

GS SCORE

CURRENT

Q & A

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Content

1. POLITY & GOVERNANCE

- 1.1 School choice debate in India
- 1.2 Draft National Framework water bill
- 1.3 Censor Board Controversy
- 1.4 Electoral reforms in india
- 1.5 NGT: ISSUES
- 1.6 Madras high court ruling for browbeating judges for impeding justice
- 1.7 Kerala all set to be open defecation-free by november- 1
- 1.8 Double dissolution' in Australia; How it compares with the Indian experience?

2. INTERNATIONAL RELATION

- 2.1 India's Bid For entry in MTCR and NSG
- 2.2 PM'S five nation tour
- 2.3 India, Japan, US to hold naval exercise
- 2.4 Cabinet recommends MoU between RBI and Central Bank of United Arab Emirates (UAE) on cooperation concerning Currency Swap Agreement
- 2.5 UN's Permanent Court of Arbitration ruling in Italy marine case
- 2.6 India eyes Uranium from Africa

3. ECONOMY

- 3.1 Issues in the MCLR regime
- 3.2 Solar power in India: issues and challenges
- 3.3 The draft Central Port Authorities Bill 2016
- 3.4 Google tax
- 3.5 Sebi Issues Stricter KYC, Disclosure Regime For P-Notes
- 3.6 Discrepancy in GDP data
- 3.7 Government policy for MSME
- 3.8 RBI issues new norms for bad loans management
- 3.9 India's post payments bank get cabinet nod
- 3.10 Has LIC become the lender of last resort?
- 3.11 Centre may cut 5 in 5/20 Airline Rule
- 3.12 Government starts UBIN drive for budding entrepreneurs
- 3.13 India ranked 2nd on grd index on ease of doing business
- 3.14 Cyprus team to negotiate revisions in tax treaty
- 3.15 Reserve Bank of India, Government to Set up Joint Stressed Asset Fund

4. SCIENCE & TECHNOLOGY

- 4.1 Baby Born in U.K. through new DNA method
- 4.2 European space agency announces that the second exomars mission will be launched in 2020
- 4.3 Virtual heart tool to Predict Sudden Cardiac death risk
- 4.4 Food in india untested for diabetes-linked chemical (ALLOXAN)
- 4.5 Western Ghats under threat
- 4.6 Karnataka government puts state on alert for bird flu
- 4.7 Exotic heat-resistant gel: a Spinoff from ISRO
- 4.8 A Sweet Option to Fix Broken Bones
- 4.9 Malware Infection Index - 2016
- 4.10 Scientist identified a process to remove DNA molecules from x-Files

5. ENVIRONMENT

- 5.1 Should Culling of animals be allowed
- 5.2 GM Seeds in India
- 5.3 Urban heat island: problems and solution
- 5.4 Arctic regions getting greener due to climate change
- 5.5 Western Ghats under threat
- 5.6 Guwahati declares Gangetic River Dolphin as its 'City Animal'
- 5.7 Australia's Great Barrier Reef, A 3rd of the coral killed due to Bleaching
- 5.8 Gangotri Glacier Retreated by 3K.M. in Two Centuries

6. SOCIAL ISSUES

- 6.1 Issue of open defecation in India
- 6.2 Attack on African student
- 6.3 Largest share of non-workers among Muslims
- 6.4 Govt comes with draft bill on passive euthanasia: rights of terminally ill
- 6.5 Gujarat Government issued minority status to the Jain Community

7. INTERNAL SECURITY

- 7.1 Fake currency Problem in India
- 7.2 Army Chief Ordered a high-level study to determine and recommend measures to improve tooth-to-tail ratio of Army
- 7.3 Indian Navy launches the state of the harbor defence system, viz, integrated underwater harbor defence and surveillance system
- 7.4 Exercise Eagle II concluded
- 7.5 India become co-chair of working group on maritime security awareness under (CGPCS)

8. DISASTER MANAGEMENT

- 8.1 PM releases Country's first National Disaster Management Plan

1
POLITY
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1.1 SCHOOL CHOICE DEBATE IN INDIA



(Q) What do you understand by 'school choice'? Can it be implemented in India? Discuss the merits and demerits of it.

o Context

'School choice' is an active topic of discussion among educationists, think tanks, NGOs and some sectors of the government. Is India ready to implement this idea? What are the pros and cons?

o What is school choice debate about?

- ▶ 'School choice' connotes policies and schemes that give substantial weight to the choice of parents in determining their child's schooling.
- ▶ School choice is education system in which public funds are utilized to give choice to the parents in selecting the school, either private or public for their child. So instead of state funds going to government schools, funds are directly given to parents in the form of redeemable vouchers or scholarships which can help them admit their child in school of their choice or at least give them more options.
- ▶ It builds on the idea that administration and financing of schools are separable functions of the government and the state should concentrate on the function of coordination instead of substantial provisioning of services.
- ▶ The government should establish minimum levels of schooling and finance it by "giving parents vouchers redeemable for a specified maximum 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." While the government, as part of its coordinating function, would establish infrastructure norms, teacher qualifications, and curriculum.

o Does India need this concept?

- ▶ Though India has the RTE in order to provide education to all children in the country in the age group of 6-14 years free of cost in government schools but The government schools have managed an unfavourable reputation for being inefficient, non-functioning and even beyond repair.
- ▶ The ASER-2014 suggests that reading levels of students at schools are very poor despite being RTE in provision.

o Merits

- ▶ 'School choice', would allow children from poor groups to access schools which they earlier could not.
- ▶ It will remove the compulsion over depressed class to educate their ward in government schools only due to financial constraints.
- ▶ It gives better choice to parents irrespective of their financial position to select schools. Currently, even after RTE, children from unprivileged background have few options but to attend government school.
- ▶ It will induce competition between government and private schools to retain students leading to greater efficiency and output. The competition would make it economically unwise for schools to neglect their interests.
- ▶ It will also promote intermixing via enrolment of children from different community, religion, caste, language and culture. So indirectly will promote integration and reduces the instances of ethnic and communal disharmony.

o Concerns:

- ▶ With limited public financial resources, it may affect the funding of public school putting them at disadvantage vis-a-vis private schools.
- ▶ Rural-urban disparity is quite large in India and private schools may not be ready to provide services in rural area creating high rural-urban supply mismatch.

- ▶ Limited schools in Tier-2 and tier 3 cities: lack of good physical infrastructure in rural and semi-urban schools limits student's freedom to choose schools.
- ▶ Congestion towards good school selection: schools with good ranking will be dominated by rich and middle class section, thereby limiting the chances of rural and lower income category sections.
- ▶ Lack of digitization of info on schools: absence of centralized repository on school with regard to various parameters restricts its implementation
- ▶ Neglects qualitative aspects: teaching quality, supporting environment will be neglected during ranking framework creation.

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o **Conclusion**

- ▶ The debate raises many questions such as would 'school choice' attract competent teachers from government schools which offers them a better paid, less arduous and more secure job?
- ▶ Basic education, like healthcare and subsistence, is an essential for equality of opportunity and access to the market. Only when these background conditions are equal can we hold people responsible for their market decisions involving opportunity costs, which would simultaneously generate economic differentials.
- ▶ Though there are several advantages of this approach but careful consideration is essential before implementing this in our country taking into account particularities of it.
- ▶ Before considering the system of school choice, it is better to correct the anomalies in present system like unequal playing field for private and public schools for example in terms of salary of teachers, teacher training etc; and easing the heavy constraints and complex regulation which allows only big players with huge pockets to enter education sector limiting the supply of private education services rendering it expensive.

1.2 DRAFT NATIONAL FRAMEWORK WATER BILL



(Q) Why there is need for Framework water bill in India. Also enlist the key features of the draft national framework water bill.

o **Context**

The Ministry of Water Resources, River Development and Ganga Rejuvenation has recently uploaded the draft national framework water bill on its website. The Water Resources Ministry has invited comments and suggestions on the draft from the public.

o **What is a framework law?**

- ▶ A framework law is a broad set of principles which provides a framework to the Centre, States and the local government to exercise legislative or executive powers.
- ▶ The laws and the executive actions of different levels of government institutions will have to comply with the framework law.
- ▶ The deviations from the framework law can be challenged in courts of law.

o **Why there is need for Framework water bill?**

- ▶ Water is increasingly becoming important in the national discourses because of the judicial recognition of water as a part of the fundamental right to life.
- ▶ In addition, a growing perception of an imminent water crisis, increasing instances of inter-state conflicts and impacts of climate change have brought focus to the issue.
- ▶ The kind of drought situation we have witnessed against a backdrop of climate change, nobody knows how frequently such a situation will reoccur. The water problem is escalating. So the time has come that we manage water in a better and efficient manner.

