cases of income underreporting and 200 per cent in cases of misreporting of facts .
- Time limit of one year to dispose of a taxpayer’s petition seeking waiver of interest and penalty.

3.8. GLOBAL COMPETITIVE INDEX

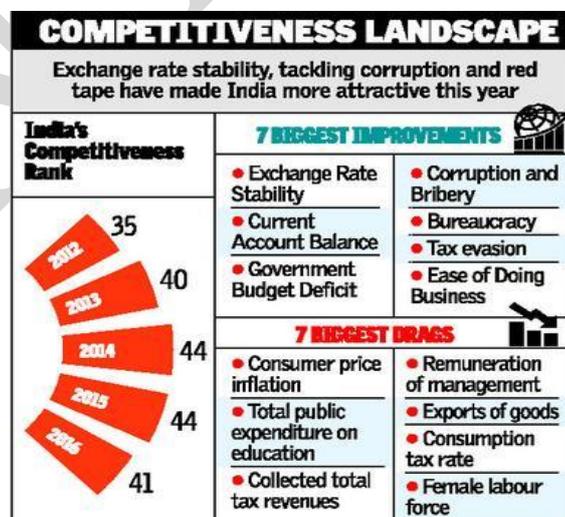
Why in news?

India has climbed 3 spots in Global competitive ranking, as per a survey conducted by **Swiss based (International Institute for Management and Development) IMD World Competitive Centre**.

About IMD ranking: It covers 61 countries based on analysis of 340 criteria across 4 factors: *economic performance, government efficiency, business efficiency and infrastructure.*

Observations:

- **India ranked 41** in 2016 as compared to 44 in 2015-16 while China slipped from 22 to 25.
- Within Asia Pacific India was the 11th most competitive economy.
- Improvements were seen in exchange rate stability, fiscal deficit management and efforts to tackle corruption and red tape.
- India was held back by rising social disparities due to neglect of investments in health, education and environment in last 2 years.
- The ranking identified key challenges as sustaining economic growth, increasing share of R & D in the economy and early implementation of GST.
- Hong Kong China was given the 1st position while USA was 3rd.



3.9. APPLE RETAIL IN INDIA

What is the issue?

- Foreign Investment Promotion Board (FIPB) has agreed to proposal by of Apple Inc, to set up its own retail stores in the country but **on the condition that 30% of its value of sale should be locally sourced**. This is in line with the FDI norms for single brand retail.
- Though Apple Inc has reasoned that FDI policy allows a waiver of local sourcing for “cutting edge technology”, yet FIPB declined its request saying that it would open the case for many Chinese phone manufacturers and India would remain a mere “trader’s company” rather than a manufacturing hub.

Critical Analysis

- Experts argue that it is time to review the single brand retail restrictions.

- The local sourcing clause and its waiver related to “cutting edge technology” are subjective and susceptible to bureaucratic discretion.
- It is argued Local procurement has done little to govt and domestic co.s but has hurt consumers by reduction in quality of products.
- The decision to establish manufacturing hubs in India should be left to the companies rather than forcing it in them by the government. Instead the govt. should focus on building infrastructures and devising policies so that India becomes a preferred manufacturing destination.

Way Ahead

- The solution is therefore to gradually phase out local sourcing clauses to reduce discretion of FIPB in proposals of single brand retail. It is also reported that govt. may altogether close down FIPB and leave the investment decisions to the respective regulators.

3.10. WPI IN POSITIVE ZONE

In News

- The wholesale price index (WPI) inflation for April has come in at 0.34%
- For past 17 months it was in negative zone. WPI was minus 2.43% in April last year.

Reason for rising WPI

- Rise in price of food articles like potato, pulses and sugar.
- Food inflation is due to supply side constraints and mismanagement of food economy.
- Two consecutive drought years have further worsened the supply.
- Arbitrary and ill-timed interventions by government for example allowing sugar export despite low production.

Implications of Rise in WPI

- This signals hardening of prices in economy.
- Rise in WPI will lead to rise in CPI. This might force RBI to take monetary tightening measures to keep headline inflation with-in the prescribed inflation limit of 6%.

WPI up 0.34% in April, compared with a **0.85%** decline in previous month

Food inflation jumped to **4.23%**, led by potatoes and pulses which became dearer by **35.45%** & **36.36%**

Consumer inflation rose to **5.39%** in April from **4.83%** in March

Mfg goods inflation climbed into positive zone with a **0.71%** reading in April compared with a **0.13%** fall in March



3.11. NEW IPR POLICY

In News

- Government has announced National Intellectual Property Rights Policy.
- Policy is in compliance with TRIPS.
- Policy aims to push
 - ✓ IPRs as marketable financial assets
 - ✓ Promote innovation
 - ✓ Protecting Public Interest ensuring availability of essential drugs at affordable prices

Objectives of new IPR Policy

- To have legal and legislative framework of IPR laws such that interest of owner and public interest is balanced.
- Strengthen the enforcement of laws and adjudication of IPR conflicts.
- To stimulate the generation of IPRs and create value for IPRs through commercialization.
- To create service-oriented IPR administration.

Balancing Act

New IPR Policy is aimed at building “creative & innovative India” through...

Support systems for MSMEs, startups

Wider access to Traditional Knowledge Digital Library

Broad Vision

Getting value of IPRs via commercialisation
Review existing IP laws, update and improve them
Protect traditional medicinal knowledge

Ease of Doing Biz

Trademark registration within a month by 2017
Digitising copyright records



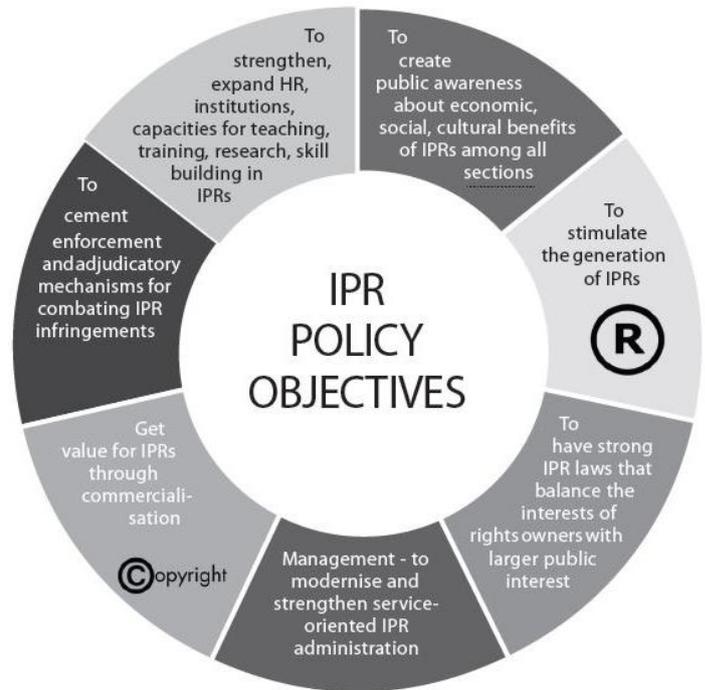
- To build human resources and institutions for IPRs training and research.
- To create awareness about IPR and its social, economic and cultural benefits.

Salient Points

- IPR friendly loans to less empowered group like artisans, weavers etc.
- Removing inconsistencies like amendment of Indian Cinematography Act.
- Fast examination and granting of IPR.
- Motivating industries to use CSR fund to support IP development.

Why a new IPR Policy now

- Consistent pressure from USTR and several restrictions on Indian generic drugs.
- Challenges from the mega regional trade pacts like TPP.
- To formulate incentives for greater R&D in India.
- To support Make in India, Digital India and Start Up India schemes.



3.12. NARROW TAX BASE OF INDIA

In News

- Income Tax Department has released data for FY 2012-13

Facts

- Only 2.9 crore Indians filed personal income tax returns for the assessment year 2012-13.
- This constitutes only 4% of the adult population in India as per 2011 census
- More than half who filed tax returns didn't pay any tax using different tax exemptions criteria
- Corporate Tax forms major chunk of direct tax
- Growth rate of tax collected has fallen over the years
 1. Growth rate Corporate tax has fallen due to lower profits of corporates
 2. Growth rate of Income tax stays roughly constant

Issues highlighted by the Income Tax Data

- Income inequality - 1% of the individual who declare their income account for 20% of the taxable income
- Concentration of wealth - 5% of corporates form 94% of the taxable income
- Regional Imbalance in Growth – Gujarat, Tamil Nadu, West Bengal and Maharashtra see faster growth rate in tax collection compared to other states
- Increasing share of indirect tax in total revenue - Indirect tax hurt poor people the most
- Tax evasion – Such a narrow tax base despite 7% plus GDP growth rate suggests tax evasion

3.13. ON-TAP BANKING LICENSES

In News

- RBI has released new draft policy for on-tap banking licenses
- In past 2 years, RBI has fastened the pace of licensing process to promote financial inclusion
- 23 entities have been granted banking licenses under different segments – universal banks, payment banks and small finance banks

Criteria for granting licenses in the draft policy

- A minimum capital of Rs.500 crore,
- A 10-year track record,
- Requirement of 10 years' experience for individual applicants in banking and finance,
- Minimum 13 per cent capital adequacy ratio for three years,
- For firms having more than Rs 5000 crore assets, non-financial business of the group should not contribute more than 40% of the total assets or gross income
- Promoters' stake to be reduced to 30 per cent over 10 years and to 15 per cent over 12 years and
- Bank should be listed on the stock exchanges within six years.

Benefits of the Policy

- Standing External Advisory Committee will be formed to vet the application after initial screening by RBI. This will allow RBI to
 - ✓ Have a holistic examination of wide variety of institutions applying for banking licenses
 - ✓ Create a transparent process of banking license in India
 - ✓ Expedite the setting up of new banks as it will allow continued licensing rather than stop & go approach followed before

Issues with the Policy

- Time frame for granting of license has not been fixed. Last time the process of granting license was quite long (roughly 5 years)
- RBI should also communicate the reason on which banking license was denied
- Draft policy outlines that all the entities satisfying criteria will not be granted license. Licensing process should be rule-based and not discretion-based.
- Criteria will only allow financial companies to apply for banking licenses

3.14. DEVELOPMENT OF INDIAN PORTS

About Indian Ports

- India's long coastline is serviced by 12 major ports, 187 notified minor ports and intermediate ports (as per Ministry of Shipping)
- Major ports are administered by the Central govt's Min. of Shipping while non major ones are managed by relevant dept. in state govt.

Importance of port development for India

- Ports acquire immense significance because maritime trade accounts to about **95% of Indian trade by volume and close to 70% by value.**
- Port development also plays a key role in fulfilling India's role in achieving global integration and engagement with its trading partners.
- Port led development can provide immense job opportunities thus serving a social function also.

Problems with Indian ports

- Problem of **heavy silting and inadequate dredging** capacities as seen in riverine ports like Haldia.
- Poor **mechanization and manual handling** of critical processes. Eg in Paradip port
- **Congestion of roads** connecting the port leading to time delays as seen in JLN port.
- **Policy and regulatory issues:** Currently the ports operate on "Trust Model" where government is the owner and operator of the port.
- **Underutilization of physical infrastructure** of the ports. Eg in Cochin ports.
- **Non-uniform tariff structure** which makes some ports un-competitive.
- **High turnaround time** is as high as 3 to 4 days compared to average time of 6-7hrs in other developed ports because of cumbersome documentation and clearance.

Solution

- Building and maintaining infrastructure for handling desired capacities.
- Ensure mechanization of ports through introduction of new equipment and procedures, built new facilities and upgrade existing ones.
- Switching to “Landlord-Tenant” Model (where the govt. becomes owner & regulator while operation is in the hands private player).
- Speeding the Trade Facilitation Agreement to ensure paper less clearance to reduce turnaround time.
- Having an integrated approach to port development i.e. multi modal port development

Capacity Addition Targets in Ports

- Union shipping ministry has set an ambitious target capacity addition of 120 million tonnes in the year 2016-17 in all 12 major ports.
- These ports had achieved highest ever capacity in the year 2015-16, which was 94 million tonnes.
- Operating margins target has been fixed at 44%, which is 5% higher than last year.

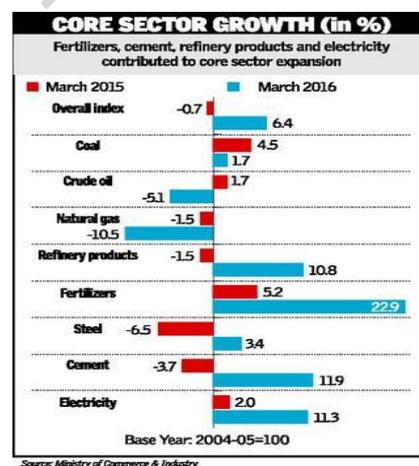
Conclusion

Apart from reviving the ports currently operational, these measures, if duly incorporated, will provide opportunity to bolster maritime trade. Recognizing the important role of port led development the govt has considered it as an inevitable part of Make In India.

3.15. GROWTH IN CORE SECTOR OUTPUT

- Data released by the commerce ministry showed that the combined output of eight crucial infrastructure sectors jumped to a 16-month high of 6.4% in March due to a double-digit growth in refinery products, fertilisers, cement and electricity.
- The cumulative growth for the year was 2.7%, which was lower than 4.5% seen in previous financial year.
- Pickup in sector like refinery and cement show that demand is beginning to pick up.

About core Industries: Coal, crude oil, natural gas, refinery products, fertilizers, steel, cement and electricity make up the 8 core industries. They constitute 38% in Index of Industrial Production (IIP). Electricity has the largest share in IIP.



3.16. PALM OIL INDUSTRY NOT ATTRACTING INVESTORS: REPORT

Status of investment in Oil Palm sector

- As per the reports of Oil Palm developers and processors Association (OPDPA), there has not been a single investment or even enquiry in the sector.
- With an estimated potential of 20 lakh hectares only 2 lakh hectares have been brought under cultivation the last 2 decades.

Reasons

- Currently, oil palm is not notified as a plantation crop and is within the ambit of land ceiling act which deters big corporate from making large investments.
- Current import duties are not supportive of domestic producers.

Background

- In 2015, Govt. allowed 100% FDI in oil palm plantation through the **automatic route**.
- The idea was to pump in capital & technology in the oil palm sector.
- It was also expected to lower edible oil import bill.
- Earlier the govt. also came out with **National Mission on Oilseeds and Oil Palm (NMOOP)** to bring additional 1.25 lakh hectares under oil palm through area expansion approach in the states including utilization of wastelands.

- No dedicated institution to cater to the needs of the industry and the farmers.

Way ahead

- Relaxation in land ceiling norms for oil palm growth and permitting large-scale plantation in addition to contract farming mode.
- Separate palm oil import policy keeping in mind farmers and the industry
- Separate Oil Palm development board to boost the industry,
- Budgetary support from the govt to support the farmers.

Fact about India's Oil Palm Industry

- It is the highest –yielding oil crop and needs only fraction of the area used to grow other oilseeds.
- China, Indonesia and India alone use 41% of the palm oil traded worldwide. Import bill of edible oil is expected to touch \$ 15 billion in 2016-17.
- The sector has potential to create 2,00,000 jobs

3.17. STEEL FIRMS MAY GET NIIF FUNDING SUPPORT

- The government is looking at creating a fund under India's first sovereign wealth fund, NIIF, which will address capital requirements of domestic steel companies.
- The move is expected to bring down capital costs for the steel industry. High capital cost has eroded competitiveness of Indian steel industry.
- India currently has around 110 MTPA (Million Tons Per Annum) steel capacity. It aims to create additional 190 MTPA capacity by 2025-26. Around \$1 billion investment is required to develop 1 MTPA steel capacity

About NIIF: National Investment and Infrastructure Fund (NIIF) is a sovereign fund created by the govt. with a corpus of 40,000 crore. It would fund commercially viable Greenfield, Brownfield and stalled projects. While the government will invest Rs.20,000 crore in NIIF, the remaining amount will come from private investors.

3.18. INDEMNITY FOR BANKERS TO TACKLE NPAS

What is Indemnity?

It refers to the security or exemption granted to a person from legal responsibility arising from his/her action.

Proposal by the Govt.

- Finance ministry is considering the possibility of providing indemnity to bankers dealing with one time settlement of non-performing assets.
- An external panel consisting of finance minister, RBI officials, external experts and Judges would screen the loan settlement proposals.
- This is expected to provide a safety net to bankers to take up loan settlements and genuine commercial decisions. This would help in reducing pressure of bad loans on banking system.

3.19. 5-YEAR PLAN TO BE REPLACED BY 15 YEAR VISION DOCUMENT

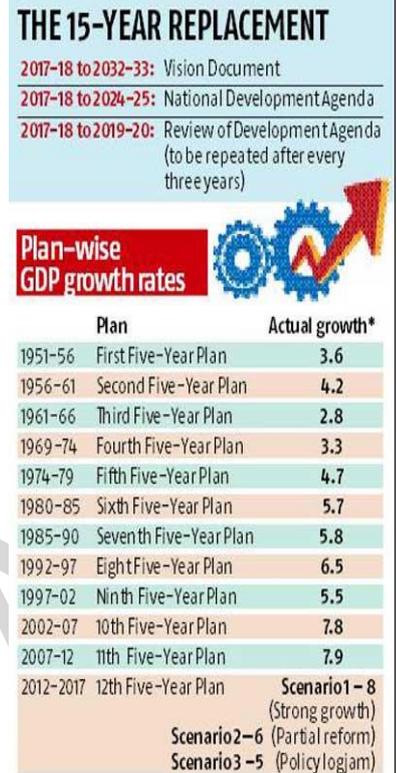
What is the 15-year vision document?

- The current 12th FYP (5 year plan), will be terminated in the year 2016-17 after which the **15 year vision document will start from 2017-18.**
- This would be supplemented by **7 year National Development Agenda** which would lay down the schemes, programmes and strategies to achieve long term vision.
- The National Development Agenda will also deal with issues related to internal security, defense, and external affairs.
- National Development Agenda will be **reviewed after a gap of every three years** to ensure that it is aligned with financial needs and requirements.
- First Development Agenda, the review would be done in 2019-20, in line with the termination year of the 14th Finance Commission.

- NITI will also create a dashboard to undertake outcome-based monitoring of all government programmes and ministries on a yearly basis.

Need of 15-year vision document against FYP

- Since the Planning commission had been abolished, FYP had become redundant given that every department finalizes its budget and finance ministry takes the final call.
- The 15-year vision document is also in line with the 15 year agenda to meet Sustainable development goal (SDG) by 2030 and the vision also sets action plan for it.
- The addition of Security issues, defense & external relations makes the vision document more elaborate and suitable to the present time compared to FYP.
- After dissolution Plan and Non Plan distinction from 2017-18 onwards, 15-year vision document will provide a comprehensive set of long term agenda with medium term framework and short-term evaluations suitable for the development of the country.



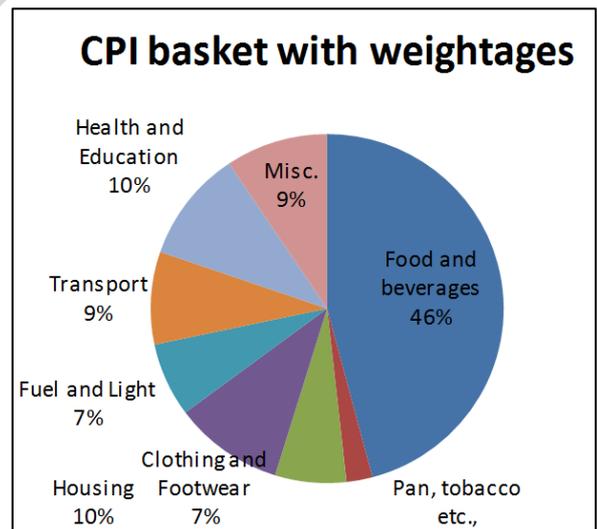
3.20. CPI TO BE SOLE PARAMETER FOR SETTING POLICY RATES

Why in news?

The Central Statistics Office has updated the base year and weights for the various goods and services in the consumer price index (CPI). Now that the RBI and the finance ministry have agreed that the CPI would be the sole parameter to set policy rates and anchor inflationary expectations, the revision has huge implications.

Disadvantages of updation

- Distorting:** The high weightage 65.6% for a relatively small consumption basket food and fuel items (including pan, tobacco and intoxicants), if used to determine the overall cost of funds can be distorting.
- Volatile sectors like fuel in CPI basket:** The inflation measure chosen should exclude price changes in sectors that are volatile and where fluctuations are unlikely to affect trend or “core” inflation.
- Supply chain bottle-necks and disruptions:** can hardly be tamed by the instrument of policy rates.
- Changing demand patterns not appropriately reflected in CPI:** there is rising demand for the so-called superior foods, because of growing incomes and transfer payments.



Advantages of updation

- The revisions in the CPI are way forward. For ex: weightage for food is down from 47.6% to 45.9%. The weightage for housing and clothing has increased. These changes reflect the changing consumption pattern.
- CPI better reflects demand side of the economy and market dynamism.**
- CPI inflation targeting includes services sector:** CPI is better than WPI for setting policy rates because, CPI indirectly takes into account the services sector as reflected in the spending of health, education, transport and communication etc.
- The central bank has to maintain the real interest rate and therefore targets CPI because retail consumers, their ability to consume and buy goods, their investment and savings decisions etc., are impacted by it.

Implications

- Core group gains weight, while weights reduced from food and fuel groups improves the inflation targeting strategy of RBI. This also reduces the inflation.
- Reduction in the weightage for fuel – from 9.49 percent to 6.84 percent. This will have **effect of reducing the deflationary impact of recent oil prices decreases** – which means overall CPI will look higher than old index.
- The present CPI food basket, however, gives a higher weight to milk and milk products, vegetables, prepared meals, meat, fish, sugar, etc. than to pulses. Therefore the pulses price increase was not reflected in the CPI.

Pros: Using policy rates anchored to CPI (Inflation targeting)

- Credibility: Primary goal is 'price stability'. Stability induces confidence and helps in decision-making.
- Reduced costs of Inflation: If inflation creeps up, then it can cause various economic costs such as uncertainty leading to lower investment, loss of international competitiveness and reduced value of savings.
- Avoids Boom and Bust cycles: as high inflationary growth may end up in recession like conditions and provides stable and sustainable economic growth.

Cons

- Central Banks may ignore more important problems.
- Restricted ability of the central bank to **respond to financial crises or unforeseen events**.
- Potentially **poor outcomes in employment**.
- Potential instability in the event **of large supply-side shocks** (for ex: during droughts etc.)

Conclusion: Since the objective of monetary policy is 'to achieve price stability while striking a balance with the objective of the Central Government to achieve growth', the present revision is a good step.

3.21. HYBRID ANNUITY MODEL DRAWS MORE BIDDER

Why in news?

- The CCEA has approved HAM last year to **revive highway projects and renew interest** among all stake holders: developers, lenders and concessionaires. But the response was very luke-warm.
- The aggressive promotion by NHAI through **awareness campaigns** yielded positive results.
- Now the average bidders for projects have increased **by 3 times**.

What is Hybrid Annuity?

- Hybrid Annuity model (HAM) is a new type of public-private partnership (PPP) model.
- In this HAM model, the government invests 40 per cent of the construction cost for building highways over a period and the balance comes from the private developer.
- Toll is collected by the government. Fixed payments (annuity) with a profit margin are paid to the developer.

What are the advantages of Hybrid Annuity over other models in highway sector?

- Land Acquisition and Environmental clearances: are major sources of delay and stalling of many projects. In HAM model govt. offers 80% of these clearances to private players.
- Projects speeded up: Losses due to time overruns are prevented.
- Sensible risk and reward sharing
- Investment burden shared: Since corporate bank balance sheets are weak, private players cannot bear full capital investment burden. (HAM has 40% investment from govt.)
- Higher revenue certainty and reduced risk of developer: In the BOT model, private partner bears the construction and maintenance risks. As Govt. is going to collect toll tax in HAM, govt. also bears the risk.
- Monitoring mechanism: as government will invest money in five equal installments based on the targeted completion of the road project.
- Cost overruns: tackled due to provisions for inflation adjusted project costs.

Challenges

- HAM is still a new model. So govt. should test it, improve it and refine it, before it goes big. (There are 28 projects approved under HAM, worth more than 36,000 cr.)
- Participation has to be increased more to start the positive feedback loop, where old contractors return. Then more participation and competition will increase the confidence.
- In HAM only part of the funding problems (40%) are de-risked.
 - Banking sector – a major source of funding suffers with NPA problem.
- Over-indebtedness of corporate sector along with uncertain global economic conditions – makes corporate sector participation timid.
- These long-term projects need long-term saving sources such as pension and life-insurance funds. The reforms in this sector have to be speeded up.

Various types of PPP models used generally are

1. Govt. is major investor: EPC, Service contracts, Management contracts and Lease contracts.
2. Private players are the major investors: BOT, BOOT, DBO, DBFO etc.
3. Joint Ventures: Infra is co-owned. Ex: special purpose vehicles (SPVs under smart cities)
4. Hybrid Annuity
5. Swiss model

Various types of PPP used in Highway sector are

1. BOT-Toll
2. Engineering Procurement and Construction (EPC) – Govt. bears the cost. Due to reduced private sector participation, Govt. has increasingly resorted to EPC in 2013-14 and 2014-15.
3. BOT- Annuity (from April 2014)– project is financed only to the extent of a certain percentage of the cost by the private investor and this investment is recovered through annuity payments

Now HAM is launched as a mix between EPC and BOT formats. This is a flexible and suitable method, for sensible sharing of risks, dealing with funding constraints and leveraging strengths of private sector.

3.22. EQUALISATION LEVY/GOOGLE TAX

Why in news?

- The budget 2016-17 provision for levying an equalisation tax of 6 per cent on online advertisement services offered in the country by non-resident entities, aimed at taxing business-to-business (B2B) e-commerce transactions, came into effect from 1st June 2016.

What is this new equalization levy all about?

- The issue of Internet firms not paying enough taxes in places where they generate profits, by shifting them to tax havens, has been debated across the globe. OECD under a project called **Base Erosion and Profit Shifting (BEPS)** had issued action plans addressing this challenge last year.
- India has become **the first country** to implement the action plans as proposed by the OECD in this direction.
- The equalization levy as proposed in the Budget would apply at a rate of 6% on the gross consideration payable for a “specified service” which include online advertisements, provision of digital advertising space or any other facility or service for the purpose of online advertisements.
- Only an entity making a payment exceeding in aggregate Rs.1 lakh in a year will be required to comply.
- The onus of deducting the levy lies with the Indian payer; he would need to pay the same to the government.

What are the concerns?

- It will impact start-ups in India, that rely on the online world to popularize their services, as the non-resident service provider may not absorb such deduction thus adding to the cost of the end-user here.
- As the levy is not introduced as part of Income Tax Act but as a separate legislation, global firms that offer such services cannot claim tax credit in their home country under double taxation avoidance agreements.

4. SOCIAL ISSUES

4.1. DRAFT NATIONAL WOMEN POLICY 2016

In News

Union WCD Minister Maneka Gandhi released the draft National Policy for Women, 2016

Need for new Policy

- Women's attitude towards themselves and their expectation from life has changed since 2001
- Growth in last 15 years has created unique opportunities and challenges for women
- Women role in society has started changing from recipients of welfare benefits to equal contributor towards nation's development.

Salient Points of New Policy

- It shifts the focus from entitlements to rights and from empowerment to creating an enabling environment.
- Health including food security and nutrition: Focus on geriatric, adolescent, reproductive and psychological health care
- Education: Better access to all levels of education and removing gender gap in education
- Economy: Equal employment opportunities, skill development and training of women
- Governance and Decision Making: Increasing women participation in political arena, administration, civil services and corporate boardrooms
- Violence against women: Legislation relating to women safety will be reviewed. Prevention of trafficking and female foeticide.
- Enabling Environment: Ensuring safe drinking water, sanitation, social security etc.
- Environment and Climate Change: Addressing gender concern during distress migration and displacement due to climate change and environmental degradation.

Few Steps Already Taken By Government

- Enabling safety and security of women – with initiatives such as One Stop Centres, Women Helpline, Mahila Police Volunteers, creating immediate response mechanism through panic buttons in mobiles etc
- Creating eco-systems to encourage entrepreneurship amongst women – through platforms like Mahila E-Haat, mentoring through Women Entrepreneurship Council etc
- Training and capacity building of all stakeholders including youth through Gender Champion initiative, frontline workers, women sarpanches and all officials dealing with policy and delivery systems impacting women.
- Facilitating women in workplace – through gender friendly work place, flexi timings, increased maternity leave, provision of child care / creches at workplace, life cycle health care facilities.

4.2. DOMESTIC VIOLENCE

The Parliament has enacted several laws to protect the women from domestic violence at the hands of husband or his relatives.

- The Dowry Prohibition Act, 1961
- In 1983, it introduced s.498-A in the IPC
- Domestic Violence Act, 2005

Issue

- These have been hailed as landmark legislation giving voice to the silent sufferers.
- At the same time, misuse also happens in large numbers. In most cases relatives of husband are wrongly implicated who then have to undergo the rigours of the criminal justice system.
- Thus, there is a demand for amending these laws. *Recently*, the issue was raised in the Rajya Sabha.

Argument for amendment

- Low conviction rates; as per NCRB out of 426 cases registered under the DV Act in 2014 only 13 were convicted.

Argument against amendment

- These laws have larger social purpose. Their object cannot be belittled by overemphasizing on its potentiality for abuse or misuse.

Analysis of causes of abuse

- The low rate of conviction doesn't reveal the extent of misuse or abuse of the law as other factors like compromise, lack of evidence etc. also play a role in non-conviction.
- The real causes of misuse, as identified by Law Commission in its 243rd report, are
 - ✓ Firstly, the mechanical and casual manner in which police exercises their right to arrest - power of arrest is a tool to prevent any further harm to the victim. However, this must be used sparingly as it results in irreversible harm to reputation which bleaks the chances of conciliation later on.
 - ✓ Secondly, approach towards addressing matrimonial disputes – these are inherently different from other criminal cases due to the scope as well as need for conciliation between the parties.

Suggestion: As per Law Commission

- The police must follow the guidelines of arrest as given by SC in *DK Basu vs State of West Bengal*.
- The necessity of arrest has to be properly established.
- A mechanism of dispute settlement like conciliation and mediation must be mandatorily initiated before making any arrest, unless the facts disclose an aggravated form of cruelty.
- Option of compounding of offence should be available to parties.
- Need to inculcate sensitivity among all the actors in matrimonial litigation- police, lawyers and judiciary.

4.3. OCCUPATIONAL HEALTH HAZARDS

- In a recent case on Occupational Health hazard, Supreme Court directed the Gujarat government to pay a compensation of 3 lakh per person to the kin of 238 people who died of silicosis.
- It also directed the Madhya Pradesh government to compensate the 304 workers who are afflicted by the disease and unable to work.

Background

- In the particular case the workers who died were poor Adivasis from MP who had migrated to Gujarat to work in quartz and stone cutting industries.
- After going back to MP 238 workers died from silicosis and TB, and 304 continue to suffer.
- The fine silica dust in mining, construction, stone crushing, gem cutting and other such industries impairs lung function characteristic of silicosis, leaving people vulnerable to diseases like tuberculosis (TB).
- As a result, it is difficult to establish causality between early onset of silicosis and death due to TB.
- These workers are already poor, undernourished and work without any protective gear.

Significance of SC Directive

- Silicosis is listed as an occupational disease in India but rarely have workers been able to prove that illness or death was caused due to exposure to silica dust.
- It exposed the indifference of the authorities to act even when they had been ordered by the NHRC to do so earlier.
- It has set a good precedent for recognizing the severity and impact of occupational hazards on the health of the poor

4.4. SCHOOL CHOICE

- 'School choice' connotes policies and schemes that give substantial weight to the choice of parents in determining their child's schooling.
- It is based on Milton Friedman's concept that administration and financing of schools are separable functions of the government.
- He proposed that government establish minimum levels of schooling and finance it by "giving parents vouchers redeemable for a specified sum per child per year if spent on 'approved' educational services."
- Parents could use this voucher with any additional sum on their account for "purchasing educational services from an approved institution of their choice."
- The service providers could be any private school whether they run it for profit or not.
- The government, as part of its coordinating function, would establish infrastructure norms, teacher qualifications, and curriculum.

Significance

- The government schools have mostly proved to be inefficient and non-functioning. ASER 2014 report proves that better reading levels in private than government schools.
- Despite this students from economically weaker sections study in government schools.
- School Choice would allow these children to access schools which they earlier could not. It would provide parents the choice to shift schools if they find earlier one inadequate.
- The competition would make it unwise for schools to neglect their standards.
- School Choice could merge with the provision under RTE whereby 25 percent seats are reserved for children from weaker section in unaided private schools.

4.5. TRANSGENDER RIGHTS

Why in News?

- Delhi govt has introduced "transgender category" in forms for registration of birth and death certificates.
- In another development Christian transgenders may get equal property rights soon.
- Also, Government of Odisha conferred the Below Poverty Line status to transgenders in Odisha.

Birth and Death Certificates

- The Delhi government has issued notices to all registrar offices to duly make the changes in birth and death certificate forms.
- Registration of birth and death from transgender community is very less and even those who do, register as females.
- After the SC order in 2014 recognizing transgender as third gender this is one of the first changes on ground.

Christian Transgenders

- The Law Commission of India had asked the Delhi Minorities Commission (DMC) for recommendation on the India Succession Act.
- The DMC consulted with the Advisory Committee of Christians.
- They suggested that Section 44 of the India Succession Act be amended to include transgenders, giving them equal rights as men and women on ancestral property.
- Once cleared the bill will be tabled in the parliament.
- **Significance:** Transgenders can now take recourse to legal measures if discriminated against in property rights, with the inclusion of term 'transgender' in the Succession Act.

BPL Status to Transgenders in Odisha

- This move will benefit around twenty two thousand transgenders in Odisha.
- This makes Odisha the first state in India to grant the BPL status to transgenders.
- The state government has also decided to cover the transgenders under the National Food Security Act.

4.6. DEATH PENALTY INDIA REPORT

A Death Penalty Research Project undertaken by the National Law University in Delhi released its findings.

Key Findings of the Report

- The report identified 385 prisoners on death row in India.
- 80% facing death penalty had not completed school and nearly half had begun working before age of 18.
- 25% were either juvenile or between age of 18 and 21 or above sixty when the crime was committed.
- SCs and STs comprise 24.5% among those on death row while religious minorities were over 20 percent.
- Less than 5% of death sentences awarded by lower courts were confirmed by the Supreme Court.
- The trials of 54% continued for more than ten years while for 34% it continued for more than five years.
- 'Murder' and 'Murder with rape' were the crimes for which most of the prisoners were convicted.
- **Significance:** Study claims there are no official records maintained by the states even of the total numbers executed since independence.
- The study is a strong case against death penalty in India.

4.7. HEALTH PROTECTION SCHEME

- Health Protection Scheme (HPS) or Rashtriya Swasthya Surakhsha Yojana (RSSY) is a new nomenclature for Rashtriya Swasthya Bima Yojana (RSBY).
- It was announced in the budget 2015-16 and its details are yet to be announced.
- Poor households get annual health cover of one lakh per family while limit under RSBY was Rs. 30000. It also provides an additional cover of 30000 for the senior citizens.
- HPS benefits may be availed in both public and private health facilities.
- It treats the entire family as one unit and if one member makes use of the cover, the sum insured will reduce by that amount.

Significance

- Medical costs remain one of the chief causes for out of pocket expenditure that pushes people back into the cycle of poverty.
- It is in the direction of providing universal health coverage in India.
- Putting more purchasing power in the hands of the consumer will drive the private sector in opening more branches in the underserved areas.

Challenges faced by Medical Insurance Schemes

- Competitive markets, i.e., those that minimize total costs leading to least prices do not perform for health insurance.
- Firstly "adverse selection", individuals have better information of their health status leading to unhealthy people opting in and the healthy opting out, of the insurance.
- Secondly because of "moral hazard" wherein doctors have better information about a patient's treatment and have financial interests in providing excessive treatment.