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- ▶ Moreover, a framework law can reduce possibilities of diverging state laws on water.
- ▶ There is a need for a “broad national consensus” on issues related to water. Divergences of policies on water were “inevitable” and “acceptable” at the level of states, but these need to be within “reasonable limits” set by this national consensus. The draft law, prepared by the Water Resources Ministry, is being proposed as a model legislation that can be adopted by states, since water is in the jurisdiction of the state governments.
- ▶ Since India is home to 17% of the global population but accounts for a mere 4% of global water resources we need to use our scarce water resources efficiently for which draft law is needed.
- ▶ Currently, water is managed by the Water (Prevention and Control of Pollution) Act, 1974, the Environment Protection Act, 1986 and the Water (prevention and control of pollution) Cess Act. However, these laws deal with the pollution and levy of cess, and do not stress upon the efficient usage of water or conservation techniques. Further, they also do not prioritize the allocation of water.

◉ Key features of the draft bill

- ▶ The draft National Water Framework Bill says every person would be entitled to “water for life” that shall not be denied to anyone on the ground of inability to pay.
- ▶ It defines this “water for life” as that basic requirement that is necessary for the “fundamental right of life of each human being, including drinking, cooking, bathing, sanitation, personal hygiene and related personal and domestic uses”. This would also include the additional requirement for women “for their special needs” and the water required by domestic livestock. This minimum water requirement would be determined by the “appropriate” governments from time to time.
- ▶ The draft law tries to build a comprehensive governance structure on water, dealing with its conservation and preservation, regulation of use, pollution prevention and abatement, pricing, administration, and river and aquifer management.
- ▶ It says that the state “at all levels” would hold water “in public trust” for the people, and “water for life” would take precedence over all other uses, including agricultural, industrial and commercial.
- ▶ The proposed law wants to introduce a “graded pricing system” for domestic water supply, with full cost recovery pricing for high-income groups, “affordable pricing” for middle-income, and a “certain quantum of free supply” to the poor. Alternatively, a minimal quantum of water may be supplied free to all.
- ▶ A “binding” national water quality standards for every kind of use is proposed to be introduced. A “binding” national water footprint standards for “every activity or product” are also sought to be evolved. The draft law says it would be the “duty” of everyone to strive towards reducing their “water footprint”.
- ▶ Industries, in particular, will be asked to state their water footprint in their annual reports, along with an action plan to progressively reduce it over time.
- ▶ According to the draft bill there shall be prohibitive penalties to discourage profligate use, with denial of water supply services beyond a threshold.
- ▶ Recognising that water in all its forms “constitutes a hydrological unity”, the draft law asks governments to strive for rejuvenation of river systems by ensuring Aviral Dhara (continuous flow), Nirmal Dhara (unpolluted flow), and Swachh Kinara (clean and aesthetic river banks). An integrated river basin development and management plan in each of the basins is supposed to be drawn up, and all water-resource projects in that basin or its sub-basins need to conform to that plan.
- ▶ To deal with inter-state water disputes, the draft law proposes the establishment of “appropriate institutional arrangements”. “The upper basin state shall adopt a cautious and minimalist approach to major interventions in the inter-state rivers...,” it says, while stressing that none of the states in a basin “owns the river”

1.3 CENSOR BOARD CONTROVERSY

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(Q) At a time when the government is asking to Make in India, and with companies like Netflix looking to invest, to expose artists to a regressive, archaic law is short-sighted. Comment with respect to recent censor board Controversy.

o Context

Central Board of film certification is embroiled in controversy from last few years due to its proactive stance in censoring or cutting scenes in many Movies which it feels is explicit and vulgar and therefore giving a bad a name to the country. However Film makers believe that Pro active stance of censor board is a threat to Freedom of expression. Recently the issue has came into Forefront because the censor board has suggested 89 cuts in the movie UDTAA PUNJAB which film makers feel that if implemented would completely destroy the essence of the movie.

o How does the CBFC work?

- ▶ The Board comprises up to 25 members and 60 advisory panel members from across India, all of whom are appointed by the Information & Broadcasting Ministry. The CEO is chiefly in charge of administrative functions, and regional officers are part of the examining committees that certify films.
- ▶ Upon receiving an application for certification, the relevant regional officer appoints an Examining Committee. In case of short films, it consists of a member of the advisory panel and an examining officer, one of whom must be a woman. Otherwise, the committee consists of four members of the advisory panel and an examining officer. Two members of the committee must be women. The decision on certification — Unrestricted public exhibition (U), parental guidance for children below age 12 (U/A), Adult (A) or Viewing by specialised groups (S) — is made by the regional officer based on the (unanimous or majority) report of the Examining Committee. In case of a divided opinion, the case rests with the chairperson. Mostly, the list of “suggested changes” is shared with the applicant in case the certification is unacceptable to the latter.
- ▶ If the applicant isn't happy with the certification or the list of changes, he or she can apply to the Revising Committee, which has the chairperson and up to nine committee members, a mix of the Board and the Advisory. No Advisory panel member who has viewed the film can be included.
- ▶ A similar process is followed at this stage too, with the final word resting with the chairperson.
- ▶ In case of persisting dissatisfaction with the certification, the matter goes to an independent Appellate Tribunal, whose members are appointed by I&B for a term of three years. Any further dispute goes to court.

o So where is the problem, then?

- ▶ Certification is on the basis of the Cinematograph Act, 1952, which comprises a set of vague guidelines. For instance, it states that “a film shall not be certified if any part of it is against the interest of the sovereignty and integrity of India, the security of the State, friendly relations with foreign States, public order, decency or involves defamation or contempt of court or is likely to incite commission of any offence”. The vague wording of Section 5B(1), especially the reference to “public order”, “decency” or “morality” (concepts that can never be defined in absolute terms) are also perfect for subjective interpretation. The vagueness leaves scope for whimsical decisions by the Examining Committee, which comprises Advisory panel members from all walks of life. So, a member who is personally uncomfortable with on-screen intimacy may suggest a cut even if the applicant is seeking an 'A' certificate. Also, with so much power vested in the chairperson, his or her opinion on 'morality' might take precedence over the artistic sensibility of the film's makers.
- ▶ The Central Board of Film Certification (CBFC) is mandated with the task of certifying films for public viewing under the provisions of The Cinematograph Act, 1952 but over

the years, it has turned itself into a body that's known more for its acts of censorship - cutting out scenes, muting profanities, or even better, banning a film altogether. The changes demanded are often arbitrary and reflect a lamentable lack of appreciation for the artistic integrity of the film and the creative freedom of the filmmaker.

- ▶ The chief problem is that the CBFC, which is still bound by the archaic, outdated guidelines formulated in 1952, has not internalised the implications of the difference between 'censorship', which is an overhang of the British era, and 'certification', which is the need of the present times. The Censor Board, as it used to be called, and still is in popular parlance, has failed spectacularly to keep step with a new, resurgent India where viewers have instant, unfettered access to uncensored global content, which is watched, or not, on its own merits.
- ▶ At a time when the government is asking to Make in India, and with companies like Netflix looking to invest, to expose artists to a regressive, archaic law is short-sighted. To do this to an industry that pays the entertainment tax, a most uniquely Indian tax and fills the coffers of the state governments defies logic.

◦ Way Forward

- ▶ The provisions of The Cinematograph Act, 1952 will not be acceptable in most liberal democracies. CBFC should only be a film certification body whose scope should be restricted to categorizing the suitability of the film to audience groups on the basis of age and maturity except in the following instances to refuse certification
- ▶ The CBFC board, including its chairperson, Should only play the role of a guiding mechanism and not be involved in the day-to-day affairs of certification of films.
- ▶ There should be a clear definition of the governing board's duties, i.e. a call for it to be a mere guiding body and defining the broad rules and not be involved in the day-to-day certification of films. As it stands now, Censor board finds itself in the dubious position of not only defining the rules, but also time and again finds itself implementing these rules, and also interfering in the appellate process if the producers are not happy with the final results. This is a ridiculous setup which does not result in adequate checks and balances and leads only to an acrimonious relationship with the content providers
- ▶ The advisory panels from the nine regions - those who screen films first and award certifications should be made more diverse. This could, one hopes, lead to more enlightened decisions at the time of certification. And perhaps greater sensitivity to the mature aesthetics of a cinematic work of art.