Solution

- These challenges have been successfully addressed by the National Health Scheme of the UK which was rated among the best health care systems of the world.
- It addresses "Adverse selection" by enrolling all persons irrespective of their health or economic status.
- It addresses "moral hazard" by ensuring that care provider's revenue is determined only with reference to the standard treatment protocol and the statistic incidence of each covered health condition in that region.
- Excess tests or treatments are not paid by the NHS.
- It ensures that only health care providers who have capacity to provide entire range of primary, secondary and tertiary healthcare in a medical condition are accredited.

- This ensures that provider focuses on preventive health measures, as these cost less, and would lower the probability of a given condition occurring within a voucher period.
- The provider is paid as per the value of the voucher irrespective of whether or not a covered condition actually manifests itself.
- The incentive to provide preventive health measures helps ensure that the burden of morbidity in a given region falls over time, leading to reduced aggregate costs of treatment.

4.8. REFORMS IN MEDICAL EDUCATION

Why in News?

A recent Supreme Court judgment made all admissions to medical colleges in India subject to obtaining a rank in National Eligibility cum Entrance Test (NEET).

Background

- NEET is a common entrance test system for admission to undergraduate and post-graduate medical courses.
- There are about 35 entrance tests for admissions to 412 medical colleges in the country.
- Based on petition filed in 2009, SC directed the possibility of holding single national test.
- In 2016, SC permitted the national test to be held in two phases for the current year.
- Chief criticism faced by NEET is that students from non-CBSE curriculum and language medium schools will be at a disadvantage owing to the limited preparation time.

Reforms Required

- **NEET becomes important because;**
 - ✓ Multiple examinations are held on overlapping dates.
 - ✓ Rampant malpractices are held in admissions where merit is of little consequence.
 - ✓ Poor standards of knowledge in science subjects are reflective of the poor standards of high school education system in India.
 - ✓ Medical profession deals with lives and it's important that standards are not diluted.
 - ✓ The NEET will compel governments to improve the standards of education in general and science education in particular in high schools.
- **Common Exit Exam proposed**
 - ✓ The Union health ministry is planning to notify the NEET-PG as the common exit test, which will replace multiple university-level examinations that MBBS students have to take before they start practising medicine.
 - ✓ This is to ensure that a doctor irrespective of the institution studied had the basic skills and competencies as per laid down standards.
 - ✓ This test will be made mandatory for those wanting MCI licence to practice anywhere in the country or go abroad.
 - ✓ A common entrance exam will force the "bogus" medical colleges to provide quality training or face rejection by students.
 - ✓ It may require an amendment to the Indian Medical Council Act by the Parliament
- **Revamping Medical Council of India**
 - ✓ Several committees have pointed towards the declining standards and massive corruption in the MCI.
 - ✓ The MCI faces severe criticism for not doing much regarding reforms of curriculum, quality assurance, ethical practice, rational treatment, and humane patient care.
 - ✓ A bill replacing MCI with the National Commission for Human Resources for Health failed to come about.

4.9. INDIA-WHO AGREEMENT ON TRADITIONAL MEDICINE

- Ministry of AYUSH, Government of India and the World Health Organization have signed a Project Collaboration Agreement (PCA) on traditional medicine.
- It is for cooperation on promoting quality, safety and effectiveness of service provision in traditional and complementary medicine.
- It aims to support WHO in the development and implementation of the 'WHO Traditional and Complementary Medicine Strategy: 2014-2023'
- The PCA for the period 2016-2020 will deliver for the first time WHO benchmark document for training in Yoga, and WHO benchmarks for practice in Ayurveda, Unani and Panchakarma.
- These will contribute significantly to the strengthening of national capacities in traditional medicine
- Will also help in establishing regulatory frameworks for traditional medicine products and practice and promote their integration in national healthcare systems.
- It will also contribute to the global promotion of traditional Indian Systems of Medicine.
- It will pave the way for the inclusion of Ayurveda and Unani in the International Classification of diseases and the International Classification of Health interventions.

4.10. SAEVAC MEETING

- Eight nations composing the South Asia Initiative to End Violence Against Children (SAIEVAC) assembled in Delhi in May for their 4th Ministerial Meeting.
- It was hosted by the Ministry of Women and Child Development.
- The objective was to set strategies and agree on commitments to ensure the protection and security of the children of the region.
- The meeting saw a discussion on ways and means to achieve Sustainable Development Goals, review of progress of ten years of SAIEVAC and five-year work plan (2011-16)

Background

- SAIEVAC is an intergovernmental regional body comprising of 8 SAARC countries- Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.
- It took its present shape in 2010 when the South Asian Association for Ending Violence Against Children was transformed into SAIEVAC.

4.11. INEQUALITY IN EDUCATION

Why in News?

NSSO released its recent survey report on inequality in education conducted in 2014.

Key findings of the report

- **Rich/Poor:** The Net Attendance Ratio (NAR) is 89% for primary school going children of the richest fifth in both urban and rural areas.
- The NAR drops sharply when it comes to secondary school and even worse at higher secondary level.
- Only 6% of young people from the bottom fifth of the population attend educational levels above higher secondary in urban India, but that proportion is five times higher, at 31%, for young people from the richest fifth of the population.
- While basic literacy is increasingly available to all, the gulf between the rich and the poor increases as you go up the education ladder.
- While well off kids have better opportunities for higher education essential for getting good jobs the poorer sections are doomed to be in informal sector

Net Attendance Ratio (NAR):
This is the total number of children attending a particular section divided by the number of children in that age group.

- **Gender:** At the All India level there isn't much difference in the enrollment of girls and boys at the primary level but several states have wide differences in NAR at the secondary level.
- **Caste:** Difference in primary level not much but difference between scheduled castes and scheduled tribes and other categories widen at higher levels of education.
- **Religion:** Enrollment of Muslims is lower at all levels compared to other religions for both males and females
- **Quality of Education:** Average expenditure per student in the primary section in urban India for the top fifth of the population is more than eight times that for the kid from the poorest fifth of the population. It's wider for higher levels of education.
- **Private tuitions:** percentage of rich and poor in urban and rural areas is close.
- This shows that the poor too want to give good education to their children but also shows the lack of trust in the government school system.

4.12. DRAFT TRAFFICKING OF PERSONS BILL

Women & Child Development Ministry has released the draft "Trafficking of Persons (Prevention, Protection and Rehabilitation) Bill, 2016" in for further stakeholders consultations and comments.

Important Provisions

- The Bill aims to create a strong legal, economic and social environment against trafficking of persons and related matters.
- Bill is **victim oriented and makes clear the distinction between the 'trafficker' and the 'trafficked'**.
- The draft Bill aims to include other offences/ provisions which are not dealt in any other law for the purpose of trafficking, such as
 - ✓ Penal provisions for the disclosure of identity of the victim of trafficking and witness.
 - ✓ Use of narcotic drug or psychotropic substance or alcohol for the purpose of trafficking.
 - ✓ Use of chemical substance or hormones for the purpose of exploitation.
 - ✓ The draft Bill has also taken in to its ambit the 'placement agencies' by making mandatory for them to also register for the purposes of this Act.
- The proposed draft Bill aims to **place dedicated institutional mechanism at District, State and Central level.**
- It also envisages a designated Agency for the investigation of offences.
- It provides for Protection Homes and Special Homes for short term and long term rehabilitation support.
- Bill provides for establishing Special Courts in each district and experienced Special Prosecutors.
- Recovery of back wages and other monetary losses of the victim of trafficking are also proposed.
- For the effective implementation of the proposed Act and for the welfare and rehabilitation of the victims **an Anti- Trafficking Fund** will be created.

4.13. JUVENILE JUSTICE ACT, 2015 DRAFT MODEL RULES

- Women & Child Development Ministry has released the Draft Model Rules under the Juvenile Justice (Care and Protection of Children) Act, 2015.
- The Juvenile Justice (Care and Protection of Children) Act 2015 has come into force from January 2016 repealing the Juvenile Justice (Care and Protection of Children) Act, 2000.

Important Provisions made in the rule

- The Draft rules prescribe detailed **child friendly procedures for police, Juvenile Justice Board (JJB) and Children's Court.**
- The Board and the Children's Court are to adhere to **the principle of best interest of the child and the objective of rehabilitation and reintegration of the child in the society.**
- Every state Government is required to set up at least one "place of safety" in a State for the rehabilitation of such children.

- The Rules prescribe for extensive services to be provided to such children through regular monitoring.
- To facilitate quick and smooth adoption of children, the entire adoption process has been made online and transparent.
- It is proposed that every police station will have child friendly infrastructure, similarly special Children's Room will be designated in every Court complex.
- Proper medical and legal aid will be provided to juvenile criminals, and their parents and guardians will be duly informed.
- It also prescribes detailed procedures for determination of age. The JJB or the Juvenile Justice Committee will determine the age of the child within 30 days from the date of submission of application.

4.14. CENSUS REPORT ON CHILD MARRIAGE

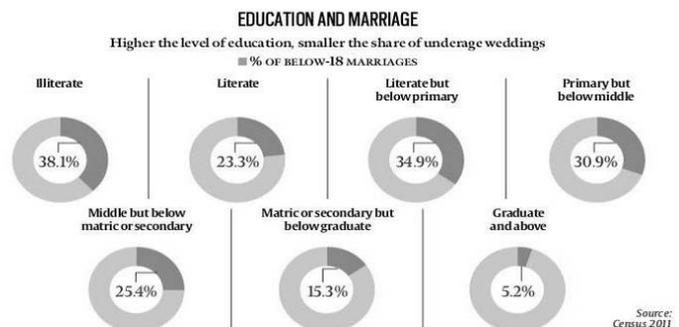
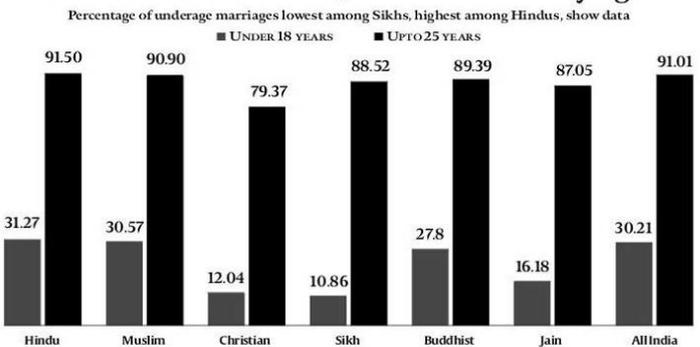
Why in News?

The Census 2011 reveals that child marriage is rampant in India, with **almost one in every three married woman** having been wed while she was still under the age of 18 years.

Key Findings

- 78.5 lakh girls (2.3% of all women or girls who were ever married or were married in 2011) were married while they were not yet 10 years of age.
- 91% of all married women were married by the age of 25 years.
- **Alarming 30.2% of all married women (10.3 crore girls) were married before they had turned 18.**
- **As per Census 2001 data**, 43.5% of all married women had been married while they were under the age of 18 years.
- **Religion Breakup**
 - ✓ 31.3%, of Hindu married women were married before the age of 18 years down from the 45.1% recorded by Census 2001.
 - ✓ Whereas Muslim women married before the legal age stood at 30.6%, down from 43.1% in 2001.
 - ✓ Among Christian married women, 12%, and 10.9% of married Sikh women, were married under the age of 18 years.
- **Literacy:** While 38.1% of illiterate married women were married below the age of 18, 23.3% of literate married women got married below the legal age.

3 in 10 married in teens, 9 in 10 women by age 25



4.15. COMMERCIALIZATION OF EDUCATION

In News

SC has said that state has authority to regulate admissions and fixing of fees of private unaided education institution.

SC Judgement

- Right to establish and administer of private unaided professional institutions is not absolute.
- States power to regulate admission and fixing of fees is a reasonable restrictions for larger public interest.

- Court judged that education institution can never become a business.

Petitioners Argument

- They had a right under Article 19 (1) (g) “to practice any profession, or to carry on any occupation, trade or business”.
- SC in their earlier judgment has recognized right to administer educational institution as an 'occupation' under the Constitution.

Implication of Judgement

- Regulatory powers of the State will check profiteering and commercialisation of education.
- This will ensure wider access to education specially among the students from poor section

4.16. GENDER PAY GAP IN INDIA

In News

Recently released Salary Index Report of online service provider Monster highlights gender pay gap in India.

Findings of the Report

- Gender Pay gap is as high as 27%.
- Men earned a median gross hourly salary of Rs. 288.68, while women earned Rs. 207.85.
- Sector-wise analysis
 - ✓ Gender pay gap was highest in manufacturing sector (34.9 per cent)
 - ✓ Lowest in the BFSI and Transport, logistics, communication, equally standing at 17.7%
 - ✓ IT services sector has a huge gender pay gap of 34 per cent.

Reasons Behind Gender Pay Gap

- Preference for male employees over female employees
- Preference for promotion of male employees to supervisory positions
- Career breaks of women due to parenthood duties and other socio-cultural factors.

4.17. NATIONAL POLICY ON RAPE VICTIMS

- The Supreme Court asked the centre to frame a National Policy to financially compensate rape victims.
- The SC said that the Nirbhaya Fund announced in 2013 is not enough and relief and compensation needs to reach the rape victims.
- There is lack of uniformity in compensation schemes of different states necessitating a national policy.
- SC issued notices to centre, states and UTs seeking details on the implementation Section 357(A) of the CrPC and the status of victim compensation schemes.

4.18. REDUCED MATERNAL AND NEONATAL TETANUS

- Maternal and Neonatal Tetanus (MNT) is no longer a problem in the South-East Asia Region according to WHO.
- Deaths due to MNT have reduced to one in every one thousand births at the district level.
- In 1989 it was claiming the lives of 7,87,000 newborns in the world.
- Unhygienic conditions during delivery and inadequate umbilical cord care are the chief causes of the disease in mother and child. It is caused by the bacterium Clostridium Tetani.
- Symptoms include lockjaw, muscle spasms, fever, fast heart rate, sweating and high blood pressure.
- Immunisation and enhancing quality maternal and newborn care is critical in the elimination of the disease

4.19. ATTACKS ON AFRICANS IN INDIA

- A spate of different attacks on Africans living in India with one leading to the death of a Congolese youth have greatly embittered relationship between African nations and India.
- The attacks followed the Heads of Missions of African countries in India stating that they would boycott the “Africa Day” celebrations.

Challenges faced by African people in India

- Indian society displays skin colour based discrimination and the perception that Africans are lawless and immoral individuals adds to the problem.
- Africans live in closed communities and survive using tactics of invisibility.
- They seek to minimize interactions with Indians by choosing indoor social interactions.
- Several attacks stretching across time and space has created a situation of fear among them.

Possible Solutions

- The Indian state must provide clear guidelines for African migrants to register complaints.
- Also strategies must be in place to secure lives of undocumented migrants who may not be able to access formal channels.
- Creating channels of communication which allows for fraternity and greater inter cultural interactions.
- The embassies could provide more informal channels of support by focusing on discussions and visibility-enhancing local interventions with the help of NGOs.
- Educational institutions need to debate means to ensure inclusion of African students on campus and ensure the availability of safe and affordable accommodation within or close to campus.
- There should be sensitizing programs that focus on Indian obsession with white skin.

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5. SCIENCE AND TECHNOLOGY

5.1. DRAFT GUIDELINES ON UAV'S

Why in news?

Last month, the draft guidelines for civil UAV (Unmanned Aerial Vehicle) operations were announced by the DGCA (Directorate General Of Civil Aviation).

Need of guidelines

- UAVs or Drones have the potential for use in a large number of civil applications. Its use, besides being a safety issue, also poses a security threat, and has the potential for invading privacy.
- The airspace over Indian cities already has a high density of aircraft traffic and unregulated use of drones poses a grave threat for air collisions and accidents.
- Further, in view of technological advancements in UAS (Unmanned Aircraft system), it has become necessary to develop guidance material to regulate its activity.

Regulations

- All unmanned aircraft intended to be operated in India will require a Unique Identification Number (UIN) issued from DGCA.
- All civil UAVs have to obtain operator permit (UAOP) from DGCA.
- UIN to be granted to an Indian citizen or a company whose chairperson and two-thirds of its directors are Indian citizens.
- UAVs with an UIN shall not be sold or disposed to any other person or firm without permission from DGCA.
- The policy also lists out guidelines for training remote pilots who should have completed 18 years of age as well as the regulations on controlled airspace.
- Import of drones will require prior approval from DGCA based on which DGFT shall provide license for import.
- UA operations at or above 200 feet AGL (above ground level) in uncontrolled airspace will require permit from DGCA. Operations below 200 ft AGL in uncontrolled airspace will not require a UAOP.
- International operations of civil UAS (flying across territory) and/or over water shall be strictly prohibited.

Case Study: UAVs used by Karnataka Police:

Karnataka Police Department is the first to own and operate drone fleet. About 20 policemen have been trained and given the exclusive task of operating the drones. The UAVs have already helped the police identify sand mining along the border of Karnataka and Andhra Pradesh due to its night visibility.

Uses and benefits of UAVs

- Damage assessment of property and life in areas affected with natural calamities, surveys, critical infrastructure monitoring.
- The benefits are immense - for government, security agencies, companies, researchers, retailers and aviation enthusiasts.
- Other commercial and recreational uses.

Issues and Suggestions

- The operational limits of micro as well as the mini UAVs range is 500m which is a limiting factor for purpose of mapping and monitoring of large infrastructure projects such as power lines, highways, river basin, etc.
- The DGCA regulations must provide for a level playing field for the private sector so that innovation, growth and adopting of UAV technologies by end users can become commonplace.
- It must initiate multi stakeholder engagement process to develop a framework for privacy, accountability, and transparency issues of commercial and private UAV use in line with the policy of ease of doing business.
- Visual line of sight (VLOS) restrictions should go - it restricts the utility of a UAV fitted with camera and product delivery capability.
- Issues of security, enforcement and penalty have not been adequately dealt with. For e.g. without adequate monetary fines, the penalty provisions in the guidelines will lack the bite to be taken seriously.

Conclusion

UAVs of today are a precursor to next generation aerospace technologies. Unless we bring in the right set of regulations, the investors would be reluctant to take a leap of faith in the development of the UAV industry.

5.2. INDIA SUCCESSFULLY TESTED INTERCEPTOR MISSILE

Why in news?