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1.4 ELECTORAL REFORMS IN INDIA



(Q) To curb the menace of money power in elections there is urgent need to amend the RPA 1951. Critically discuss.

◦ Context

The sting operation by two TV channels purportedly showing Karnataka MLAs negotiating cash for votes for a Rajya Sabha election has caused a furore over the phenomenon of horse-trading and demands have been again raised from various quarters about the need for electoral reforms. It has once again brought the focus on whether the Election Commission, despite its best intentions, has the power to take any effective steps to curb the abuse of money power during elections.

◦ What is a Problem Today?

- ▶ Recently a sting operation by a private television channel showed a group of MLAs from Karnataka demanding crores of rupees for supporting a candidate in the Rajya Sabha polls from the state. The Election Commission of India, however, decided to go ahead with voting as scheduled.
- ▶ Election rules have been flouted time and again in several elections, but even though action has been taken in some cases, it hasn't been strong enough to act as a deterrent.
- ▶ The Election Commission's main powers come from Section 58(A) of the Representation of the People Act, 1951. This section arms the commission with powers

to countermand polls in the event of booth capturing. However they do not have power to rescind polls with abuse of money as a ground.

- ▶ Many argue that the poll body finds its hands tied because its decisions to countermand polls are subject to judicial scrutiny. In the absence of incontrovertible evidence – as seen in the case of Karnataka – the commission cannot do much.
- ▶ The biggest concern is that there is no model code of conduct for the RS election as the nature of the election is different. There are no public meetings, rallies, door-to-door canvassing or media campaigns. The constituency is confined to a small electoral college consisting of MLAs. The voting is open so the party MLAs are subject to party discipline but the independents are hot-property.

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o What needs to be done?

- ▶ Foremost is the amendment of Section 58 of the Representation of the People Act to make abuse of money a ground to countermand the poll, as the EC has demanded.
- ▶ Political parties must discuss the overall problem of money power vitiating the election process and carry out necessary electoral reforms
- ▶ There must be a ceiling on the expenditure by political parties for candidates. Political parties spend crores. And when they spend crores, they need to collect crores.
- ▶ State funding of political parties, not elections, must be considered while banning private fund collection totally. Based on the number of votes obtained, Rs 100 per vote can be given.
- ▶ Domicile condition for Rajya Sabha candidates that was done away with in 2003 must be restored to stop wealthy candidates from outside the state from jumping into the fray.
- ▶ To prevent cross-voting by horse-trading, the anti-defection law should be amended to declare the violation of the party whip as defection.

1.5 NGT: ISSUES



(Q) Many experts allege that many of the decisions of the NGT are impractical in nature and hurt business interest. Comment. What should be done to make NGT more effective.

o Context

Since its inception, the National Green Tribunal (NGT) has been the topic of much debate and discourse in environmental spheres and beyond. The issue has come under the spotlight once again with the recent case involving Art of Living's (AOL) neglect to pay compensation as adjudicated. AOL has also challenged the tribunal's powers to initiate contempt proceedings.

o What is National Green Tribunal?

The NGT was established on October 18, 2010 under the National Green Tribunal Act 2010, passed by the Central Government. The stated objective of the Central Government was to provide a specialized forum for effective and speedy disposal of cases pertaining to environment protection, conservation of forests and for seeking compensation for damages caused to people or property due to violation of environmental laws or conditions specified while granting permissions.

o Structure

- ▶ The Principal Bench of the NGT has been established in the National Capital – New Delhi, with regional benches in Pune (Western Zone Bench), Bhopal (Central Zone Bench), Chennai (Southern Bench) and Kolkata (Eastern Bench). Each Bench has a specified geographical jurisdiction covering several States in a region. There is also a mechanism for circuit benches. For example, the Southern Zone bench, which is based in Chennai, can decide to have sittings in other places like Bangalore or Hyderabad.

- ▶ The Chairperson of the NGT is a retired Judge of the Supreme Court, Head Quartered in Delhi. Other Judicial members are retired Judges of High Courts. Each bench of the NGT will comprise of at least one Judicial Member and one Expert Member. Expert members should have a professional qualification and a minimum of 15 years experience in the field of environment/forest conservation and related subjects.

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◦ Powers

- ▶ The NGT has the power to hear all civil cases relating to environmental issues and questions that are linked to the implementation of laws listed in Schedule I of the NGT Act. These include the following:
 - ▶ The Water (Prevention and Control of Pollution) Act, 1974;
 - ▶ The Water (Prevention and Control of Pollution) Cess Act, 1977;
 - ▶ The Forest (Conservation) Act, 1980;
 - ▶ The Air (Prevention and Control of Pollution) Act, 1981;
 - ▶ The Environment (Protection) Act, 1986;
 - ▶ The Public Liability Insurance Act, 1991;
 - ▶ The Biological Diversity Act, 2002.
- ▶ This means that any violations pertaining only to these laws, or any order / decision taken by the Government under these laws can be challenged before the NGT. Importantly, the NGT has not been vested with powers to hear any matter relating to the Wildlife (Protection) Act, 1972, the Indian Forest Act, 1927 and various laws enacted by States relating to forests, tree preservation etc. Therefore, specific and substantial issues related to these laws cannot be raised before the NGT. You will have to approach the State High Court or the Supreme Court through a Writ Petition (PIL) or file an Original Suit before an appropriate Civil Judge of the taluk where the project that you intend to challenge is located.

◦ Principles of Justice adopted by NGT

- ▶ The NGT is not bound by the procedure laid down under the Code of Civil Procedure, 1908, but shall be guided by principles of natural justice. Further, NGT is also not bound by the rules of evidence as enshrined in the Indian Evidence Act, 1872. Thus, it will be relatively easier (as opposed to approaching a court) for conservation groups to present facts and issues before the NGT, including pointing out technical flaws in a project, or proposing alternatives that could minimize environmental damage but which have not been considered.
- ▶ While passing Orders/decisions/awards, the NGT will apply the principles of sustainable development, the precautionary principle and the polluter pays principles.

◦ Challenges and issues faced by the tribunal

- ▶ The government has in recent years proposed legislative changes curbing the powers of the tribunal.
- ▶ There is lack of clarity on its existing powers, and also its Bench strength is very less which limits the tribunal's efficacy and reach.
- ▶ Ever since its establishment, corporates have regularly voiced concerns over the roadblocks created by the tribunal, which in their view have challenged economic progress of the nation.
- ▶ Many experts point out that at times remedies offered by the tribunal are impractical in nature and hurt business activity. Take, for instance, the Noida real estate issue involving the Okhla bird sanctuary. The Uttar Pradesh government had to finally make notifications to resolve the deadlock created by the order of the tribunal.
- ▶ The drafting of the Act has also been cited by many as a cause for confusion. Section 19 of the statute states that the tribunal shall not be bound by regular rules of civil procedure, but empowers the tribunal with certain powers of a civil court. In contrast, Section 25 adorns the tribunal with all the powers of a civil court for execution of its orders. Section 26 further prescribes specific penalties for failures in compliance of orders and awards. This disjunctive structure creates a grey area regarding the tribunal's additional powers in relation to other civil court.

- ▶ Further issues with the construction of the legislation have also added to the uncertainty in recent times. Section 22 of the Act provides for appeals of the tribunal's orders to the Supreme Court, yet there is no express mention of the limitation of the powers of the high courts under Articles 226 and 227 of the Constitution. This has led to the Madras High Court allowing NGT appeals to be heard before itself, whereas the Bombay High Court has taken the opposite stand on the issue.
- ▶ In addition to these, the tribunal has also faced multiple administrative hassles, such as a paucity of resources and insufficiency of judicial appointments. The lack of an environmental regulator (as directed by the Supreme Court in 2014) till date, still renders the NGT as the first court of appeal for numerous mining, forestry and developmental clearances, placing an enormous burden on the functioning of the institution.