- DRDO has come up with a new indigenously produced **Advanced Air Defence (AAD)** interceptor missile, **Ashwin**.
- The missile was tested on the newly named Abdul Kalam Island located in the Balashore district off the Odisha coast. This was the 12th test in the series to develop interceptor missiles.
- The test involved the launch of the single-stage Ashvin Advanced Defense interceptor missile from a mobile launcher and the successful destruction of an incoming nuclear-capable Dhanush ballistic missile at endo-atmospheric altitudes of 20-40 kilometers.
- The 'kill' effect of the interceptor was ascertained by analyzing data from multiple tracking sources.

Salient Features

- 7.5-metre-long, single stage solid rocket propelled, guided, supersonic missile.
- It is capable of destroying any incoming hostile ballistic missile.
- The missile comes with an inbuilt navigator, an advanced computer and an electro-mechanical activator.
- The technology in the missile is encrypted using a secure data link independent tracking and homing capabilities and sophisticated radars.
- After the successful test, India became the fourth country in the world to have full-fledged multi-layer Ballistic Missile Defence system. Only United States, Russia and Israel are in the same league.
- The new supersonic missile interceptor will soon become a part of the Indian Army's arsenal.

About India's BMD

- India began developing a multi-tiered Ballistic Missile Defense (BMD) system in 1999, after the end of the Kargil War in reaction to Pakistan's growing missile arsenal.
- A consortium of 40 Indian companies were involved in the development of the missile defense shield.
- India's BMD shield is a two-tiered defense system
 - ✓ Prithvi Air Defense (PAD) / Pradyumna Ballistic Missile Interceptor destroying missiles at exo-atmospheric altitudes of 50–80 kilometers (31–50 miles),
 - ✓ Advanced Air Defense (AAD)/ Ashvin Advanced Defense interceptor missile endo-atmosphere at altitudes of 20-40 kilometers (12-24 miles).
- In addition to the indigenously developed BMD system, India has procured six regiments of Russian S-300 air defense systems and is negotiating for five regiments of more advanced S-400 systems with Russia.

LAUNCH ADVANCE AIR Defence missile dubbed as Ashwin was fired at about 9.45 am from Abdul Kalam Island

INTERCEPTOR LAUNCHED a few minutes after the electronic target was fired

FIGURES

7.5 metres tall	1.2 tonnes weight	0.5 metre diameter
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THIS WAS 11th test of the missile and second in eight months

AIM

SINGLE-STAGE missile powered by solid propellants

TARGET

First phase to destroy enemy missiles outside the atmosphere and second phase to kill enemy missiles in more than 2,000 km range inside the atmosphere

India plans to deploy a two-tiered ballistic missile defence system to protect its important cities and vital installations from enemy attack

5.3. REUSABLE LAUNCH VEHICLE-TECHNOLOGY DEMONSTRATOR

Why in news?

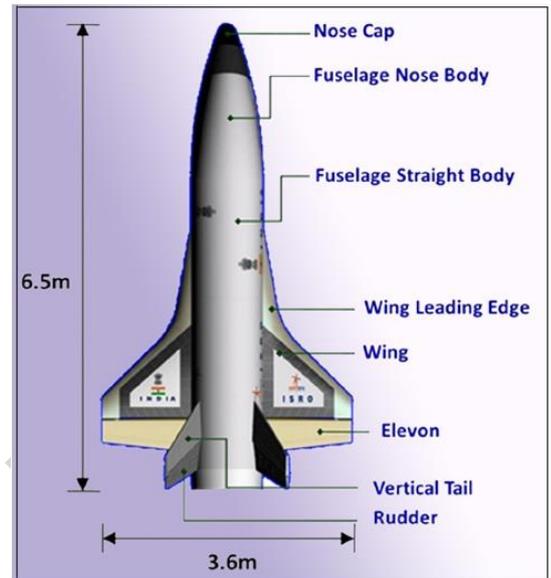
- RLV-TD was successfully flight tested recently, validating the critical technologies such as autonomous navigation, guidance & control, reusable thermal protection system and re-entry mission management.

Features and significance

- A reusable launch system (RLS, or reusable launch vehicle, RLV) is a system capable of launching a payload into space **more than once**.
- The model is 6.5 metres long and weighs about 1,750 kg and design is that of a delta-winged aircraft.
- The working RLV will be about 40 metres long and it will need a five km-long landing runway. It might be 2030 before it is fully operational.
- It demonstrated the success of hypersonic flight, re-entry aero thermodynamics, autonomous mission management and hot structures for thermal protection.

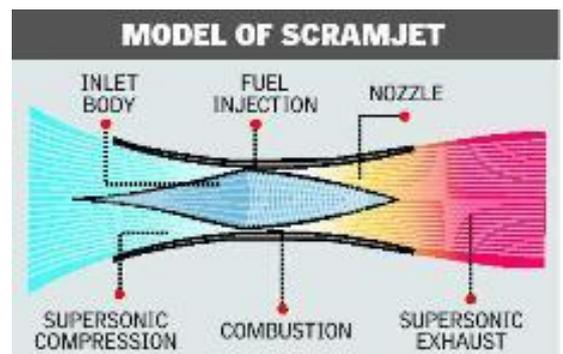
About RLV-TD

- The cost of access to space is the major deterrent in space exploration and space utilization. RLV is the solution to achieve low cost, reliable and on-demand space access.
- RLV-TD is part of a series of technology demonstration missions that have been considered as a first step towards realizing a Two Stage To Orbit (TSTO) fully re-usable vehicle.
- The configuration of RLV-TD is similar to that of an aircraft and combines the complexity of both launch vehicles and aircraft.
- A Winged RLV-TD has been configured to act as a flying test bed to evaluate technologies like hypersonic flight, autonomous landing, powered cruise flight and hypersonic flight using air-breathing propulsion.
- These technologies will be developed in phases through a series of experimental flights. The first in the series of experimental flights is the hypersonic flight experiment (HEX) followed by the landing experiment (LEX), return flight experiment (REX) and scramjet propulsion experiment (SPEX).
- **Objectives of RLV-TD**
 - ✓ Hypersonic aero thermodynamic characterisation of wing body
 - ✓ Evaluation of autonomous Navigation, Guidance and Control (NGC) schemes
 - ✓ Integrated flight management
 - ✓ Thermal Protection System Evaluation



About Hypersonic Technology & SCRAMJET Engine

- Hypersonic aviation technology involves speeds greater than 5 mach.
- To fly at hypersonic speed a different type of engine such as a supersonic-combustion ramjet, or **scramjet** is required.
- Unlike in a jet engine where the rotating compressor and turbine are used, in a scramjet engine air is compressed and expanded by complex systems of shockwaves under the front of the aircraft, inside the inlet and under the fuselage at the rear.
- It uses oxygen from the atmosphere for fuel.
- This makes it lighter and faster than fuel-carrying rockets, making it an alternative to rockets for putting satellites into space.
- It will also help making air travel in earth's atmosphere faster and cheaper.



5.4. HELIUM MICROSCOPE

- This device would enable scientists to study human, animal and plant samples, as well as computer chips and pharmaceutical drugs, without damaging or changing them.
- This would be able to see much smaller objects with a much higher resolution.
- It may be helpful in clean up of toxic or radioactive spills, without harming the surrounding flora or fauna.
- It could lead to the development of stealth technology and new explosives.

5.5. SUPERBUG IN USA

Why in news?

Recently, a woman in the U.S. was detected with E.coli bacteria, bearing a new gene, **MCR-1, resistant** to a last-resort antibiotic like colistin.

Why is it being called as Superbug?

- Though resistance to colistin had been detected in several countries in the past, it was overlooked as such resistance was brought about by gene mutations that cannot spread easily between bacteria.
- But **MCR-1** poses a threat of an entirely different order; in this case a small piece of DNA (plasmid) found outside the chromosome carries a gene responsible for antibiotic resistance. Since the gene is found outside the chromosome, it can spread easily among different types of bacteria, as well as among patients.
- If this gene spreads to bugs treatable by only last-resort antibiotics, it could create the superbug.
- It could well lead to an era without effective drugs to treat bacterial infections — the post-antibiotic age.
- The unchecked use of antibiotics in livestock is a major reason for the development of drug resistance.

5.6. INDIA'S RED LINE CAMPAIGN ON ANTIBIOTICS

Why in news?

The Global Review on Antimicrobial Resistance, commissioned by U.K. Prime Minister in 2014 in its report, has praised this campaign of India.

What is the Red Line Campaign?

- Consumption of antibiotics in India increased sharply, while the effectiveness of these to treat bacterial infections has been steadily declining. India consumed 13 billion units of antibiotics, the highest in the world.
- A much-needed public awareness campaign called '**Medicines with the Red Line**' to highlight the dangers of misuse and irrational use of antibiotics was launched by the Ministry of Health and Family Welfare.
- Now, packs of certain medicines carry a '**red line**' differentiating them from other drugs.

Way forward

- Drug companies manufacturing irrational fixed-dose combination drugs should be checked.
- The government should also regulate drug companies discharging antimicrobial waste into the environment and use of antibiotics in animal feed.

5.7. GENE DATABASE PROJECT

Why in news?

- Bangalore-based Medgenome has teamed up with a Southeast Asian consortium to sequence 100,000 Asian genomes which could include at least 30,000 Indian genomes and could help understand the wide genetic variety in India's various ethnic groups.
- This would be the largest database of Indian genomes.

- **Need:** Indian populations are neglected in databases like 1000 Genomes Project, Asia genome Projects etc.

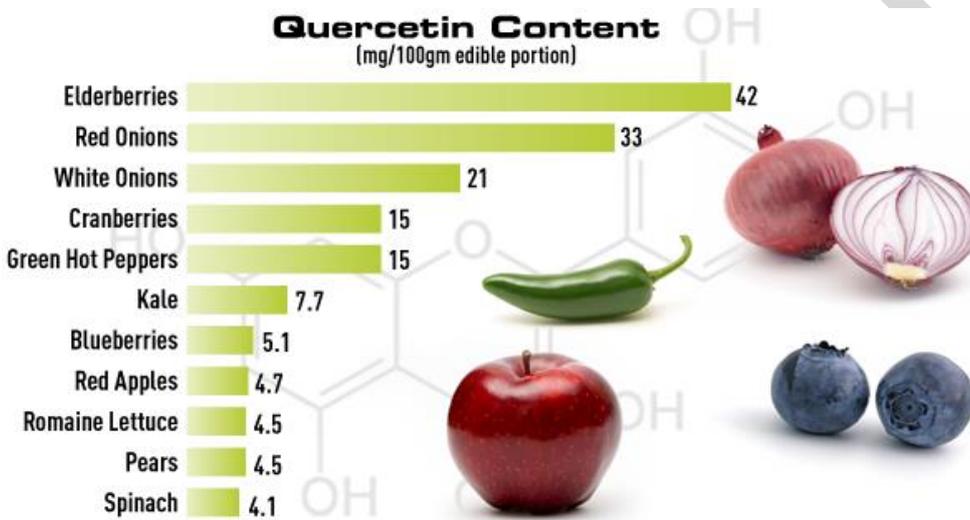
Some details about the project

- The project will develop in phases with initial 1000 genomes, consisting of India and East Asian populations, sequenced within this year and the entire database to be ready by 2020.
- Nearly 60 petabytes of data — equivalent to 30 trillion pages of text — are expected to be churned out.
- By utilizing big-data parsing tools and artificial intelligence, researchers can apply precision medicine to multiple goals, including cancer prevention.
- These projects can help in innovative clinical drug trials for cancers, reduction in drug resistance, understanding direct ties between diet and genetics.
- The genome database can help to compare known healthy DNA to the DNA of diseased tissue to identify minute differences in case of such complex diseases.

5.8. QUERCETIN

Why in news?

- IISc Bangalore concluded study on quercetin recently and found it to be extremely useful for cancer patients.



- Quercetin is a flavonoid (plant pigment) commonly found in fruits and vegetables, especially onions, citrus, and apples.
- The primary benefit of quercetin is that it possesses potent antioxidants. Antioxidants fight against free radicals - chemically reactive compounds that damage cell membranes and DNA and also cause cell death.

Why is it called a Green Way to cancer treatment?

- Quercetin, known to cause anti-cancer and anti-inflammatory activity, reportedly induces 'apoptosis,' a process by which cells commit suicide in a controlled manner.
- The compound may also prevent multiplication of cancerous cells by blocking the process of cell division.
- It can even kill the highly aggressive leukaemia cell line K562, which is resistant to most anti-cancer drugs.
- It is an originally purified compound, which is now also commercially purified and sold.
- It was found to have no adverse effects on the non-cancerous cells even while killing the cancerous ones, including in the experimental animals.

5.9. KEPLER -62F

- It is a planet which is about 1,200 light-years away from Earth and, in all probability, has surface liquid water is a good prospect for a habitable world.
- Kepler-62f, which is in the direction of the constellation Lyra, is in the **Goldilock zone**.
- It is the outermost of five planets orbiting a star that is smaller and cooler than the sun.
- There are multiple atmospheric compositions that allow it to be warm enough to have surface liquid water.
- Further research is being done with simulations varying the amounts of carbon dioxide required to keep the planet warm enough for liquid and life to exist on its surface.

5.10. ROSETTA FINDINGS

- Ingredients regarded as crucial for the origin of life on Earth have been discovered at the comet that ESA's Rosetta spacecraft has been probing for almost two years.
- The Rosetta spacecraft sent a probe, which discovered some basic building blocks of life on comet 67P, including phosphorus and the amino acid glycine.
- Glycine is commonly found in proteins and phosphorus is a key ingredient of DNA.
- The important point is that comets have not changed in 4.5 billion years, so they have the same ingredients that can be formed without our Sun or planets. This means that amino acids are kind of universal.
- Crucially the finding suggests that if comets transported the ingredients of life to Earth, they may have transported them elsewhere, raising the prospect of life on other planets.
- The comet probably contains all necessary ingredients for life, except one thing, and that's energy.

5.11. MUKHOTA

- Fishing crews mainly from Porbandar, Veraval and other parts of Gujarat being arrested for accidentally crossing international maritime boundaries.
- To help these fishermen, a Mumbai-based NGO 'Work in India' and a digital firm Kinetic India and have come up with a device called Mukhota.
- It is GPS-enabled and coded in such a way that once it comes near the coastal border, it sends out an alert.
- For now, each device costs Rs 5,000 but after receiving grants from state governments, the cost will be reduced to make it more easily affordable.

5.12. GEO-TARGETING IN ADVERTISEMENTS

- With the trend of geo-targeted advertising catching on, more companies are making use of technology to beam adverts to only areas where their products have strong presence.
- Airing of region-specific content on websites is determined by triggers like the user's GPS location or the mobile tower location of the user.
- In case of television, the trigger for the geo-targeted ad comes from a unique watermark inserted on the video, which gives the cue to the smart box to run the local ad.
- Watermark is an invisible and inaudible identifier, like a product barcode.
- The technology for geo-targeted advertising has helped small advertisers get access to the national channels.

5.13. LOHAFEX PROJECT

Why in news?

- Recently, Indian scientists discovered 3 new clusters of bacteria not related to any other bacteria.
- The discovery happened during LOHAFEX experiment in the Southern Ocean, Antarctica, which was aimed at increasing CO sequestration through ocean iron fertilisation as part of studies on global warming mitigation.
- Among the three new LOHAFEX clusters that were discovered, the first was related to class of Bacteroidetes while the second and third belonged to Firmicutes.
- A unique feature of the three clusters was their differentiated response to the presence of iron in the ocean.

What is LOHAFEX all about?

- The Indo-German project (Loha means iron in Hindi while Fex is an acronym for fertilization) in the Antarctic assumed that the algal bloom (algae need iron to grow) induced by iron fertilization would suck up a lot of carbon dioxide from the environment and sink it.
- Experiments in oceans near Antarctica have indicated that seeding the oceans with iron might not help to suck up carbon dioxide from the environment in sufficient quantities as to check global warming.

- Also, Environmentalists have opposed it as the effects on marine ecosystems are unknown and they violate the norms of CBD (Convention on Biological Diversity).

Cartilage is the flexible connective tissue found in the joints and between vertebrae in the spine. Compared to other types of connective tissues, it is not easy to heal when damaged.

5.14. BIO-GLASS

Why in news?

- Scientists from Imperial College London in the UK and University of Milano-Bicocca in Italy have developed a bio-glass material that mimics the shock-absorbing and load bearing qualities of real cartilage.
- The material can also **mimic cartilage** and encourage it to re-grow, which will be helpful in damaged cartilage replacements between discs in vertebrae.
- The bio-glass consists of silica and a plastic or polymer called polycaprolactone.

Features

- It can be made in a biodegradable ink form, enabling the researchers to 3D print it into structures that are tiny, biodegradable scaffolds.
- It also displays self-healing properties when it gets damaged, which could make it a more resilient and reliable implant. When implanted, the combination of the structure, stiffness and chemistry of the bio-glass would encourage cartilage cells to grow through microscopic pores.
- Thus it has the potential to encourage cartilage cells to grow in the knees, which was not possible till now.
- Over time the scaffold would degrade safely in the body, leaving new cartilage in its place that has similar mechanical properties to the original cartilage.
- Bioglass also finds application in drug delivery, as antibacterial agent, as remineralization element and in bone tissue engineering.

PHILOSOPHY/ दर्शनशास्त्र
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6. INTERNAL SECURITY/LAW AND ORDER

6.1. CHIEF OF DEFENCE STAFF (CDS)

The Parliamentary Standing Committee on Defence has demanded that the Chief of Defence Staff (CDS) be appointed at the earliest. In 2011, the Naresh Chandra task force on national security recommended the appointment of a permanent chairman, chiefs of staff committee.

- The appointment of CDS is aimed at promoting “jointness at the top” when it comes to planning, operations and modernization of the military.
- Though India has a tri-service command, a three-star officer heads it and he is junior to the military chiefs who are four-star.
- A single-point military advisor’s post in the form of Chief of Defence Staff was proposed by the Kargil Review Committee headed by K Subrahmanyam, and endorsed by the follow-up group of ministers report.

6.2. ROLE OF CHINA IN NORTH-EAST INSURGENCY

For the first time, the Centre has admitted officially that the National Socialist Council of Nagaland (Khaplang), intensified violence in the Northeast in 2015 at the behest of the Chinese.

- The admission was made in depositions by the Centre and other States before a tribunal set up early this year to adjudicate the ban on the insurgent outfit under the Unlawful Activities (Prevention) Act (UAPA).
- It was in September 2015, the Centre moved to ban the NSCN-K following which the tribunal under the UAPA, led by Delhi High Court judge **Najmi Waziri**, was set up.
- Nagaland was the only State which was not in favour of declaring the NSCN-K an unlawful association and sought a “peaceful political solution”. Arunachal and Manipur supported the ban.

6.3. PRITHVI-II MISSILE

India successfully test-fired indigenously developed nuclear capable Prithvi-II missile.

- It is the first missile to be developed by DRDO under India's prestigious IGMDP (Integrated Guided Missile Development Program).
- It was inducted into India's armed forces in 2003.
- It is a surface-to-surface ballistic missile

Variants of Prithvi

The Prithvi missile project encompassed developing 3 variants for use by the Army, Air Force and Navy.

- **Prithvi I (SS-150)** - Army Version (150 km range with a payload of 1,000 kg).
- **Prithvi II (SS-250)** - Air Force Version (250km range with a payload of 500 kg).
- **Prithvi III (SS-350)** - Naval Version (350 km range with a payload of 1000 kg).

6.4. DRAFT GEOSPATIAL INFORMATION REGULATION BILL, 2016

The draft Geospatial Information Bill plans to bring in a set of legally binding regulations regarding the geospatial information of India.

Need for bill

- To regulate **the growing geospatial** sector that is finding an increasing number of uses and users.
- To restrain individuals and companies from misrepresenting India’s territorial integrity on maps, and to prevent them from circulating location and other geo-information of sensitive installations
- To ensure that no part of Jammu and Kashmir or Arunachal Pradesh is shown to be disputed territory.

Important provisions of the bill

- **What does “geospatial information” mean?**
 - ✓ Geospatial imagery or data acquired through space or aerial platforms such as satellite, aircrafts, airships, balloons, UAVs
 - ✓ Graphical or digital data depicting natural or man-made physical features, phenomenon or boundaries of the earth
 - ✓ Any information related thereto including surveys, charts, maps, terrestrial photos referenced to a co-ordinate system and having attributes;
- **Permission mandatory**
 - ✓ It will be mandatory to obtain permission from Security Vetting Authority before acquiring, disseminating, publishing or distributing any geospatial information.
 - ✓ **Security Vetting Authority:** It grants licenses to organisations/individuals who want to use geospatial data. It will check the content and data provided and make sure it is well within national policies, “with the sole objective of protecting national security, sovereignty, safety and integrity”
- **Who will this impact?**
 - ✓ Every person, every business that uses location as a major feature to function, like Google, Facebook, ola
- **Penalty for violation**
 - ✓ Illegal acquisition of geospatial information of India - Fine ranging from Rs. 1 crore to Rs. 100 crore and/or imprisonment for a period up to seven years.
 - ✓ Illegal dissemination, publication or distribution of geospatial information of India - fine ranging from Rs. 10 lakhs to Rs. 100 crore and/or imprisonment for a period up to seven years.
 - ✓ Use of geospatial information of India outside India - Fine ranging from Rs. 1 crore to Rs. 100 crore and/or imprisonment for a period up to seven years.

Home Ministry vs Department of Science & Technology

The Geospatial Information Regulation Bill, 2016	National Geospatial Policy 2016
• Aims at regulating the use of mapping data	• Aims at encouraging the widespread use of mapping data
• Bans the use of maps without government licence	• Permission needed only when the portion lies under restricted access
• Fines of ₹1 crore-100 crore if a firm or individual uses maps/ geospatial information without permission	• Does not recommend any new prosecution since it says most issues can be covered under existing laws
• Restricts use of maps, collecting aerial images and GPS coordinates by any means without a licence	• Recommends minimal regulation as it says existing laws are enough to deal with security issues
• Bill applicable to any firm or individual creating, using or doing value add to geospatial data. Also applicable to people sharing locations on social media	• The policy is applicable to geospatial data based products, solutions and services offered by governments, private organisations, NGOs and individuals
• No suggestion on how anyone will know what is a sensitive map	• Suggests segregation of maps in three categories: open access, registered access and classified access
• No geospatial data already available can be used without taking a licence from the government	• Geospatial data being disseminated both internationally and nationally to be treated as unclassified and made available by Indian mapping and imaging agencies

Pakistan’s objection

- Pakistan has objected that the official map of India has been depicting the **disputed territory of Jammu and Kashmir** as part of India which is factually incorrect and legally untenable.
- India “firmly” rejected Pakistan’s objections to the draft Bill, saying Islamabad does not have any right to object to an internal “legislative matter” of India.

Concerns with the draft bill

- The proposed Geospatial Regulation Bill, may threaten the **innovation ecosystem**.
 - ✓ New app developers will be restricted while people outside the country will have no such limitation.
 - ✓ The current scope demands everyone who collects or publishes geospatial information to get a license. This will affect individual developers the most.
 - ✓ Small businesses will find it really difficult to cope with the scope of the bill. It covers anyone from a satellite image company to a delivery startup.
- Users of spatial information may find it difficult to get permission from Security Vetting Authority.
- The bill goes against some of the ongoing projects like smart cities, which plan to harness geospatial information for smooth functioning.
- Larger companies have money to go through security vetting, but upstarts may not have it.

HAVE A MAP? YOU MAY SOON NEED A LICENCE

The Union ministry of home affairs has come up with a draft of "The Geospatial Information Regulation Bill, 2016." Proposed requirements include: Licenses for acquiring or sharing maps. "Illegal" maps come with fines running up to Rs 100 crore and a seven-year jail term. A quick look at the proposals:

Who will issue the licence?

- Central government to set up a "Security Vetting Authority". Permission of SVA mandatory to acquire maps or geospatial data through "space or aerial platforms such as satellite, aircrafts, airships, balloons, unmanned aerial vehicles or terrestrial vehicles, or any other means whatsoever."
- An "Apex Committee" to oversee the SVA which will abide by policies involving "national security as well as public interest as the Central Government or the Apex Committee may give to it in writing."

More details

- Publication or dissemination of a map of India to be vetted by the SVA. This happens after application for license with a yet undefined "license fee"
- Older maps must seek license within a year of the bill being passed
- In case of rejection of application or dismissal of appeal one cannot possess geospatial data.
- Licensees must display "insignia of the clearance" on SVA-approved maps
- Provisions apply to both online and offline maps
- Act does not apply to Indian government bodies

PENALTIES

Fine ranging Rs 1 crore to Rs 100 crore and/or imprisonment of up to seven years for:

- Acquisition of geospatial information without the SVA's nod
- Use of illegal geospatial information

outside of India

Fine ranging Rs 10 lakh to Rs 100 crore and/or imprisonment of up to seven years for:

- Publication of geospatial information without SVA's permission
- "Wrong" depiction of map of India
- Violation of license terms (includes suspension of license)
- In case a company breaks the law, the draft bill penalises both the company as well as "every person who, at the time the contravention was committed, was in charge of, and was responsible to, the company for the conduct of business of the company"



CURRENT STATUS

- The jurisdiction of the draft bill extends to "citizens of India outside of India". The government has invited public comments on the draft bill, a copy of which is available on mha.nic.in. Comments must be sent to jsis@nic.in by June 3, 2016

How will it be enforced?

- An Enforcement Authority to conduct investigations or respond to written government requests. Authority empowered to confiscate computer systems used for violation. Authority to have powers of a civil court for the purposes of sections 345 and 346 of the Code of Criminal Procedure, 1973

What are the safeguards?

- An Appellate Authority to hear appeals

against Enforcement Authority decisions. Appeals to be disposed of within six months of receipt

- No court to have jurisdiction in matters that can be brought to the Appellate Authority.
- Appellate Authority's decisions can be challenged in the High Courts

6.5. INS KALVARI

- The first of the six indigenous Scorpene-class submarines set out for sea trials.
- Named Kalvari—sea tiger shark—the 66-m-long vessel is set to be inducted later this year.
- The submarines are being built by Mumbai-based Mazagon Docks Limited (MDL) in collaboration with French company DCNS.
- It is part of Project 75I, promulgated under the ambitious "30-year submarine construction plan", approved by the Cabinet in 1999 to build 24 conventional submarines.

6.6. UNDERWATER VIGIL SYSTEM IN VISAKHAPATNAM

- The Indian Navy has launched a state-of-the-art harbour defence system, having an Integrated Underwater Harbour Defence and Surveillance System (IUHDSS) and a Mine warfare data centre (MWDC), which would enhance its surveillance capability and response to security threats at the naval dockyard in Visakhapatnam.
- The IUHDSS is a multi-sensor system capable of detecting, identifying, tracking and generating warnings for all types of surface and underwater threats to Visakhapatnam harbour.
- MWDC will collate, analyse and classify data collected by Navy's Mine Hunting Ships from various ports.
- The creation of the Sagar Prahari Bal, induction of Fast Interceptor Crafts (FICs) and commissioning of the IUHDSS are some of the Navy's measures to strengthen coastal security in a post 26/11 scenario.

7. ECOLOGY AND ENVIRONMENT

7.1. COMPENSATORY AFFORESTATION FUND BILL, 2015

Why in news?

- Lok Sabha passed the Compensatory Afforestation Fund bill, 2015. It is pending in Rajya Sabha.
- The Bill establishes the **National Compensatory Afforestation Fund** under the **Public Account of India**, and a State Compensatory Afforestation Fund under the Public Account of each state.

Public Account of India is fund that does not belong to the government. It has to be paid back at some time to its rightful owners eg. provident funds, small savings.

Background

- Currently Reserved Forest or a Protected Area (PA) land may be diverted under the Forest (Conservation) Act, 1980 for non forest developmental activities like an industrial or infrastructure project with approval of central and state government.
- To compensate for diversion of forestland, afforestation must be done on a separate piece of land called as compensatory afforestation. In addition compensation must be paid for loss of forest ecosystem and biodiversity. Valuation of this forest ecosystem is called net present value.
- Cost for both is borne by agency responsible for diversion of forestland and money is collected by the state government for afforestation and forest development.
- In 2002, Supreme Court observed that these funds were not been utilized, and for this purpose an ad-hoc authority called compensatory afforestation fund management and planning authority (CAMPA) was set up. In the absence of permanent institutional mechanism more than Rs. 40,000 crores have accumulated which are being kept in Nationalized Banks and managed by CAMPA.

COMPENSATORY AFFORESTATION FUND BILL

PRINCIPLE OBJECTIVE

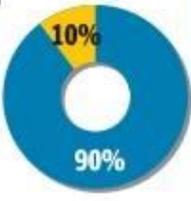
SETTING UP OF A 1 National Compensatory Afforestation Fund 2 State Compensatory Afforestation Fund

These authorities will monitor the utilisation of funds

Any user agency which diverts forest land for non-forest purpose is required to deposit prescribed amount

90% of collected payments will go to state fund

10% of collected payments will go to national fund



(This provision may be amended as standing committee wants state fund to get 95% of the payments)

Funds will be used for

1. Increasing forest cover
2. Forest regeneration
3. Wildlife protection
4. Related activities to protect green cover

Bill is also meant for setting up

1. A national management and planning authority at the Centre
2. State-level authority in respective states

What bill does?

- Provides an institutional mechanism for safety and transparency in expeditious utilization of unspent amounts with ad hoc CAMPA to mitigate impact of diversion of such forest land.
- The National CAF and State CAFs will receive payments for: (i) compensatory afforestation (ii) net present value of forest (NPV), and (iii) other project specific payments.
- The National Fund will receive 10% and the State Funds will receive the remaining 90%.
- Establishes the National and State Compensatory Afforestation Fund Management and Planning Authorities to manage the National and State Funds.
- These Funds will be primarily spent on afforestation to compensate for loss of forest cover, regeneration of forest ecosystem, wildlife protection and infrastructure development.

Issues

Several factors that affect compensatory afforestation and forest conservation are

- A 2013 CAG report noted that state forest departments lack the planning and implementation capacity for afforestation.
- Procuring land for compensatory afforestation is difficult as land is a limited resource. This is compounded by unclear land titles.

- A High Level Committee on Environment Laws observed that quality of forest cover has declined between 1951 and 2014; one reason is poor compensatory afforestation plantations.
- The Bill delegates the determination of NPV (value of loss of forest ecosystem) to an expert committee, its computation methodology would be important.
- Fragmentation i.e. breaking up of large forest blocks into smaller patches creating new edges that expose forests to degradation.

Way forward

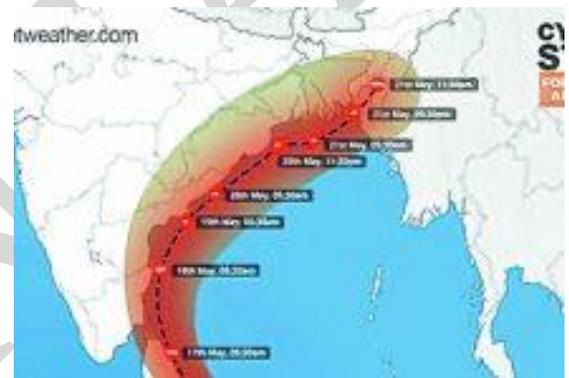
Planned implementation of said act at State and local level is very urgent to mitigate impact of loss of forests land and biodiversity. Since large amount is being devolved at state level, therefore, timely monitoring is very important.

It will help in achieving our target of 33% forest cover and 2.5 billion tonne of carbon sink as indicated in our INDCs.

7.2. CYCLONE ROANU

What is it?

- Cyclone Roanu was the first tropical cyclone this cyclonic season.
- It originated in a deep depression area near Sri Lanka. It travelled closely along Indian coast and finally had landfall in Bangladesh.
- It caused heavy rainfall, flooding events, landslides and mudslides in Sri Lanka. It caused torrential rain falls in coastal regions of India like Odisha and Andhra-Pradesh.
- In Bangladesh it caused storm surge waves and heavy flooding.
- This resulted in many deaths and persons missing in Sri Lanka and Bangladesh.



Impact

- Many poor families lost most of their assets in Sri Lanka and Bangladesh —houses, food, crops and vital livestock. Also agricultural land was destroyed due to erosion etc.
- Access to safe drinking water was hindered as water points were ruined and ground contaminated
- Health supplies and sanitation materials became limited – leading to conditions of vector borne diseases such as malaria, water borne diseases such as diarrhea etc.
- On a positive note, it provided respite from heat in Odisha, Andhra, Telangana and Tamil Nadu.

How is this natural hazard managed?

- Preparation
 - ✓ Flood alerts, landslide alerts were issued in respective regions in all 3 countries.
 - ✓ Forces and personnel were mobilized: for example: In the low-lying areas of Chennai, the National Disaster Response Force positioned 4 teams of personnel.
 - ✓ Fishermen and trawlers were prevented to go into sea.
- Authorities in low-lying Bangladesh took more than 500,000 people into shelters as the cyclone made landfall
- Indian Navy has sent relief materials in INS Sunayana and INS Sutlej to flood-hit Sri Lanka.

What are tropical cyclones?

- They are intense depressions with very low central pressure.
- It has a warm central core or eye, largely cloudless. Around the eye is a great cylinder of clouds, torrential rain and violent winds.

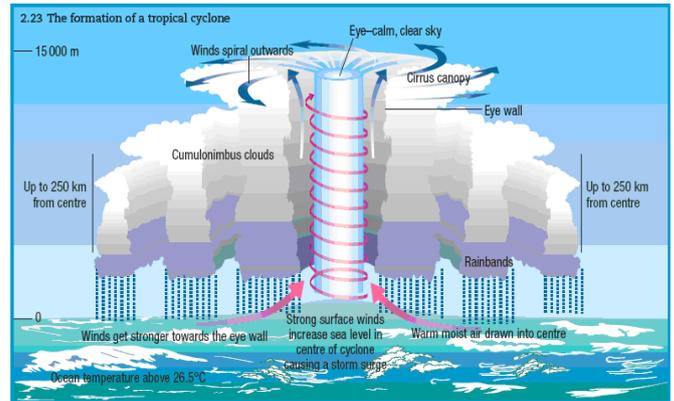
- In 'eye wall' and 'rain-band' region, latent heat of the warm seawater is released. This acts as energy source to drive the system. Therefore they become less intense once cut off from the sea and eventually die.
- They are variously known as hurricanes (Caribbean), Cyclones (Indian Ocean), Typhoons (China Sea), Willy-Willies (Australia).

Where are tropical cyclones formed?

- They occur in tropical areas, where seawater is warm enough (>27 C) to feed the cyclone with latent energy.
- They don't occur close to the equator, even when seawater is warm. This is because of the low Coriolis force in equatorial areas. Coriolis force makes the winds have to turn into central low pressure.
- They form closer to the Equatorial trough and therefore in Indian Ocean we have 2 peak seasons of cyclone occurrence: May and September.

How are they measured?

- The wind speeds are maximum at 15-20 kms from the central 'eye'.
- These wind speeds are used as a measure of intensity. For ex: cyclonic storm has a velocity of 62-88 kmph acc. to IMD scale.



7.3. ASIAN WATERBIRD CENSUS DATA

What is it?

- The Asian Waterbird Census (AWC) happens every **January** across Asia and Australia.
- It runs parallel to other regional programs of **International Waterbird Census (IWC)**, in Africa, Europe etc.
- In India, it is coordinated by **Bombay Natural History Society (BNHS)** along with **Wetlands International**
- It began in 1987 in Indian subcontinent

Objectives of Waterbird Census

- Obtain information of waterbird population on an annual basis **during non-breeding period of most species (January)** and use it as a basis for monitoring population and evaluate sites
- Annual monitoring of the status and condition of wetlands
- Encourage greater interest in waterbirds and wetlands amongst people and promote their conservation.

About waterbirds

- Waterbirds are defined as species of birds that are ecologically dependent on wetlands.
- These birds are an **important health indicator of wetlands** of a region.

Why in news

- The year 2016 marks the 50th global International Waterbird Census (IWC). With this, it has become the **world's longest running biodiversity monitoring programme**.
- The observations pertaining to wetland birds of Kerala done over a period of 27 years were released. This happens to be the **first countrywide citizen science activity on natural history**.