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○ Way Forward

- ▶ The tribunal needs to achieve greater Bench strength to be more accessible to larger sections of the society and fulfill its ultimate objective.
- ▶ The legislation regarding NGT needs to be made more specific and clear so that no vagueness remains with respect to powers and mandate of NGT and High court.
- ▶ There should be more involvement and appointment of technical members to the tribunal.
- ▶ Companies must be given a reasonable opportunity to rectify issues. Sometimes the company does not even know it is polluting. In these situations, they expect a chance to remedy the problem.
- ▶ The tribunal should look for ways to discourage frivolous or false complaints as Serious harm can be done to the brand/reputation of a company if it is accused of violating environmental laws.

1.6 MADRAS HIGH COURT RULING FOR BROWBEATING JUDGES FOR IMPEDING JUSTICE



(Q) Recently, the Madras High Court has introduced crucial changes to Section 34 of the Advocates Act introducing new conduct rules and punishments. Discuss the merits and demerits of this move.

○ Context

Recently the Madras High Court has made crucial changes to Section 34 of the Advocates Act introducing new conduct rules and punishments.

○ What are the changes?

- ▶ The lawyers resort to naming and shaming the judges, sit-in protest within the courtroom and disrupting court proceedings.
- ▶ The High Court has, in order to punish such advocates, decided to penalise lawyers for attempting to 'browbeat' judges or giving complaints to superiors about judges, leading to lifelong debarment from legal practice.
- ▶ As an interim measure courts can debar lawyers even before an inquiry.

The following are misconducts enumerated in the rules:

- ▶ an advocate who is found to have accepted money in the name of a judge or on the pretext of influencing him;
- ▶ an advocate who browbeats and/or abuses a judge or judicial officer;
- ▶ an advocate who is found to have sent or spread unfounded and unsubstantiated allegations/petitions against a judicial officer or a judge to the superior officer;
- ▶ an advocate who actively participates in a procession inside the court campus and/or is involved in *gherao* inside the court hall or holds placard inside the court hall;
- ▶ an advocate who appears in the court under the influence of liquor.

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o Merits of the judgement

The merits of the move are:

- ▶ **Independence of Judiciary:** This move will give a sense of security to the judiciary to work without any fear or favour as provided under the constitution.
- ▶ **Weeding out corruption:** It has been reported that the lawyers and middlemen demand money from clients for favourable rulings in the name of judges. The rules will put a check on such tendencies.
- ▶ Upholding the moral and ethical conduct within the judicial-legal system
- ▶ Judges now won't have to face a hard blow to their reputation as advocates take money on their names or make false complaints
- ▶ Use of abusive languages in court, browbeating judges will get stopped.

o Demerits of the decision

The rules can have a chilling effect on the independence of legal profession as it has certain demerits:

- ▶ Silencing of genuine dissent: Standards of Professional Conduct and Etiquette expect the lawyers to bring genuine grievances to the notice of appropriate authorities. This move may discourage them.
- ▶ Stripping lawyers of immunity: United Nations 'Basic Principles on the Role of Lawyers' provide for civil and penal immunity for relevant statements made in good faith. But, the court ruling allows for debarring without any inquiry as an interim measure.
- ▶ The rules will be used by corrupt judges to shield themselves.
- ▶ Lawyers will have to face charges even for money fixed by disgruntled client which is done mainly through other middlemen and this practise need laws for punishment.
- ▶ Lawyers will remain concious of their speech as it may be seen by judge as browbeaten only ill paid lawyers who has nothing except a cause to plead be caught in this circle of fire fuelled by use of proper language.
- ▶ It is against standards of professional conduct and etiquette which expects lawyer to bring genuine grievances against judge in the notice of superiors.
- ▶ Silencing the lawyers will silence all public debates in attempt to correct judicial system.

o What will be the impact of new changes?

- ▶ It is expected that the new changes will help to improve the conduct of the judges and they will not be found to be indulged in corrupt practices and browbeating about their senior officials.
- ▶ Lawyers will no longer feel safe to speak up in court lest the judge feels he is being browbeaten.
- ▶ However, the new rules are said to be against the 'Standards of Professional Conduct and Etiquette' provided in the Rules under Section 49(1)(c) of the Advocates Act which stipulates that: "An advocate... shall not be servile and whenever there is proper ground for serious complaint against a judicial officer, it shall be his right and duty to submit his grievance to proper authorities".
- ▶ This clause also goes against the law laid down in *C. Ravichandran Iyer case* (1995(5)SCC457) where the Supreme Court took note of the ineffectiveness of the impeachment process and formulated an alternative in-house mechanism where complaints could be given to the high court or Supreme Court and matters could be investigated discreetly. They did not discourage complaints being given as the present amendments do, under the threat of debarment.
- ▶ Though, It is true that a false complaint may affect the reputation or the career of an otherwise competent and honest judicial officer. But that price is paid by every citizen against whom false cases are foisted.

o Way ahead

- ▶ Judiciary is one of the pillars of a vibrant democracy and it should be exemplary in its conduct .

- ▶ Though, Recent months have witnessed a growing and deepening distrust of judges by lawyers and a vehement resolve of the judges to 'show the advocates their place'. This restiveness is on account of falling standards, failing ethics, and growing corruption — both amongst lawyers as also the judiciary.
- ▶ There is a lot that is to be done to bring reforms within the legal profession itself. But this requires a more holistic and imaginative approach without infringing upon powers of Bar Council.

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1.7 KERALA ALL SET TO BE OPEN DEFECATION-FREE BY NOVEMBER- 1

- ▶ Kerala is set to become open defecation-free with the state run 'suchitwa Mission' aiming to achieve the glory by 1st November as state should always remain as a model to other states. Suchitwa Mission- is the state nodal agency for sanitation constituted under the state local state government department with the vision of creating a waste free Kerala with a pollution free environment, public hygiene and cleanliness.
- ▶ The availability of funds will not stand as a hindrance in achieving the target but mobilization of other resources may be a challenge, especially when it comes to tribal, hilly and coastal areas. Unless schedule tribes and Fisheries departments come forward with their contribution to raising up the funds.

o Problem of open defecation in India

- ▶ India has the highest number of people practicing open defecation, around 595 million people, or over the 3rd of the population
- ▶ Most of it occurs in rural areas, where the prevalence is estimated as 52% of the population, as opposed to urban areas, where prevalence is estimated at 7.5%.
- ▶ The lowest percentage of households having sanitary toilets was reported in Jharkhand (18.8%), Chhattisgarh (21.2%), and Orissa (26.3%) in the other way the states having highest number of the sanitary toilets were Sikkim (98.2%), Kerala (97/6%), and Mizoram (96.2%).
- ▶ As per the National Sample Survey (NSS) data, 13.1 % of the villages and 42% urban wards have community toilets. However, they were not being used in 1.7% villages and 1.6% urban wards. Also, in 22.6% of the villages and 8.6% urban wards, community toilets were not being cleaned.
- ▶ Ministry of Drinking Water and Sanitation viewed that, "The main reason for open defecation is behavior and mindset of the people who have continued the practice for centuries." It also stated that adequate availability of water for toilets is also a concern.
- ▶ 1000 Young lives are lost every day due to diarrhea, open defecation in India caused chronic diarrhea that leads to stunting, 50% malnutrition is attributed to water, sanitation and hygiene.
- ▶ About 22 million girls do not have access to a separate toilet facility in school.

o Government Initiative to do away with that problem

- ▶ As India has such a high number of people practicing open defecation, various Indian government-led initiatives are ongoing to reduce open defecation in that country. It began as the "Total Sanitation Campaign", which was re-launched as 'Nirmal Bharat Abhiyan' in 2012 and integrated into the wider 'Swachh Bharat Abhiyan (Clean India Mission)' - Gramin and Urban in 2014.
- ▶ Also in 2014, UNICEF began a multimedia campaign against open defecation in India, urging citizens to "take their poo to the loo." The Government of India with help of partners like UNICEF is looking at the challenge of Open Defecation very seriously. The government has a target to make India "Open Defecation Free" by 2019 and UNICEF India is a key partner in its flagship programme to achieve this target through the Swachh Bharat Mission (SBM).
- ▶ The Ministry of water and sanitation has also suggested that they will monitor the use of the toilets in real time and more importance will be given to the toilets than just their construction.