Notable Points

- There are several birds whose population have increased- Painted stork, Asian Openbill, Eurasian Spoonbill, Indian spotbilled duck, Asian woollyneck, Spotbilled pelican etc.
- The **Tern group of birds** show a sharp decline
- There are **4 Ramsar sites in Kerala**- Sasthamkotta Lake, Ashtamudi Lake, Vembanad Lake and Kole Wetlands

About Wetlands International

- Wetlands International is a non-profit organization established in 1937 as 'International Wildfowl Inquiry' and HQ in Netherlands.

7.4. SANGAI BROW- ANTLERED DEER

Why in News?

- The scientists of Wildlife Institute of India (WII) have been assigned with the task of providing second home to Sangai due to its depleting population in the area.

About Sangai

- The Sangai is an **endemic and rare** subspecies of brow-antlered deer found only in Manipur.
- It is also the **state animal of Manipur**
- Its habitat is restricted to the marshy wetland of **Keibal Lamjao** over the floating biomass in **Loktak lake** which is locally called '**phumdi**'.
- While walking on the floating biomass, Sangai often balances itself which looks as if it is dancing on the green grassland and therefore popularly called as '**dancing deer**' of Manipur.
- It is classified as 'endangered' by the IUCN but is part of MoEF's 'Recovery Programme for **critically endangered** species and habitats'.

Reasons for declining Sangai population

- Change in water regime due to construction of artificial reservoir and barrage. This is resulting in thinning of phumdi which is unable to bear the weight of deers.
- The shelter plants are stunted, mainly due to constant floating of phumdias making Sangai vulnerable to poaching.

Related information

- Loktak lake is one of the seven Ramsar sites of international importance.
- Keibal Lamjao is the only floating national park in India.
- Phumdi** is the floating mass of entangled vegetation formed by the accumulation of organic debris and biomass with soil.

Which of the following National Parks is unique in being a swamp with floating vegetation that supports a rich biodiversity? (2015)

- Bhitarkanika National Park
- Keibul Lamjao National Park
- Keoladeo Ghana National park
- Sultanpur National park

7.5. INTERLINKING OF RIVERS: DATA

Why in news?

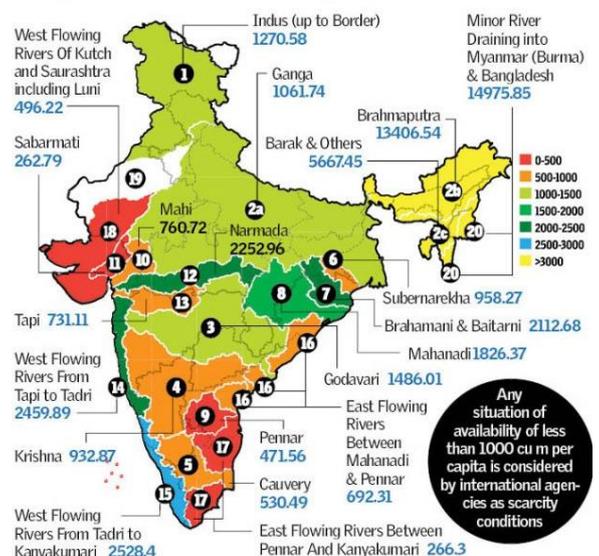
- Inter-linking of rivers is suggested as the solution to issues pertaining to drought and irrigation.
- Recently the government has also constituted a task force to study the prospects of inter-linking.

Data in support of interlinking

- There exist **widespread inter-basin inequality**; The Brahmaputra basin, for instance, can annually support nearly 13000 cubic metres per person, whereas the Mahi has a scarce 260 cubic metres per person
- It can boost per capita water availability for 220mn water-hungry Indians.
- An area twice the size of Andhra Pradesh can receive additional water for irrigation.

ESTIMATED PER CAPITA AVERAGE ANNUAL WATER AVAILABILITY (M³)

There is wide disparity in basin-wise water availability due to uneven rainfall and varying population density in the country. The availability is as high as 14057 cu m/year per capita in Brahmaputra/ Barak Basin and as low as 307 cu m/year/person in Sabarmati basin.



PER CAPITA WATER AVAILABILITY DECLINING

National per capita annual availability of water (cu m)	Year
1,816	2001
1,544	2011
1,140	2050

○ Cauvery, Pennar, Sabarmati and East Flowing rivers and West Flowing Rivers of Kutch and Saurashtra including Luni are facing acute water scarcity with per capita availability of water less than or around 500 cu m

Data against inter-linking

- Possibility of displacing nearly 1.5 million people due to the submergence of 27.66 lakh hectares of land.
- Cost to government will be about Rs. 11 lakh crores.
- Ecological effect- less flow of water to seas. E.g. in the Krishna river basin water storage in major and medium reservoirs has reached total water yield with virtually no water going into the sea in low rainfall years.
- Ganga's topography is flat- so the dams would not substantially add to river flows. But the adverse effect on monsoon and Himalayan forests would continue to happen.
- Excess water with donor basins might not remain forever. E.g. melting of glaciers due to climate change will devoid the Himalayan rivers of the perennial source.

Way ahead

- Alternatives like curbing demand by efficient utilization of existing water resources before making such big plans.
- Judicious use of canal water, suitable cropping pattern, efficient irrigation mechanism like drip infrastructure, and reviving traditional systems such as use of tanks.

(For more on Inter-linking river project refer to April month Vision Current Affairs)

7.6. IMPACT OF KEN-BETWA LINK ON TIGER POPULATION

Background

- The Ken-Betwa river linking project aims to irrigate the drought-ravaged Bundelkhand region.
- It involves building a 288-metre **Daudhan dam**, and transfer of surplus water from the Ken river basin to the Betwa basin.
- This will submerge nearly 400 of the 4,300 hectares of the Panna tiger reserve.
- Experts suggest that the result could be drastic for the tiger population, as they have to adjust to the changes.
- Impact area will be far greater with associated activities related to construction, power houses etc.
- A team of **wildlife experts have submitted a report** on the environmental impact of the project.
- While not endorsing or disapproving the project, the Panel has advised the government to ensure two things:
 - ✓ The proposed canal should not hinder tiger movement; and
 - ✓ There should be enough habitable forest land developed to compensate for the loss of tiger reserve land.

Benefits of the project

- New water will draw herbivores and thus additional prey and carcass in the region, resulting in benefits for tigers and vultures
- The area lost will be compensated; alternate forest land to the tune of double the area lost would be replenished with vegetation that had once existed in the region.
- The benefits to mankind is huge- additional water to 6.35 lakh hectares of land helping nearly 70 lakh people of the region.

About Panna tiger reserve

- Located in Madhya Pradesh
- Most notable for its tiger conservation programme. Tigers in the reserve had plummeted from 25 in 2006 to zero in 2009. Thereafter a spate of conservation efforts including translocation has resulted in increasing the population to 18 at present.
- Designated as **Biosphere Reserve** in 2011.

Recently Uttar Pradesh and Madhya Pradesh governments signed a Memorandum of Understanding for the linking of two rivers as a link project. Which are these two rivers? (UPSC 2006)

- (a) Betwa and Chambal
- (b) Betwa and Ken
- (c) Chambal and Son
- (d) Ken and Narmada

7.7. REPORT ON COASTAL MANAGEMENT

- An expert committee report on coastal management is pending with the MoEF since January 2015.
- Recently, Central Information Commissioner (CIC) has directed the MoEF to release the report. The decision has been taken on an application filed by environmental activist Kanchi Kohli under RTI.

Background

- In 1991, the first coastal regulation zone (CRZ) notification was issued under the Environment Protection Act, 1986.
- It gave powers to the central government to restrict industrial activities and processes in an area for the protection of the environment along the Indian coastline.
- This notification was amended 25 times before it was comprehensively revised in 2011.
- In 2014, the ministry constituted a committee under Shailesh Nayak, a secretary in ministry of earth sciences, to look into issues raised by various coastal states regarding the 2011 CRZ notification.
- The committee submitted its report in January 2015 and has been kept under complete secrecy since.
- The ministry has notified seven amendments to the CRZ notification since January 2015, facilitating heavy construction, coastal roads etc. in CRZ areas. This raises suspicion regarding govt's intentions, the CIC noted.

About Coastal Regulation Zone

- The coastal land up to 500m from the High Tide Line (HTL) and a stage of 100m along banks of creeks, estuaries, backwater and rivers subject to tidal fluctuations, is called the Coastal Regulation Zone (CRZ).
- It seeks to ensure livelihood security to the coastal communities, to conserve and protect coastal stretches and marine areas and promote sustainable development on scientific principles taking into account the dangers of natural hazards in the coastal areas and sea level rise.

7.8. HIMALAYAN BROWN BEAR SPOTTED IN KARGIL

- Recently a group of eight Himalayan brown bears were spotted in Ladakh's Drass Sector.
- Earlier, the 1999 Kargil war had caused significant destruction to their habitats.
- No Himalayan bear had been spotted in the region for many years.

About Himalayan Brown Bear

- Largest mammal in the Himalayan region
- Critically endangered status under IUCN due to loss of habitat and human persecution.

Wildlife in Ladakh Region

- Tibetan Antelope and Snow Leopard are endangered species.
- Bharal (Himalayan Blue Sheep), Tibetan Wild Ass and Ibex are prominent in the region.
- There are four major wildlife regions in Ladakh- Suru, Zaskar, Drass and Kargil.

7.9. WHEAT BLAST

Why in news

- The disease has recently entered the fields of Bangladesh. It can enter India by import, wind etc.
- However, experts say that the possibility is low because
 - ✓ Major wheat growing area is in north-western part
 - ✓ India is self-sufficient in wheat production and doesn't need to import
 - ✓ India's quarantine facility is much stronger than Bangladesh
- India can take measures like asking the Border States to not grow wheat in case the threat persists.

About Wheat Blast

- Wheat Blast is an agricultural disease that can cause more than 75 per cent yield loss in affected fields, rendering the region non-cultivable for years.
- It is caused by the '*Magnaporthe oryzae*' fungus, which also causes Rice Blast.
- It thrives in hot and humid climates.
- It was first identified in 1985 in Brazil and has since spread to other countries of South America.

7.10. DELHI NOT THE WORLD'S MOST POLLUTED CITY

- As per the Global Urban Ambient Air Pollution Database (update 2016) released by WHO, Delhi is no longer the most polluted city in the world.
- Delhi is placed 11th in terms of PM 2.5, and at 25th in terms of PM 10 among 3,000 cities in 103 countries.
- **Zabol in Iran** is placed at the most polluted city in the world closely followed by Gwalior and Allahabad. Patna and Raipur are also in global top 10.

About particulate matter

- It is the term for a mixture of solid particles and liquid droplets found in the air.
- It includes
 - ✓ 'Inhalable coarse particles', with diameters larger than 2.5 micrometers and smaller than 10 micrometers (PM 10); and
 - ✓ 'Fine particles', with diameters that are 2.5 micrometers and smaller (PM 2.5)
- They are formed in two ways
 - ✓ Primary particles; emitted directly from a source, such as construction sites, unpaved roads, fields, smokestacks or fires.
 - ✓ Secondary particles; formed due to complicated reactions in the atmosphere of chemicals such as sulfur dioxides and nitrogen oxides that are emitted from power plants, industries and automobiles.
- Particulate matter triggers or worsens asthma, heart attack, bronchitis and other respiratory problems. Exposure to fine particulates is linked to premature death from heart and lung disease.

7.11. INDIA BIODIVERSITY AWARDS 2016

About India biodiversity awards

- It is a **joint initiative** of the Ministry of Environment, Forest and Climate Change, National Biodiversity Authority and United Nations Development programme.
- The Awards recognise the contribution of a range of stakeholders towards the conservation of biodiversity and excellence in biodiversity governance
- The **four categories** of 2016 awards are:
 - ✓ Conservation of threatened species
 - ✓ Sustainable use of biological resources
 - ✓ Successful mechanisms/models for access and benefit sharing
 - ✓ Biodiversity Management Committee

Notable Winners Of The 2016 Awards

- Nature Conservation Founder and the Ghora-Abhe society for their **Hornbill Nest Adoption Programme** introduced in **Pakke Tiger Reserve** in Arunachal Pradesh.
- Purnima Devi Burman and *Hargilla army* for protection of **Greater adjutant Bird**
- Mawkyrnot SHG for sustainable use of 52-foot long **living roots bridge** in Mawkyrnot, Meghalaya
- **Gram Mooligai Co. Ltd.** In MP for involving local communities in developing medicinal plants.
- **Dudhai Biodiversity Management Committee** in Uttarakhand for banning illegal sand mining and reviving river ecosystems

About Pakke Tiger Reserve

- It is located in the **East Kameng district** in Arunachal Pradesh
- It was earlier known as Pakhui Tiger reserve.
- It is adjacent to Nameri National Park of Assam and Sessa Orchid sanctuary and Eaglenest Wildlife Sanctuary in Arunachal Pradesh.
- It is bounded by Pakke river and the Bhareli/Kameng river, both tributaries of Brahmaputra.

UPSC 2015

In a particular region in India, the local people train the roots of living tree into robust bridges across the streams. As the time passes these bridges become stronger. These unique 'Living Root Bridges' are found in:

- (a) Meghalaya
- (b) Himachal Pradesh
- (c) Jharkhand
- (d) Tamil Nadu

7.12. INDIAN WILD ORANGE

Why in news

- **Earlier it was reported only from the Garo hills of Meghalaya**, where it is locally called '**Biurengthai**' and is used for medicinal and spiritual purposes by the Garo people.
- However, **recently it has been found in Manipur as well**, in a remote village called Diolong.

About

- It is a native Indian species of citrus with the scientific name '***citrus indica***'.
- It is considered to be the **most primitive citrus** likely to be **an ancestor of all citrus fruits in the world**.
- It is an **endangered species** that require a specific microclimate.
- The Nokrek Biosphere Reserve is an important site for the species
- Major threat to the specie has been habitat destruction due to slash and burn (*jhum*) activity.

7.13. RISING SEA COVER AROUND ANTARCTICA

- Recent observations present a contrary picture in the two poles of earth. While the sea cover around Antarctica is rising, the sea ice in Arctic sea is melting away.
- The **reason for this lies in the geology of Antarctica and the Southern Ocean**, a new NASA-led study has found.

What the study says

- **Two specific geological factors** in Antarctic region are playing a role.
 - ✓ The **topography of Antarctica** is influencing the flow of winds
 - ✓ The **depth of the ocean** around the landmass affect the circulation of ocean currents
- These two, in turn, affect the process of formation of Antarctica's sea ice cover and its sustainability.

How does it happen?

- The sea ice forms and builds up early in the sea ice growth season.
- This ice later due to winds gets pushed offshore and northward forming a protective shield of thicker, older ice that circulates around the continent.
- The persistent winds flowing down slope off the continent plays help in piling of ice up against the massive ice shield, enhancing its thickness.
- This thick band of ice protects and encapsulates the younger, thinner ice from being reduced by winds and waves.

- This ice drifts away from the continent as the sea ice cover expands creating ice factories conducive to rapid sea ice growth.

7.14. INDIA IS 5TH LARGEST PRODUCER OF E-WASTE

- India is the 5th largest producer of e-waste in the world discarding roughly 18.5 lakh metric tonnes of e-waste each year, a joint study by Assocham-KPMG reveals.
- **12% of the waste is contributed by the telecom sector alone**, with 25% of the mobiles in circulation ending up in e-waste annually.
- The MoEF has recently notified the e-waste management rules 2016 introducing, *inter alia*, extended producer's responsibility (EPR).
- The main issue is that 95% of the e-waste in the country is handled by unorganized sector.

(For more on E-waste management rules please refer to the March edition of VisionIAS Current Affairs)

7.15. IMPACT OF THERMAL STRESS ON CORALS IN INDIA

- Instances of coral bleaching are being reported from Lakshadweep and parts of Andaman islands.
- This is mainly due to thermal stress in the form of increase in Sea Surface Temperature (SST) during April.
- The SST was in the dangerous range of 32 degree Celsius but it came down due to the rain in the Bay of Bengal. **The corals can survive when the SST is between 20-32 degree Celsius.**
- In Lakshadweep, bleaching was reported in the water around the islands of Kavarathy, Agathy and Bangaram. But it didn't reach alarming levels.

7.16. MISSION INNOVATION

MI was announced on November 30, 2015 by the leaders of 20 countries that have a shared desire to accelerate global clean energy innovation during COP 21 in Paris

- It aims to accelerate global clean energy innovation with the following aims
 - ✓ to make clean energy affordable
 - ✓ to address climate change
 - ✓ to create green jobs and commercial opportunities
- It includes participating countries doubling their clean energy R&D investment
- It is required to meet economic and energy security goals in timely manner
- India is Founding Member of the Steering Committee and also a Member of the two sub-groups: Joint research and Capacity Building and Private Sector Engagement.

7.17. CANCER CAUSING CHEMICALS IN PACKAGED BREAD

Highlights of Centre for Science and Environment study

- Bread manufacturers are using Potassium bromate and potassium iodate in breads that may have potential health effects.
- Effects of Potassium bromate - International agency for research on cancer (IARC) classified it as class 2B – possible carcinogenic
- Effects of Potassium iodate - It can lead to excess intake of iodine which could affect thyroid function

Have manufactures violated norms?

In India, Potassium Bromate is permitted to be used up to certain levels in bread, flour and refined flour and according to CSE study; no bread had violated these limits

International norms

- Potassium bromate – banned in EU and China but permitted in US
- Potassium Iodate - banned in EU, UK, Australia

Reaction to study

- FSSAI - announced its decision to remove potassium bromate from the list of permitted additives. Ban will be notified soon. It is examining evidence against potassium iodate before restricting its use
- All India Bakers association has decided voluntarily to stop using these and use safer alternatives – ascorbic acid, enzymes and emulsifiers.

7.18. SEECHEWAL MODEL TO CLEAN YAMUNA

- This model is named after noted environmental activist Balbir Singh Seechewal.
- He has played a prominent role in reviving the Kali Bein rivulet (a rivulet of Beas river) in Punjab.

The method includes cost efficient and simple methods

- Decentralized natural treatment system - oxidation pond & settling tanks
- Processes used to remove floating materials
- Maintenance of flow of water which ensures self-purification of the river

It has great historical importance in Sikhism as it is said that Guru Nanak Dev had got enlightenment in Bein in the 15th century.