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- ▶ 15% of the centre's funds will be utilized for behavior change communication to sensitize urbanites about open defecation, proper use and maintenance of toilets, prevention of manual scavenging, hygiene practices etc., and related health and environmental consequences.
- ▶ With the 'Toilet First, Temple Later' slogan central government under the 'Swachh Bharat Mission' it targeted to built the 1 crore individual households toilets in addition to the 2.52 crore community toilets seats. Over 30 crore urbanites are to be assisted with solid waste Management.
- ▶ While the government hasn't set any fixed targets since sanitation schemes are demand driven it does plan to construct 1.2 crore toilets in the current year.
- ▶ Governments of at least 16 states exaggerated the data on individual household toilets by over 190 % of the actual constructions. And that of the constructed toilets, around 30 per cent were found to be dysfunctional.

o Status so far

- ▶ In India, the State of 'Rajasthan' becomes the first state in the country to make a "functional toilet" mandatory in the house of a contestant for contesting elections to the Panchayati Raj Institutions. The post of village head is called "Sarpanch" in Rajasthan, India. A person cannot contest for the post of Sarpanch unless they have a functional toilet at their residence.^[30] The Government of India has taken up an initiative called 'Swachh Bharat Mission' (SBM) wherein a large scale drive has been initiated to construct toilets on mass level. Government has increased subsidy on toilet construction to INR 12000. A number of industries in India, such as Pronto, are manufacturing affordable toilets room using pre-fabrication techniques to meet high demand of toilets created after this new legislation.
- ▶ In an attempt to stop city residents from urinating and defecating in public, a city council in western India is planning to pay residents to use public toilets: The Ahmadabad Municipal Corporation will give residents one rupee a visit in a bid to draw them into its 300 public toilets and away from open areas and public walls, which often reek of urine.
- ▶ Those countries where open defecation is most widely practiced have the highest numbers of deaths of children under the age of 5, as well as high levels of malnourishment (leading to stunted growth in children), high levels of poverty and large disparities between the rich and poor.
- ▶ Detrimental health impacts (particularly for early life health) are even more significant from open defecation when the population density is high: "The same amount of open defecation is twice as bad in a place with a high population density average like India versus a low population density average like sub-Saharan Africa."
- ▶ Awareness campaigns, media exposure, and pressure from school-age children, are some of the drivers of this awareness. Further, with a growing population and increasing agricultural cultivation and urbanization, the number of spaces available for open defecation continues to reduce.

o The Uniqueness of Kerala's Achievement

- ▶ Kerala is among the top states with respect to per capita Income.
- ▶ Well known for its scenic beauty and featured as the 'Gods Own Country', help in having abundance of coconuts, rubber, coffee, tea, cashew, and other crops, leading to the best tourist destination in the country.
- ▶ It offers the best Ayurvedic treatment through traditional system of medicines, giving boost to the 'medical tourism' in the state.
- ▶ Making the state as a social paradise, it displays the best gender equality across India and comparatively a safer place to live.
- ▶ Literacy rate in the Kerala is the highest in the India and little below 100 Population growth rate is the lowest in the Kerala i.e. 3.44%. On the other hand Kerala has the Highest Development Index (HDI).
- ▶ At the top of the social development factors and has the highest social development indices, including Primary Education, poverty and healthcare because of this life expectancy is the highest in the country.
- ▶ Kerala is the least corrupt state in the India.

- ▶ Top in the 4 sections- Education, micro-finance, agriculture, marketing and investment.
- ▶ Kerala showed 10% rise in domestic production and because of this it was hardly affected by the economic recession. It is among the top state with respect to the per capital income.
- ▶ It is chosen by the UNICEF and WHO as the first state in the world to become a 'baby-friendly' state. All across the state there are primary health centers that resulted in the high standard health care system. Pregnant women and new mothers get support through a state-supported nutrition programme. 'Kerala Community Model' in healthcare is greatly applauded by "the Economist". Kerala Government provides funds to the community-based care programmers.
- ▶ The achievements of Kerala in different fields such as living conditions, and other social indicators like low infant mortality rate, low population growth rate, high rate of literacy and life expectancy. Along with achievements, factors leading to the success, wealth and resource redistribution programmers and political participation are also part of the Kerala Model.
- ▶ Since beginning education was made accessible to all rather than to few people of upper caste. Historically also Kerala was the center of Vedic learning. Women and non-Brahmins were also part of the education and learning system.
- ▶ Landlord exploitation and tenancy was abolished by implementing Land Reform ordinance. Rice on subsidize rate was given to low-income households. Because of this Kerala has a low Hunger index score (17.66) and comes after Punjab. India's Hunger index score is 23.31.

It is not just the nature and its strategic location but education specially female education, massive spending on health sector, export and economic growth play a crucial role in the country with effect to political will (right and left wing got elected alternatively) and overall socio-economic development in the state.

1.8 DOUBLE DISSOLUTION' IN AUSTRALIA; HOW IT COMPARES WITH THE INDIAN EXPERIENCE?

Australian Prime Minister 'Malcom Turnbull' announced fresh elections on a date which is several months ahead of schedule time. Once the Proposal will accepted by the Governor-General (President in the Indian System) 'Peter Cosgrove', the 'double dissolution' concept were both houses of the parliament would stand dissolved.

o What is 'Double Dissolution'?

- ▶ The Australian parliament is made of the House of the Representation and the senate (In Indian context, it corresponding to Lok Sabha and Rajya Sabha). The disagreement between the two houses resulted into conflict, The Australian Constitution provides for a procedure wherein the government can request the Governor-General to dissolve both houses of the parliament and announce fresh elections.
- ▶ It is a rare provision, having been used the last time in 1987, this procedure is similar to the dissolution of Parliament in India, with the crucial differences that the Rajya Sabha is a permanent house, and only the Lok Sabha can be dissolved.

o Key Facts

- ▶ The budget laid out by Australian Prime Minister, Liberal Party-led government was vehemently opposed by the labour Party. 'Bill shorten', leader of labour, claimed that the Budget, which promises to cut corporate taxes, would be unfair to society at large. On the other hand the opposition argued that, the Budget would give a fresh lease of life to the Australian economy by encouraging more industrial growth.
- ▶ This is come up as the biggest factor leading to the Double Dissolution is the refusal of the Senate to pass a bill allowing the creation of a building industry watchdog called the 'Australian Building and Construction Commission'(ABCC).

o Way forward:

The close competition between both the parties shows that the similar chances as per the opinion polls with more focus of the election mandate is on economy, education and health, equitable distribution of wealth.

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2

**INTERNATIONAL
RELATION**

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2.1 INDIA'S BID FOR ENTRY IN MTCR AND NSG



(Q) What is the strategic and Geo-political significance of the India's entry to NSG and MTCR. What are major challenges for India in getting the membership of these groups.

o Context

The India-US Joint Statement released recently during PM visit to USA said that President Obama and Prime Minister Modi looked forward to India's imminent entry into the Missile Technology Control Regime" (MTCR), and that Obama welcomed India's application to join the Nuclear Suppliers Group (NSG).

o What is the Missile Technology Control Regime (MTCR)?

Established in April 1987, it is a voluntary association of 34 countries — 35, once India is formally included — and four "unilateral adherents" that follow its rules: Israel, Romania, Slovakia, Macedonia. The group aims to slow the spread of missiles and other unmanned delivery technology that could be used for chemical, biological and nuclear attacks. The regime urges members, which include most of the world's major missile manufacturers, to restrict exports of missiles and related technologies capable of carrying a 500 kg payload at least 300 km, or delivering any type of weapon of mass destruction.

o What does India need to do to get in?

- ▶ Prospective members must win consensus approval from existing members. United States policy had been that members that are not recognised nuclear-weapon states — including India — must eliminate or forgo ballistic missiles able to deliver a 500 kg payload at least 300 km. The US, however, made an exception in 1998 for Ukraine, permitting it to retain Scud missiles and, in October 2012, South Korea was allowed to keep ballistic missiles with an 800-km range and 500-kg payload that could target all of North Korea.
- ▶ For India, the US seems to have waived these terms, allowing it retain its missile arsenal. India's membership should come through formally whenever the next MTCR Plenary meeting takes place.

o Does joining the MTCR make getting missile technology easier?

There are no special concessions for MTCR members. But India hopes its MTCR membership will be one more reason for the US to consider exporting Category 1 UAVs, Reaper and Global Hawk, which have been key to counter-terrorism efforts in Afghanistan, Pakistan, Somalia and Yemen. These drones have so far been sold to only one country, the UK, though unarmed versions have also been made available to Italy and South Korea. The US has been rethinking rules on exports, aware that competitors in Israel, Russia and China are working on similar products — and India wants to be at the head of the queue when the Reaper and the Global Hawk go on the market.

o Are there any sanctions for breaking MTCR rules?

Rule breakers can't be punished. However, US law mandates sanctions for companies and governments that export MTCR-controlled items. The sanctioned entity can't sign contracts, buy arms and receive aid for two years or more.

o Does the MTCR actually stop the spread of missile technology?

- ▶ Yes and no. North Korea, Iran and Pakistan acquired ballistic missile technology from China. But then, China began to feel the pinch of US technology sanctions — and announced, in November 2000, that it would stop exporting ballistic missile technology. Four years later, it applied for MTCR membership — but has been denied entry because of suspicion that some companies in the country are secretly supplying technology to North Korea.
- ▶ Many others dropped missile programmes because of MTCR pressure: Argentina abandoned its Condor II ballistic missile programme (on which it was working with Egypt and Iraq) to join the regime. Brazil, South Africa, South Korea and Taiwan shelved or eliminated missile or space launch vehicle programmes. Poland and the Czech Republic destroyed their ballistic missiles.

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- ▶ It is possible China may now seek some kind of bargain, whereby it is given entry to the MTCR in return for letting India get into the NSG, where it wields a veto.

◉ Why does India want to be in the Nuclear Suppliers Group (NSG)?

Following India's 1974 nuclear tests, the US pushed for setting up a club of nuclear equipment and fissile material suppliers. The 48-nation group frames and implements agreed rules for exporting nuclear equipment, with a view to controlling the spread of nuclear weapons; members are admitted only by consensus. India has been trying, since 2008, to join the group, which would give it a place at the high table where the rules of nuclear commerce are decided — and, eventually, the ability to sell equipment. Many countries that initially opposed its entry, like Australia, have changed stance; Mexico and Switzerland are the latest to voice support. India's effort has been to chip away at the resistance, leaving only one holdout — China. But until China accepts India's entry, there is no hope of membership.

◉ Why does the US want India in the NSG?

The answer lies in the US effort to strengthen the global nuclear non-proliferation regime, whose centrepiece is the 1968 Nuclear Non-proliferation Treaty, or NPT. The NPT defines "nuclear weapons states" as those that tested devices before January 1, 1967 — which means India cannot ever be one. India — like Israel and Pakistan — thus refused to sign the treaty. From 2005, though, President George W Bush's administration sought ways to deepen strategic cooperation with India. Nuclear energy was a key means to strengthen cooperation, but since India wasn't a member of the NPT, technology couldn't be shared. Then, a way forward was found — the US-India Civil Nuclear Agreement. India agreed to separate its civilian and military nuclear programmes, and put the civilian part under International Atomic Energy Agency safeguards. India also changed its export laws to line up with the NSG, MTCR, Wassenaar Arrangement, and Australia Group — the four key nuclear control regimes. The US agreed to shepherd Indian entry into these regimes, which meant India would for all practical purposes be treated like an NPT member, even though it wasn't one.

◉ Why doesn't Pakistan want India in?

The Pakistani argument is that giving India easy access to fissile material and technology for its civilian nuclear programme means it would have that much more material for its military nuclear programme. Thus, Pakistan says, the move to give India NSG membership is fuelling a nuclear arms race. But this argument falls apart because Pakistan is resolutely opposed to a key international agreement called the Fissile Material Cut-Off Treaty (FMCT), which would cap the military nuclear stockpiles of all countries. The FMCT ought to put an end to Pakistan's fears, but Islamabad has refused to sign.

◉ And what is China's problem?

Chinese diplomats say Beijing wants NSG entry to be norm-based — in other words, whatever rules govern Indian entry should apply to others too. Norm-based entry would, presumably, help Pakistan gain entry, something many in the NSG are certain to resist because of the country's record as a proliferator of nuclear-weapons technology to Iran, Libya and North Korea.

◉ Why then did China go along with the NSG waiver in 2008?

Geopolitics. The 2008 one-time waiver allowed nuclear commerce between NSG members and India — the agreement that now allows Westinghouse, and its competitors in France or South Korea, to bid to set up civilian reactors in India. The waiver came only after President Bush rang President Hu Jintao and called in a favour. Back then, US-China relations were riding high — on the back of surging trade, and a common vision of how the international order should be structured. Today, President Barack Obama and President Xi Jinping are at odds over Chinese muscle-flexing in the South China Sea. The odds of a phone call changing the state of play are next to zero.

◉ What might tip the odds?

India and the US have cards to play. China wants membership of the MTCR — and to enter that club, and see an end to key technology sanctions, it needs US help.

European Union states too have denied China exports of critical military technologies, which might be a bargaining chip. All depends on how well India bargains — and how much Pakistan's NSG membership actually means to China. Either way, this is going to be long diplomatic haul.

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2.2 PM'S FIVE NATION TOUR



- (Q) Throw a light on the recent trip of PM Modi to five nations. Discuss the key takeaways from this visit.
- (Q) Was recent Modi's recent visit successful in terms of achieving the desirable targets? Critically analyse the visit.

Context

Recently, Modi went to a five nation tour. It has been billed as a five-day, five-country visit. While Afghanistan and the US were repeat visits, the stops in Qatar, Switzerland and Mexico were firsts for the prime minister. In the case of the US, it was Modi's fourth visit in less than two years.

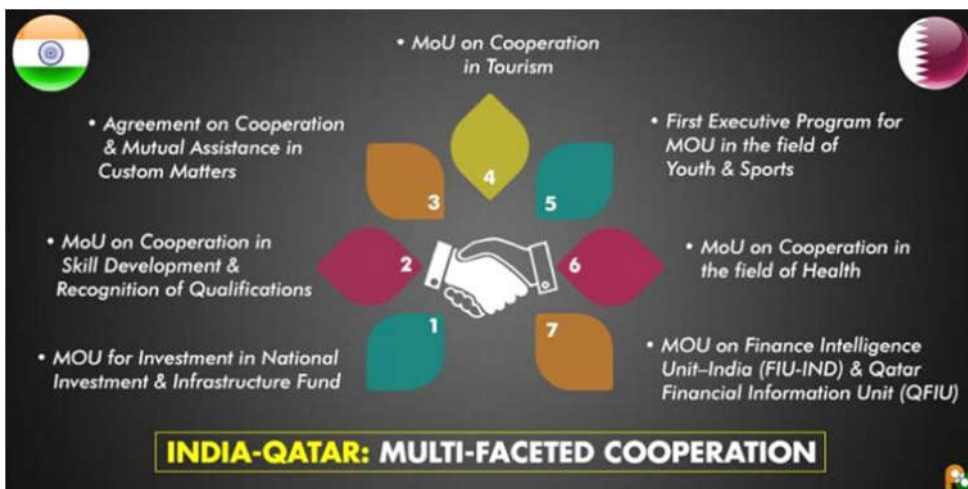
Major highlights

Afghanistan

- ▶ The \$290-million dam will provide up to 42 MW power to Afghanistan's industrial hub. It will also irrigate regions around Herat that have been ravaged by a 15-year drought.
- ▶ Modi was conferred with Afghanistan's highest civilian honour, the Amir Amanullah Khan Award.

Qatar

- ▶ India and Qatar signed seven agreements to boost bilateral ties between them. The agreements are on investment and infrastructure, intelligence related to money laundering and terrorism-financing, skill development and entrepreneurship, tourism, health, youth and sports.



Switzerland

- ▶ There was a fruitful visit to Switzerland during which the latter backed India's bid to become a member of the Nuclear Suppliers Group (NSG). The two sides also supported each other on the non-permanent membership of the UN Security Council besides taking up the black money and tax evasion issue. Other issues that came up during the bilateral talks were: vocational education, renewable energy and investment in India.

Mexico

- ▶ Mexico backed India's NSG bid during the Indian PM's visit. The two countries also issued a joint statement during this brief visit which mentioned, among others:
- ▶ Opportunities to define the path of the India-Mexico Privileged Partnership for the 21st Century that allows the growth of bilateral relations in economic field, science and technology and in most important issues of global agenda.

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- ▶ Detailed exchange of views on regional issues of mutual interest, including the political and economic developments in Latin America, CELAC and the Pacific Alliance, as well as the current situation in the Asia-Pacific region. Promoting the investment and the use of solar energy. The two sides agreed to explore ways and means to boost objectives of the international solar alliance.
- ▶ Opportunities offered by the convergence between the National Digital Strategy of Mexico and the Digital India Initiative.