7.19. HANGUL MAY GO EXTINCT

Hangul, also known as Kashmir Deer, is an endangered species mainly concentrated at Srinagar's Dachigam National Park. The reasons for its dwindling numbers are

- Domestic livestock grazing by Kashmir's "bakarwal" community - the nomadic tribe practicing goat herding and shepherding.
- Full-fledged government-run sheep breeding centre inside the park which causes bacterial infections that affect foetuses resulting in a low birthrate of hangul
- Human activities - security forces, offices of fisheries, protocol, and tourism departments inside the park
- Construction of structures outside the park by some influential people in complete violation of rules.

7.20. TAJ MAHAL TURNS GREEN

- The historical monument is turning green due to release of faeces and dirt by insect, *Geoldichironomus* (*Chironomus calligraphus*).
- Yamuna has become so stagnant due to pouring of waste directly into it, that fish that earlier kept insect populations in check are dying.
- This is resulting into "explosive breeding" of the insect, which is a biological indicator of water quality and localised water pollution.

8. CULTURE

8.1. 'MUD PALACE' TO GET A MAKEOVER

- The restoration work of a part of a 500 years old unique mud palace is about to get completed
- The palace is located in Sural village, close to Udupi in Karnataka.

Uniqueness of the palace

- It has **no foundation and is supported by wooden pillars** using the inter-locking method
- **Not a single nail was used** in the construction.
- The palace belongs to the **House of Tulu Jain Tholahars, the Jain chieftains**, who ruled parts of Udupi district for 400 years till the end of 17th century.

Restoration

- The restoration of only a portion has been sanctioned.
- The restoration work is taken up by Nirmitti Kendra at a cost of Rs. 1.6 crore, funded by the Department of Archaeology, Museums and Heritage, under Ministry of Kannada and Culture.
- The restoration would increase awareness among people of the rich **heritage of coastal Karnataka**.

8.2. MAHABODHI TEMPLE

Why in news?

- During the Vesak poya festival in Sri Lanka recently, a **lantern was modeled on the stupa at Mahabodi temple** and was kept for display near the Gangaramaya temple in Colombo.

About Mahabodhi temple

- Located at Bodhgaya, Bihar, it marks the location where **Buddha is said to have attained enlightenment**
- **One of the oldest brick structure in eastern India**, it influenced the development of brick architecture over the centuries
- The first temple was built by Emperor Asoka in the 3rd century BC. However, the present temple is of the 5th-6th century CE, belonging to the late Gupta period.
- It was declared a **UNESCO World Heritage Site in 2002**.

About Vesak

- Vesak poya, aka **Buddha Purnima** and **Buddha Day**, is a holiday observed traditionally by Buddhists on different days in South Asian and South-East Asian countries.
- It **commemorates the birth, enlightenment (nirvana) and death (parinirvana) of Gautam Buddha** in the Theravad or southern tradition.
- The name of the observance represents a month in the Hindu calendar falling in April-May i.e. *Vaishaka*.
- On this day the followers gather and sing hymns in praise of the holy triple gem: The Buddha, The Dharma (his teachings), and The Sangha (his disciples).

Consider the following sites/monuments:

1. Champaner – Pavagadh Archaeological Park
2. Chhatrapati Shivaji Railway Station, Mumbai
3. Mamallapuram
4. Sun Temple (Konark Temple)

Which of the above are included in the World Heritage List of UNESCO? **UPSC 2005**

- (a) 1, 2 and 3
- (b) 1, 3 and 4 only
- (c) 2 and 4 only
- (d) 1, 2, 3 and 4

8.3. BHARATVANI PORTAL LAUNCHED

What is it?

- A **multilingual knowledge portal**.
- It aims to deliver knowledge about various languages in India using multimedia formats through a portal.
- It is a **project of the Ministry of HRD** and was launched at Lucknow
- It will be **implemented by Central Institute of Indian Languages (CIIL) Mysuru**.

Salient features

- It will focus on becoming single point source for multiple language learning, content and technology.
- It will be an inclusive, interactive and dynamic platform.
- It is proposed to develop it as the **largest language portal** in the world by aggregating multimedia content from all Indian writers, govt. and non-governmental institutions
- It will also include a mobile app based multi-lingual dictionary.
- The portal has been launched in 22 scheduled languages, and will be later extended to 100 more languages

Significance

- It will **foster national integration** by bridging the Digital and language divide
- It is a step towards **protection, preservation and inclusion of all Indian languages** through technological development without discrimination.
- It will also put the **linguistic diversity and culture** of India on a global platform via cyber space.
- The massive data with Bharatvani will leverage **R&D** in Indian languages. It aims to be a single point online window to knowledge in and about Indian Languages, dictionaries, language IT tools and textbooks.
- It will be a big help in the initiatives of skill India, tourism industry etc.
- It is also an effort towards **Open Knowledge movement** with the help of involvement of people.

8.4. 'KA BOM' DRUM

- Traditional drum of **Khasi community in Meghalaya**.
- Prime Minister Narendra Modi tried his hand on the drum while on his visit to Meghalaya at the 65th plenary session of North-Eastern Council.

8.5. NARIKURAVA TRIBE

Why in news

- They have recently been included in the Scheduled Tribe category by the union government.
- There is gradual change seen as they got the first engineer from their community recently.
- Their inclusion in the ST list will open up educational and job opportunities. More affirmative action is necessary to bring this marginalized community into the mainstream.

Who are they?

- Narikurava is an indigenous community from the Indian state of Tamil Nadu.
- It is **one of the most socially and educationally backward communities in India**.

Issues with the community

- Their traditional occupation is hunting. But they were prohibited from entering forests. So they moved on to selling beaded ornaments for survival.
- During British rule they were placed under Criminal Tribes Act, 1871. Though they were de-notified after independence, the stigma continues.
- They did not benefit from the Social Justice movement in Tamil Nadu as they were not seen as sons of the soil. They are considered migrant from Maharashtra with a unique tongue called **vagriboli**.

Procedure for inclusion into ST list

- The criteria includes indication of primitive traits, distinctive culture, geographical isolation, shyness of contact with community at large and backwardness
- STs are specified under **A.342** of the Constitution.
- The proposals of the state government/UTs must be agreed upon by the Registrar General of India (RGI) and the National Commission for Scheduled Tribes (NCST)

Which one of the following statements is not correct?

UPSC 2005

- (a) There is no definition of the Scheduled Tribe in the Constitution of India.
- (b) North-East India accounts for a little over half of the country's tribal population
- (c) The people known as Todas live in the Nilgiri area
- (d) Lotha is a language spoken in Nagaland

8.6. SULBASUTRAS

- Several Sanskrit texts collectively called Sulbasutras were written by the Vedic Hindus starting before 600 BC. They are written in late Vedic Sanskrit.
- There are four major Sulbasutras namely, Baudhayana, Manava, Apastamba and Katyayana with Baudhayana being the oldest.
- In Sulbasutras, sulba, means a rope or a string. The measurements for geometrical constructions are performed drawing arcs with different radii and centres using a 'sulba'.
- They are vedic appendices to the Kalpasutra family and contain geometry related to fire altar construction.
- For the rituals to be successful the altar had to conform to very precise measurements, so mathematical accuracy was seen to be crucial.
- Unique fire altar shapes were associated with unique gifts from the God. For example those desiring the heaven were to construct a fire altar in the shape of a 'falcon'.
- It is difficult for historians to estimate whether the mathematical information in Sulbasutras was for its own sake like the Greeks did, or was it only for the sake of religious rites.
- Some of the rules like constructing a square with an area equal to a rectangle are exact but rules for constructing a square with an area equal to a given circle are approximations.
- A. Seidenberg in his work "The Origin of Mathematics" has pointed out that while ancient Babylonians possessed knowledge of Pythagoras theorem, it was very basic, it is explicitly stated only in the Sulbasutras later.

8.7. FIRST NATIONAL TOURIST CIRCUIT

- The Ministry of Tourism is set to announce the **Buddhist Circuit** as India's first trans-national tourist circuit.

Background

- The development of Buddhist circuit is part of the **Swadesh Darshan Scheme, announced in 2014** whereby integrated theme based tourist circuits will be developed.
- The themes can include features that are unique and specific to the area and can range from religion, culture, heritage etc.
- The scheme includes the North-East Circuit, Buddhist Circuit, Himalayan Circuit, the Coastal Circuit and the Krishna Circuit.
- In a separate announcement the government also announced another fifty circuits across the country for the development of tourism in the country.

Buddhist Circuit

- The map of the Buddhist circuit as envisaged by the Ministry includes Bodh Gaya, Vaishali, Rajgir in Bihar, Kushinagar, Sarnath and Shravasthi in UP, along with Kapilvastu and Lumbini in Nepal.

Bodh Gaya

- Located in Gaya district, Bihar, this is one of the four most important pilgrimage sites for Buddhists. It is the place where Buddha is believed to have attained enlightenment under the Bodhi Tree.
- The Mahabodhi Temple Complex became a UNESCO World Heritage Site in 2002.



Vaishali

- It is a district in Bihar named after the ancient city of Vaishali of Mithila mentioned in the Mahabharat. It is important to both Buddhists and Jains.
- It was the capital of Lichchavi dynasty considered one of the first example of a republic in Vriji Mahajanapada.
- Buddha preached his last sermon here before his death in 483 BC. In 383 BC the Second Buddhist Council was convened here.
- It also contains one of the best preserved Ashokan pillars topped by a single Asiatic lion.

Rajgir

- Located in the Nalanda district of Bihar, it was the first capital of Magadhan kingdom. This too is of importance to both Buddhists and Jains.
- Buddha is believed to have delivered several of his sermons here during his twelve year stay here. Also Buddha is believed to have set in motion his second wheel of law here.
- The first Buddhist Council was also held here.

Kushinagar

- Kushinagar is in Uttar Pradesh. This is where it is believed that Buddha attained Parinirvana. It is an International Buddhist pilgrimage centre.

Sarnath

- The city of Sarnath is located in UP on the confluence of the rivers Ganges and Gomati.
- It is in Sarnath that Buddha first taught the Dharma after attaining enlightenment.

Shravasthi

- Shravasthi is located near west Rapti river in UP. The ancient city of Shravasthi was the capital of the Kosala.
- It is believed that Buddha spent fourteen Chaturmases (a holy period of four months) here.
- The many old stupas, viharas and temples in the city establish its association with Buddha.

Kapilvastu

- Kapilvastu is located in southern Nepal. In ancient times Kapilvastu was the capital of the Shakya kingdom where Siddhartha was believed to have stayed with his parents till he left the palace at the age of 29.

Lumbini

- Lumbini is a Buddhist pilgrimage site in the Rupendehi district of Nepal. It is believed by Buddhists to be the place where Queen Maya gave birth to Gautama Siddhartha in 563 BC.
- It became a UNESCO world heritage site in 1997.

8.8. INDUS VALLEY CIVILIZATION

IIT Kharagpur and Archaeological Survey of India in a study published in the 'Nature' journal have made some course changing revelations about the Indus Valley Civilizations.

Origins

- They have uncovered evidence that Indus Valley Civilization might be **8000 years old** rather than 5500 years old as previously estimated.

- This means that it took root well before Egyptian Civilization (7000 to 3000 BC) and Mesopotamian Civilization (6500-3100 BC).
- The researchers have also found evidence of a Pre-Harappan Civilization that existed 1000 years before this.
- They used a technique called “optically stimulated luminescence” to date pottery shards.

Expanse

- The scientists believe that the Indus valley civilization spread to a vast expanse stretching to the banks of the now lost Saraswati river or Ghaggar-Hakra river but this has not been studied enough.
- They found that it proliferated to other Indian sites like Bhirrana in Haryana apart from the now known locations.

Decline

- Through an oxygen isotope composition study in bones and tooth remains from the sites, which preserve the traces of ancient meteoric water, the intensity of monsoon rains can be found.
- This technique was used to determine that rainfall was much stronger between the period 9000 to 7000 years from now.
- The study revealed that rainfall started weakening around 7000 years ago which coincided with de-urbanisation, de-population, violence etc in late Harappan sites but the civilization did not disappear.
- The people adapted to the climate change by shifting from large grained cereals like wheat and barley to drought resistant varieties of rice.
- The climate change led eventually to the de-urbanisation of the civilization rather than an abrupt collapse.

8.9. KASHMIRI AND NASTALIQ SCRIPT

Why in News?

The report by MHRD to constitute a National Council for Promotion of Kashmiri Language with Devanagari and Sharda as its script led to opposition from the Kashmiri literary community for ignoring the Nastaliq script.

Kashmiri Language and Nastaliq script

- The Kashmiri language has been facing decline in the state because of the usage of Urdu over Kashmiri.
- Kashmiri is written mostly in Nastaliq script but also in the more ancient Sharda script, and in Devanagari script.
- Sharda is an ancient Western Himalayan script which evolved from the Brahmi script. It was the popular script in the region till the arrival of Nastaliq script along with Islam.
- Nastaliq script is a Arabo-Persian calligraphy script that has been in vogue for the past five centuries and most of the Kashmiri literature is in this script.
- A cursive script, Nastaliq was a combination of the nakshi and taliq styles, featuring elongated horizontal strokes and exaggerated rounded forms.

8.10. 1000TH BIRTH ANNIVERSARY OF SRI RAMANUJA

- In May, India celebrated Sri Ramanujar Sahasrabdi, the seer’s 1000th birth anniversary celebrations.

About Sri Ramanuja

- Ramanuja, born in Tamil Nadu in the 11th century was a Bhakti saint of medieval India.
- He was deeply influenced by the Alvars.
- According to him the best means of attaining salvation was through intense devotion to Vishnu.
- He propounded the doctrine of Vishishtadvaita or qualified oneness in that the soul even when united with the God remained distinct.
- Ramanuja’s doctrine greatly inspired the new strand of bhakti, which developed in north India subsequently.

Relevance Today

- His virtue was compassion: his means, integration. These values are much needed today.
- He is considered the progenitor of the Neo-Vedantists of modern Indian renaissance.
- He felt for the downtrodden, he sympathised with them.
- His management of the famous temple of Sri Ranganatha involving all sections of the society and introducing several socially relevant schemes like plentiful 'annadaana' have endured till this day as we see the innumerable Ramanuja Koots spread all over India.

- **Nayanars** and **Alvars** discussed in March, 2016 Current Affairs Notes.
- **Vishistadvaita** means modified monism. The ultimate reality according to this philosophy is Brahman (God) and matter and soul are his qualities.

8.11. HUMAYUN'S TOMB

Why in news?

- A team of experts used traditional craftsmanship with industrial precision to return the gilded finial to 16th century Humayun's Tomb after it was knocked in a storm 2 years ago.
- The 18-ft ornamental ensemble was given a coating of 22-carat gold to match its original splendour.
- Archaeological Survey of India commissioned Aga Khan Trust for Culture (AKTC).
- The finial was last dismantled and repaired by British in 1912, who also did a documentation of the object.

About the tomb

- The tomb was built by his widow, **Begha Begum** in **Delhi**.
- The building was constructed with **red sandstone**, edged with white marble.
- The grand mausoleum is a synthesis of Persian architecture and Indian traditions. It is also inspired by Syrian and earlier Islamic models.
- It served as an architectural inspiration for Mausoleum of Jahangir at Shahdara, Lahore, as well as the Taj Mahal, at Agra.
- The tomb stands in the centre of a square garden, divided into four parts by causeways ('**charbagh**'), in the centre of which ran shallow water-channels.
- The arched alcoves, corridors and a high double dome as well as the kiosks (chhatris) give it a pyramidal shape from a distance.

8.12. SKYES-PICOT AGREEMENT

Why in news?

May 9, 2016 marked the 100 years since the signing of the Sykes-Picot Agreement.

What is Skyes-Picot agreement?

- It was a secret pact between the French and the British, with the assent of Russia, to chop up the Ottoman Empire as their sphere of influence after World War I.
- Mark Sykes and François Georges-Picot were British and French diplomats who negotiated the terms of the agreement.
- The British obtained mandates over Palestine and Iraq; the French got what is now Syria.



Implication in contemporary era

- It symbolizes the Western destruction of the dream of Middle East unity – first political, now religious.
- The agreement led to warring communities of Middle East being bundled together as new nations such as Iraq and Lebanon, kicking off the conflicts that still persist.
- These conflicts are also one of the major reasons behind the rise of ISIS and terrorism in the region.
- It also shows the evolution of the British policy in West Asia from an extension of the Great Game to control the land route to India, to a commitment to establish a Jewish homeland in Palestine.
- The agreement divided the Kurds across four countries and made them a minority community everywhere – a major reason behind their persecution and misery.

8.13. MOGAO CAVES

- The Mogao caves, hundreds in number in south-east of the Dunhuang oasis, Gansu Province of China are carved into the cliffs above the Dachuan River in the middle of the dry Gobi desert.
- Endowed with wall paintings, painted sculptures, ancient architecture, movable cultural relics and their settings, they describe the epic story of the journey of Buddhism as they were excavated for meditation and as retreats for monks.
- Buddhist cave art, which originated in India in the 3rd century C.E., travelled to Dunhuang, which was a major point of intersection along the Silk Road, and Bamiyan, Kucha-Kizil, Turfan.
- These works provide an abundance of vivid materials depicting various aspects of medieval politics, economics, culture, arts, religion, ethnic relations, and daily dress in western China.
- They have an amalgamation of Han Chinese artistic tradition with ancient Indian and Gandharan customs and the arts of the Turks, ancient Tibetans and other Chinese ethnic minorities.
- The Mogao Caves were inscribed on the World Heritage List in 1987. As a State Party, China has put all World Heritage sites under top-level protection.

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9. ALSO IN NEWS

9.1. GLOBAL SLAVERY INDEX 2016

Recently, Australia based the Walk Free Foundation has published the Global Slavery Index 2016.

About Walk Free Foundation

It is a **global organisation with a mission to end modern slavery** in our generation by mobilising a global activist movement, generating the highest quality research, enlisting business, and raising capital to drive change in those countries and industries bearing the greatest responsibility for modern slavery today.

What is Modern Slavery?