○ UNITED STATES

- ▶ India gets green signal to get a ticket to the Missile Technology Control Regime
- ▶ Economic assistance for clean energy Cyber framework pact
- ▶ Recognition of India's role in Paris climate change agreement
- ▶ Asking Pakistan to punish those responsible for the terror attack in Pathankot in January 2016
- ▶ Agreement to boost defence and counter-terrorist cooperation
- ▶ Promote conservation efforts Clearance for entry into US

○ Key take aways From the tour

- ▶ **Backing for India for entry into the Nuclear Suppliers Group:** India won crucial support from Switzerland, the US and Mexico for its application to join the exclusive Nuclear Suppliers Group that controls the global trade in nuclear commerce. Garnering support for India's candidacy has been a major theme of this current tour of five nations.
- ▶ **Support for India's stance on terrorism:** India and Qatar expressed "strong condemnation" of international terrorism, highlighted the need to isolate the sponsors and supporters of the menace and agreed on "urgent action against all such entities, which support terrorism and use it as an instrument of policy." In the US, President Barack Obama and Modi condemned "the recent terrorist incidents from Paris to Pathankot, from Brussels to Kabul" and "resolved to redouble their efforts, bilaterally and with other like-minded countries, to bring to justice the perpetrators of terrorism anywhere in the world and the infrastructure that supports them,". The two countries also pledged to work together to combat terrorist threats from extremist groups such as Al Qaeda, Da'esh/ISIL (Islamic State), the Pakistan based Jaish-e-Mohammad and Lashkar-e-Taiba, besides Indian gangster Dawood Ibrahim and his group and their affiliates, "including through deepened collaboration on UN terrorist designations."
- ▶ **Boost for Make in India:** Describing India "as a major defence partner" with access to licence-free range of dual-use technologies, the US said it would support the Indian initiative to develop defence industries through the export of goods and technologies consistent with US law.
- ▶ **Automatic exchange of information to check unaccounted illicit wealth:** India and Switzerland agreed to expedite the sharing of information that seeks to end an era of banking secrecy where eventually all financial information, including taxpayers' bank balance, dividends, interest income and sales proceeds used to calculate capital gains tax, will be shared between governments. This is expected to help the Indian government tap illicit funds parked in places like Switzerland.
- ▶ **Financial assistance for India's clean energy initiative:** India and the US announced the creation of a \$20 million US-India Clean Energy Finance (USICEF) initiative, equally supported by both, which is expected to mobilize up to \$400 million to provide clean and renewable electricity to up to 1 million households by 2020.

2.3 INDIA, JAPAN, US TO HOLD NAVAL EXERCISE

- ▶ India and U.S. announced formal expansion of the bilateral exercise into a trilateral format with the edition of Japan near Okinawa, termed as an acknowledgement of the 'shared security concerns'.
- ▶ Originally a bilateral exercise between India and the U.S. Japan became a permanent partner in 2015. Three exercises were conducted before 1998, when the Americans suspended exercises after Indian tested nuclear weapons.

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- ▶ However, the U.S. renewed military contacts when India joined campaign against international terrorism. Two stealth frigate, a guided missile corvette and a fleet replenishment tanker of the Indian Navy coordinated in the exercise.
- ▶ Past non-permanent participant partner participants are Australia and Singapore. The annual Malabar series began in 1992 and includes diverse activities, ranging from fighter combat operations from aircraft carriers through Maritime Interdiction Operation Exercises.
- ▶ Australia has repeatedly expressed interest in joining Malabar on a permanent basis and the United States has been pushing its inclusion, but India has so far resisted the move so as not to antagonize China.

2.4 CABINET RECOMMENDS MOU BETWEEN RBI AND CENTRAL BANK OF UNITED ARAB EMIRATES (UAE) ON COOPERATION CONCERNING CURRENCY SWAP AGREEMENT

- ▶ The Union Cabinet approved the Memorandum of Understanding (MoU) between the Reserve Bank of India and the Central Bank of United Arab Emirates (UAE) on cooperation on currency swap agreement.
- ▶ As per the MoU's norms, RBI and Central Bank of UAE will consider signing a bilateral Currency Swap Agreement on mutually agreed terms and conditions after undertaking technical deliberation, subject to concurrence of respective government.

○ About the currency swap

It is a foreign exchange derivative between two institution to exchange the principal or/ and interest payments of a loan in one currency for equivalent amounts, in Net present value terms, in another currency.

○ Currency Swaps Uses

- ▶ To secure cheaper debt (by borrowing at the best available rate regardless of currency and then swapping for debt in desired currency using a back-to-back-loan
- ▶ To hedge against (reduce exposure to) exchange rate fluctuations.
- ▶ To defend against financial turmoil by allowing a country beset by a liquidity crisis to borrow money from others with its own currency.
- ▶ The swap agreement is also expected to facilitate invoicing of bilateral trade in local currencies and further strengthen the close economic relationship and cooperation between India and UAE.

2.5 UN'S PERMANENT COURT OF ARBITRATION RULING IN ITALY MARINE CASE

- ▶ As per the verdict of the Permanent Court of Arbitration (PCA) The Hague, in Netherlands, alone Italian marine, Salvatore Girone, facings a murder charge in India could return home soon in the wake of decision of an international tribunal.
- ▶ Two Italian marines, Massimiliano Latorre and Mr.Girone are facing the charge of murdering two Indian fishermen in 2012 off the Kerala coast. The fisherman were killed when the marines on duty aboard MV Enrica Lexie, an Italian- flagged oil tanker, fired at them.
- ▶ However, differences have cropped up between the two countries over the detailed of the verdict which will govern the marine return. While India has claimed that the verdict upholds the Supreme Court's authority on the other way Italian government said that it is a vindication of their position that India has no jurisdiction.
- ▶ Mr. Latorre is back in Italy after a stroke in 2014 while Mr. Girone is staying at the Italian embassy in New Delhi.
- ▶ As per the Supreme Court of India, Saergent Girone the Italian Marine must have surrender his passport to Italian authorities and not leaving Italy without the permission of Indian supreme court and Italy must have apprise the Indian supreme court of the marines situation in every three months.

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- ▶ Recently, Italy has sought the return of Mr. Girone as a 'provisional measure' as the arbitration could go on for the next few years. Not doing so, Italy argued would amount to 'deprivation of liberty' for him as he has been in India since 2012.


◉ About the Permanent Court of Arbitration

- ▶ This is the oldest institution for the International dispute resolution established in 1899 by the Hague Convention for the Pacific Settlement of International Disputes in first Hague Peace Conference.
- ▶ The Permanent Court of Arbitration (PCA) is a permanent bureaucracy that assists temporary tribunal to resolve dispute between states (and similar entities), intergovernmental organizations, or even private parties arising out of international agreements.
- ▶ The cases span, a range of legal issues involving territorial and maritime boundaries, sovereignty, human rights, international investments and international and regional trade.
- ▶ PCA is not a court but an administrative organization with the object of having permanent and readily available means to serve as the registry for purpose of international arbitration and other related procedures, including commission of enquiry and conciliation.
- ▶ It does not have permanent judges and having the different accountability than the International Court of justice.

2.6 INDIA EYES URANIUM FROM AFRICA

PELINDABA TREATY

- 1 Is a 2009 treaty to prevent nuclear proliferation in Africa and to stop clandestine supply of uranium to nuclear powers of the world
- 2 Is also known as African Nuclear Weapons Free Zone Treaty. It was signed in 1996 and came into effect on July 15, 2009
- 3 All members of the African Union, including island states, are signatories of the treaty though many of them are yet to ratify the treaty



■ Signatories
■ Non-signatories
■ Signed but not ratified

◉ Context

- ▶ For the campaign for membership in The Nuclear Supplier Group (NSG) India is likely to ask African Countries to relax commitment to the 'Pelindaba Treaty' which controls supply of uranium from key mineral hubs from Africa to the rest of the world.
- ▶ The 'Pelindaba Treaty' signed in 1996, also known as the 'African Nuclear Weapon Free Zone Treaty', aims at preventing nuclear proliferation and preventing strategic minerals of Africa from being exported freely.
- ▶ India's agreements with Namibia have not moved ahead. India will try to remind Namibia to ratify the agreement that was concluded for supplying uranium to India.