It refers to **situations where one person has taken away another person's freedom — their freedom to control their body, their freedom to choose to refuse certain work or to stop working —so that they can be exploited.**

Highlights of the report

- It estimates that 45.8 million people are subject to some form of modern slavery in the world.
- This year's estimates are **nearly 30% higher than in the previous report of 2014**, with 35.8 million.
- The countries with the highest estimated prevalence of modern slavery by the proportion of their population are North Korea, Uzbekistan, Cambodia, India, and Qatar.
- The countries with highest absolute numbers of people in modern slavery are India (18.35 million), China (3.39 million), Pakistan (2.13 million), Bangladesh (1.53 million), and Uzbekistan (1.23 million).
- **Factors:** Vulnerability to modern slavery is affected by a complex interaction of factors related to the presence or absence of protection for rights, physical safety and security, access to the necessities of life such as food, water and health, and patterns of migration, displacement and conflict.

9.2. SMART CITY MISSION: UPDATES

- 13 more cities have been included in the first phase of the government's smart cities mission in addition to 20 urban centres that had already been selected in January.
- These 13 cities have been selected from 23 cities which took part in a fast-track competition
- With these additions, it is expected that the distribution of smart cities across individual states will become more balanced

9.3. TWITTER SEVA

What is Twitter Seva?

- It is a service through micro-blogging platform Twitter.
- It helps process a large volume of tweets and assigns them to the relevant authority for real-time resolution.
- It is currently being used, to address issues & grievances, by Ministry of Commerce, Ministry of External Affairs and Ministry of Railways, besides the Bengaluru Police.
- Through this government is making a shift, from using the platform to communicate, to deliver e-governance services as well. It is an innovation happening pretty much only in the Indian market."

Export of Twitter Seva

Right now it is an India-only product but seeing its success here, this service will now go from India to other geographies like the U.K. and the UAE and a few countries.

9.4. THE PARIS PEACE SUMMIT

A one-day Israeli-Palestinian peace summit was held in Paris. Foreign ministers from 29 countries attended the summit to discuss the stalled Israeli-Palestinian peace process.

Outcome of Summit

Closing statement defined the summit's main goal - **the two-state solution** - and established that the status quo was unsustainable.

- The foreign ministers were **“alarmed by the actions on the ground,”** in particular continued acts of violence and settlement activity. They did not accept the Israeli position that Palestinian terror and rejectionism is at the base of the conflict.
- According to the statement the goal is, **“fully ending the occupation that began in 1967”**.
- It also called for an **international conference** on the issue before the end of the year.

9.5. WORLD HUMANITARIAN SUMMIT (WHS)

The United Nations World Humanitarian Summit (WHS) was held in Istanbul. It is an initiative of the Secretary-General of UN and is being organized by the Office for Coordination of Humanitarian Affairs (UN OCHA).

Purpose of the Summit: The purpose of the summit is to set a forward-looking agenda for humanitarian action to collectively address future humanitarian challenges. The aim is to build a more inclusive and diverse humanitarian system committed to humanitarian principles.

Goals of the summit: The three main goals of the summit are:

- Reaffirm our commitment to humanity and humanitarian principles.
- Initiate actions and commitments which enable countries and communities to prepare for and respond to crises and be more resilient to shocks.
- Share best practices which help save lives around the world, placing affected people at the Centre of humanitarian action and alleviating suffering.

9.6. US PRESIDENT'S VISIT TO HIROSHIMA

American airmen launched world's first atomic strike on Hiroshima on August 6, 1945. A second bomb hit Nagasaki three days later. **Harry Truman** was the President of US at that time.

- Barack Obama became the first sitting US President to visit Hiroshima.
- Two other top US politicians have visited the site of bombing, Former President Jimmy Carter, in 1984, visited the site three years after he left office.
- Richard Nixon went in 1964, four years before he won the presidential election.

9.7. RED FLAG

The Air Forces of India and the US concluded four-week “Red Flag” aerial combat exercises at Alaska.

9.8. DESERT EAGLE II

A bilateral Air Force exercise between India and United Arab Emirates (UAE) was held at Al-Dhafra Air Base in UAE.

9.9. CAPITAL GOODS SECTOR POLICY

- Cabinet has cleared the **first ever** Capital Goods Sector Policy on May 2016. It would be implemented by the **Dept of Heavy Industries**.
- Policy envisages increasing exports from Current 27 % to 40% of production & increase share of domestic production from 60 % to 80 %, thus making India a net exporter.
- Some of the key issues addressed in the policy include availability of finance, raw material, innovation and technology, productivity, quality and environment friendly manufacturing practices, promoting exports and creating domestic demand.

Note: Kindly refer to the February edition of Current affairs for details on National Capital Goods Policy.

9.10. CAR SCRAPPING POLICY

Government is considering incentives to encourage vehicle owners to scrap old cars

How? Tax concessions and matching discount from the car manufacturer

Benefits

- Reducing pollution – faster transition to newer technology including Euro VI emission norms from April 2020
- Boosting growth of the industry - sales will increase and costs will come down for manufacturers
 - ✓ Car scrapping yards can also be set up close to ports.
 - ✓ Then waste from abroad will be brought in at a cheaper rate to increase raw material availability for carmakers.
 - ✓ This will help to reduce cost of new cars and spare parts.
- Bigger revenue for the government – from increased manufacturing, sales and exports

9.11. TATKAL SYSTEM TO EXPEDITE PATENT EXAMINATION

In News

- Government has amended rules and introduced a faster (tatkal) system to expedite examination of patents
- This system will be used for start-ups as well as entities choosing India for the first filing of patent.
- Applications for tatkal route of patent examination have to be filed only electronically

Reason for the move

- 2.37 lakh patent applications pending in the country.
- High time for patent examination inhibiting patent filing in India

Benefits of the Move

- Will bring down the time for patent examination from 5-7 years to 18 months by March 2018
- Will increase number of patents filed in India and popularize India as patent filing hub

9.12. SEBI TIGHTENS NORMS TO CURB BLACK MONEY INFLOW

- SEBI has recently introduced new measures to check the flow of black money into the country by tightening the norms for issuing Participatory notes (P- Notes) or Overseas derivative instruments (ODIs) in line with the recommendations of the Supreme Court monitored SIT on Black Money.
- It has introduced Know Your Client (KYC) compliance for holders of these instruments to bring them at par with domestic investors and has also sought information on the ultimate beneficiaries of these products.
- In case ODIs are transferred, the issuer should give the complete trail of such transfers to SEBI on demand.
- As of now P-Note investors did not need to present proofs of residence and identity and thus had become a favourite route for entry of black money into Indian markets through Tax haven countries.

- SEBI also asked the top 500 listed companies by market capitalization to formulate a dividend policy to help investors take a better decision while investing in the stocks of these companies.
- The dividend policy may include the circumstances under which their shareholders can or cannot expect dividend, the financial parameters that will be considered while declaring dividends, internal and external factors that would be considered for declaration of dividend, policy as to how the retained earnings will be utilized and provisions in regard to various classes of shares.

9.13. MEMORANDUM OF PROCEDURE FOR APPOINTMENT OF JUDGES

- Government of India had finalised the new Memorandum of Procedure (MoP) on Appointment of Judges of Supreme Court and High Courts and sent it to the Chief Justice of India.
- In the MoP, the government, for the first time has sought to include “merit and integrity” as “prime criteria” for appointment of judges to the higher judiciary.
- It has also proposed selection of up to three lawyers and jurists as Supreme Court judges.
- Documentation of the reasons why a senior judge was overlooked for elevation to Supreme Court, and establishment of a permanent secretariat to maintain records are other key features of the MoP.
- The Supreme Court has not accepted the MoP completely and suggested changes to be made.
- The MoP provides that once the Centre has rejected a recommendation, it will not be bound to reconsider it
- The Supreme Court has questioned the Centre's right to reject its recommendation on the ground of national interest
- The Supreme Court has also opposed the idea that the Attorney General in Centre and Advocates General in states should have a say in recommending candidates for appointment/elevation.

9.14. FOREIGN FIRMS TO FUND POLITICAL PARTIES

- The Centre has brought a retrospective amendment in Foreign Contribution Regulation Act (FCRA), 2010 (Finance Bill route) to ensure that donations made by foreign shareholding companies to Indian entities including political parties will not attract provisions of the FCRA, 2010.
- It assumes significance as such funding from foreign donors will bypass government scrutiny.
- The Representation of the People Act bars political parties from receiving foreign funds.
- Currently, any company in India with foreign investments of over 50% is considered as a “foreign source”.
- After the amendment, cases where the nominal value of share capital is within the limits specified for foreign investment under the FEMA, 1999 and the company meets sectoral requirements, then even if the nominal value exceeds the ceiling of 50% shares, it would not be considered as “foreign source”

Why is it important?

- It will bring transparency in election funding and avoid unnecessary litigations.
- Some parties are opposing it on the grounds that the amendment will favor the 2 main National Parties who have been found to violate the existing laws during the 2014 Lok Sabha elections.

9.15. PORTAL FOR NET ZERO ENERGY BUILDINGS (NZEB)

- Ministry of Power and the United States Agency for International Development (USAID) have launched India's first integrated web portal designed to promote and mainstream Net Zero Energy Buildings (NZEB).
- The portal provides complete information about Net Zero Energy Buildings – buildings that generate as much energy as they use.
- The portal also helps to achieve near-zero energy status through the use of efficient lighting and equipment, integration of renewable energy technologies, and best practice design strategies.

- The NZEB Alliance, an industry-wide body setup to drive the Indian markets toward highly energy-efficient buildings is also hosted on the portal.
- Policymakers, developers, architects, engineers, sustainability consultants, and academia will get all sorts of information on this portal to make buildings more and more energy efficient.

9.16. CENTRE PREPARES TO DILUTE WETLAND PROTECTION RULES

Why in news?

- The Draft Wetland (Conservation and Management) Rules, 2016, have been proposed to replace the older Rules from 2010, which was creating lot of hurdles in implementation and several states were yet to notify wetlands under the 2010 Rules.
- The draft 2016 Rules seek to decentralise wetlands management to states, with the Centre having a say only in “exceptional cases”.

Key features of the Draft 2016 Rules

- It proposes the removal of Central Wetland Regulatory Authority (CWRA), created under the 2010 Rules, and its replacement by a State Level Wetland Authority in each state, with the powers to identify and notify wetlands vested in the Chief Minister.
- The draft has asked the state authorities to take “necessary directions for conservation and sustainable management of wetlands” and has done away with periodical review of the list of wetlands and the activities prohibited in them.
- It has done away with the time-bound process for notification of wetlands under the new rules.
- The entire list of permitted activities, apart from reclamation, has been deleted and the state can now allow activities that make “wise use” of wetlands at its discretion.
- The newly drafted rules have removed the provision for wetland complexes dependent on each other, which was there in the 2010 Rules.
- No Environment Impact Assessment (EIA) is needed to start an activity in wetland as per new rules, whereas it was mandatory under the 2010 Rules.
- Whereas the earlier rules had specified size of wetlands to be governed by them, now only those wetlands notified by the state government; no size specified.

Why is the draft being criticized?

- Looking at the track record of states in implementing the 2010 Rules, some believe that the new Rules will lead to dilution and states will not be able to conserve the Wetlands critical for our defence against droughts and floods.

9.17. SMART PAPER

- Scientists have developed Smart Paper, which is a high-tech polypropylene synthetic paper with sensing capabilities that can respond to gesture commands and connect to the digital world.
- The method relies on small inexpensive radio frequency (RFID) tags that are stuck on, printed or drawn onto the paper to create interactive, lightweight interfaces.
- These interfaces, which turn into sensors, can recognize the specific movements, and classify a signal interruption as a specific command.
- The technology used is PaperID that leverages off-the-shelf RFID tags, which function without batteries but can be detected through a reader device placed in the same room as the tags.
- Through this technology, connecting real-world items such as a paper airplane or a classroom survey form to an Internet of Things environment may be possible.
- This new technique is not limited to use on paper. It is Ideal for safety tags, menus, covers, charts, manuals and baggage tags.

9.18. WORLD'S FIRST HOLOGRAPHIC FLEXIBLE SMARTPHONE

- Scientists have claimed to develop the world's first holographic flexible smartphone called HoloFlex that lets users interact with 3D videos/images without any headgear, glasses or other restraints.
- HoloFlex, is capable of rendering 3D images with motion parallax and stereoscopy to multiple simultaneous users and features as full HD Flexible Organic Light Emitting Diode (FOLED) touchscreen display.
- Images are rendered into 12-pixel wide circular blocks allowing the full view of the 3D object from a particular viewpoint.
- HoloFlex is also equipped with a bend sensor, which allows the user to bend the phone as a means of moving objects along the z-axis of the display in addition to the usual swiping along X and Y axes using the touchscreen.
- By employing a depth camera, users can also perform holographic video conferences.

9.19. ADITYA-L1 SATELLITE FOR SOLAR STUDY

- ISRO is preparing for launching Aditya-L1 satellite for solar studies which is an improvement over the Aditya-1 mission, that was conceived to be launched in a 800 km low earth orbit to study the solar corona.
- A Satellite placed in the halo orbit around the Lagrangian point 1 (L1) of the Sun-Earth system has the major advantage of continuously viewing the Sun without any occultation/ eclipses.
- Therefore, the Aditya-1 mission has now been revised to "Aditya-L1 mission" and will be inserted in a halo orbit around the L1, which is 1.5 million km from the Earth.
- The major scientific objectives are studying solar corona, achieving fundamental understanding of the physical processes that heat the solar corona, accelerating solar wind and producing coronal mass ejections.
- Thus the enhanced Aditya-L1 project will enable a comprehensive understanding of the dynamical processes of the sun and address some of the outstanding problems in solar physics.

9.20. HACKING SCARE LEADS TO NORMS FOR SMARTPHONES

- A Smartphone policy for officials dealing with sensitive information has been envisaged, keeping in view the recurring malware threats from neighbouring countries.
- Pakistan Intelligence Agencies were spying on Indian Security Forces by sending malwares in mobile apps such as Top Gun (Game App), mpjunkie (music App), vdjunky (video app), etc.
- Every day, there are multiple attempts to hack government computers and smartphones can unknowingly aid the hacking through miscellaneous applications downloaded on the device
- Use of personal devices must be authorised by competent authority with documented forms maintained to reflect approvals. These should include information like officer's name, device approved and type of device.
- These devices should not be connected to any computer network or stand alone systems in the establishment, with restrictions on even charging them with computers in sensitive areas.
- Smart devices should not be allowed during sensitive meetings or briefings.
- Pictures and videos, which may compromise the security of key assets should neither be taken, nor posted on social media.

9.21. SEA HARRIERS

- The Indian Naval Air Squadron 300 (INAS 300), are now set to phase out the Sea Harriers fighter aircrafts and make way for new generation Mig 29K/Kub fighters.
- The Sea Harrier is a naval Short/Vertical Take-Off and Landing (VSTOL) jet fighter, reconnaissance and strike aircraft, designed and manufactured by the British Aerospace.
- The ability of vertical takeoff and landing is the most unique feature of this fighter.
- The fighters were capable of Air to Air refuelling to operate at extended ranges.

- The principal role of the subsonic Sea Harrier was to provide air defence to naval fleet by operating from their aircraft carriers. It was fitted with anti-ship Sea Eagle missile.
- They were inducted into the Indian Navy in the year 1983 and played a pivotal role in the Falkland wars, 1982 for the British forces.

9.22. INDIA MAY SOLVE VENEZUELAN DEFAULTS

Why in news?

- The Commerce Ministry has proposed a mechanism to address the issue of non-payment of dues by Venezuelan importers to Indian exporters, which are yet to be approved by Venezuela.

Why was this needed?

- Drastic fall in oil prices have badly hit the Venezuelan economy with its currency plunging to record lows and an increasing demand for dollars. This has led to problems for Indian exporters to get their payments.
- Under the payment mechanism, when Indian importers pay for oil and other imports from Venezuela, a certain portion (say around 30%) of the payment will be held by an Indian public sector bank in Venezuela.
- Then through a vostro account that money will be kept in PSB's local branch and converted to Indian rupees.
- A Vostro account refers to holding 'your' money or Venezuela's money in this case.
- The Venezuelan buyer (importer) will certify that they have received the goods and instruct the concerned Venezuelan bank to release the payment to the concerned Indian exporters.
- This instruction will be passed on to SBI-Venezuela and then to SBI-Mumbai.
- Finally, SBI-Mumbai will release payment to Indian exporters by debiting from the vostro account.
- Due to the fear of losing the Venezuelan market to Chinese competitors, Indian pharmaceutical exporters are still holding on despite payment issues.

Challenges in the proposed method

- If even 30 per cent of \$10 billion (annual) payment for imports (\$10 billion is the average of past 5 years) from Venezuela is kept in the Vostro account, it will be a huge amount considering India's annual exports to Venezuela have not even crossed \$260 million.
- So, if Venezuela withdraws the remaining amount (after paying for India's exports) in one go after a few years, it could have some impact on the Indian rupee.

9.23. WATER STAIRCASES IN SEA

Why in news?

Recent studies have revealed the presence of water staircases of different densities, which play a role in the melting of Arctic ice.

Water staircases

- Similar to a wave on the ocean's surface that forms where the air and water meet, an internal wave can develop at the point where two layers of water that have different densities meet.
- In the Arctic region, Pacific water is cooler and less saline, while the Atlantic water is warmer but heavier due to higher salinity and hence settles down.
- In the Arctic Ocean, a storm could trigger these internal waves to travel downward and stir up a deep reservoir of warmer water, driving it upward where it could melt sea ice.
- Internal waves can only travel vertically if the water they travel through has a continuous change in density and it reflects back upwards, if the waves suddenly encounter a thick layer with a different density.
- In the Arctic, layers of water with different densities, called a density staircase might stand in the way of these internal waves and shield the bottom of the ocean from these waves unless the storms are really big.
- In a staircase-like formation, though the density is constant within the step, there is a jump in density from one step to another.

9.24. DIGITAL VANS FOR AWARENESS ABOUT E- GOVERNANCE

- The government has launched a campaign under which 66 digital vans, equipped with Internet and audio-visual facilities, will go to 657 districts by March 2017
- This is an initiative of the Department of Electronics and Information Technology, and will be implemented by the National e-Governance Division.
- To increase awareness among people, especially youth, about various e-governance services in rural and semi-urban areas.
- To reach out to more than 10 lakh citizens and register over 1.5 lakh rural citizens for MyGov, digital locker, Aadhaar and other digital services.

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