◉ India-Namibia 2 Uranium Bilateral pacts:

- ▶ India and Namibia signed two MoUs on Cooperation in the field of geology and mineral resources and Cooperation in peaceful uses of nuclear energy during the visit of President Hifikepune Lucas Pohamba to India in 2009.
- ▶ However, diplomats pointed out that Namibia's membership of the Pelindaba Treaty has prevented it from ratifying the agreements. Namibia is the 4th largest producer of uranium.

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o Uranium and its reserves in Africa

- ▶ Africa is a continent with significant mineral deposits, including uranium. It's an exciting time in the uranium industry for Africa, as countries that have not yet supplied the mineral in the past are beginning to explore and develop mines.
- ▶ The major Uranium Hot spots in Africa are the South Africa, Niger, Namibia and Tanzania.
- ▶ Uranium production in South Africa historically occurred as a **byproduct of mining** for **gold** or **copper**, according to the World Nuclear Organization. In 1951, a company meant specifically to process byproducts for the production of uranium was founded
- ▶ Niger is a substantial boon to a country whose mines provide 7.5 percent of global mining output and produce the highest-grade uranium ores in Africa.
- ▶ Today, Niger is the world's fourth-largest producer of uranium. It is mined close to the towns of Arlit and Akokan, northeast of the capital Niamey on the southern border of the Sahara desert and in the Air mountain range.
- ▶ Namibia's uranium mines are capable of supplying 10 percent of the world's mining output of the mineral, according to the World Nuclear Organization.
- ▶ The Tanzania's southeast region boasts the Madaba-Mkuju sandstone deposits, originally discovered in 1978 and now being explored.

o Interest in part of India in uranium dealing

- ▶ The 21st century has seen the African continent gain significant salience in Indian foreign policy. Elements of pragmatism have been mixed into the earlier idealistic policy and the factors such as energy, uranium, and other resources are driving India's interest in ties with Africa.
- ▶ Nuclear energy is expected to meet 25% of India's energy demand by 2050, and uranium imports are especially important to securing India's energy needs. The Indo-US nuclear deal has legally opened the option of nuclear trade with African nations. India has signed a string of nuclear deals with African countries in the last few years. Under the agreement, Namibia will supply uranium oxide to India, along with copper and diamonds. Uranium trade is an important component of India's civil nuclear programme.
- ▶ With the first phase focusing on India's pressurised heavy water reactors fuelled by uranium. Currently, Africa's civil nuclear industry is extremely underdeveloped and India's expertise has been welcomed by African nations such as Namibia, Niger, Malawi, South Africa, Madagascar, Tanzania, and Gabon. India's entry point into Africa has been through the 2009 Agreement on Civil Nuclear Cooperation with Namibia, allowing for trade and nuclear infrastructural development. The National Aluminium Ltd. is currently undertaking exploration projects with the intension of acquiring stakes in new uranium deposits particularly in Namibia.
- ▶ Currently, Namibia, Malawi, South Africa, Niger, and Madagascar are the top five exporters of uranium to India, and among them only South Africa has the membership in NSG. In the uranium sector, also, Indian private players have entered into the market. Taurian Resources Private Limited and Earthstone FZE are currently operating in Niger and Varun Energy Corporation has been operating in Madagascar.
- ▶ India has taken steps in helping Indian companies, both private and public, to invest abroad for natural resources, particularly in oil, gas, uranium, and coal. New Delhi has faced a number of setbacks from government supported Chinese companies, particularly losing out to China in at least \$12.5 billion of contracts in the past years in oil exploration bids in Africa. This poses a significant geopolitical as well as geo-economic challenge to India's long term strategic interests in engaging Africa. China has politically pursued a more proactive policy in Africa.

o Hurdles face by India

- ▶ China has politically pursued a more proactive policy in Africa.
- ▶ China's economic hard power capabilities have successfully blocked Indian investment in Africa's primary sector, especially in critical countries such as Angola, Algeria, Zambia, Sudan etc.

- ▶ India's bilateral trade and investment with Africa also pale in comparison to those of China. And the nature of the Chinese economy far greater than India's makes competing in Africa an extremely difficult task and presence of high-profile Chinese ventures on the continent further challenges India's cultivation of strategic ties with Africa: a situation which could eventually impact on India's energy security, given its dependency on African resources.
- ▶ However, India holds greater soft power potential owing to the ideological unity of emerging democracies. There is a more evenly-balanced power status in India's relations with Africa compare with China's hard power, and many African countries have doubts about China's real intentions in the continent.

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◉ **Way Ahead**

- ▶ This pact gives India a chance to persuade Namibia to ratify the MoU's of 2009. A major focus of India's president three-nation visit will be on energizing India's existing business ties with Ghana, Namibia and Cote d'Ivoire.
- ▶ And in the long run, for India and China to prosper and expand their influence, coexistence and cooperation seem to be the most viable option; narrow, focused, and complementary target areas should be identified to facilitate this.

3

ECONOMY

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3.1 ISSUES IN THE MCLR REGIME



(Q) What do you understand by MCLR? Why was it introduced in India. Why it has not been able to achieve its goal of perfect Monetary Transmission till now. What should be done to improve the situation?

◦ Context

Just two months after the RBI replaced the erstwhile base rate system with the new marginal cost of funds-based lending rate (MCLR), the central bank is talking of reviewing the implementation of the new framework because though the cost of funds has come down by 50-60 basis points from the earlier base rates; however, transmission to end-consumers hasn't been more than 20-30 bps.

◦ Why was MCLR introduced?

Since 2015, the regulator has reduced the key lending rate by 125 bps (till December when the MCLR guidelines were introduced) but banks had brought down their base rates by only 50-60 bps at that time. To ensure better transmission and transparency of rates, the RBI introduced the MCLR framework, under which banks have to calculate their cost of funds based on the latest rates offered on deposits or borrowings. This was to ensure that changes in deposit rates were immediately reflected on banks' cost of funds. Hence, purely on math, banks were forced to set their benchmark MCLR, 10-20 basis points lower than their base rate in April (when the MCLR rates were first published).

◦ Why Has MCLR failed to ensure lower lending rates

- ▶ For one, existing borrowers (for loans taken before April 1) continue to be charged interest on loans based on the earlier base rate system. Base rates in the last two quarters have not been reduced, and hence existing borrowers have not seen any relief in lending rates after the MCLR was implemented in April.
- ▶ The biggest problem the banking system is facing on MCLR is that deposit rates haven't been able to come down meaningfully. These are in low single digits for most banks and if they cut further at this time, the growth rate in deposits will slip further. That is probably why the desired effect of MCLR has not been achieved."
- ▶ Another challenge, say bankers, is the volatility from the monthly change in MCLR. Banks have to change it in each quarter and move to a monthly review from the next financial year but most are already doing the latter. "It is fluctuating a lot and that in turn is having an impact on the overall total operational cost and other things. This volatility can be a result of various factors, including divergence in advances and deposit rates, which cannot be controlled
- ▶ Another problem the lenders face is that some of the factors in calculating the MCLR rates are static. "Some components do not change, like the interest rate on savings and current accounts.
- ▶ Even if one had taken a loan under the new MCLR framework, reduction in MCLR month on month, will not benefit all borrowers. This is because unlike under the base rate system, where a revision in base rate was immediately reflected in lending rates of all loans benchmarked against it, under the MCLR-based pricing, lending rates are reset only at intervals corresponding to the tenure of the MCLR. In the case of SBI's home loans, for instance, since the loans are benchmarked against the one-year MCLR, lending rates will only be reset every year.

◦ Way Forward

The transmission of the monetary policy will depend on progress in the clean-up of bank balance sheets. This is because lenders can add a spread component over and above the MCLR, depending on the customer's risk profile and other considerations. After adding this spread, the real effect of transmission gets limited which in turn ends up undermining the whole idea behind MCLR, which was aimed at a faster and better transmission.

3.2 SOLAR POWER IN INDIA: ISSUES AND CHALLENGES

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- (Q) What are the impediments which India faces in achieving its solar potential? Do you think it will be able to achieve the high targets it has set for solar energy?
- (Q) Discuss the govt initiatives for promoting solar energy in India?

Context

India's renewable energy sector is undergoing a transformation phase. Govt is increasingly focussing on the solar energy, which has the potential to light up millions of homes and power micro to large enterprises across the country.

What is solar energy?

Solar energy is radiant light and heat from the Sun that is harnessed using a range of ever-evolving technologies such as **solar heating**, photovoltaics, **solar thermal energy**, **solar architecture** and artificial photosynthesis.

Solar Power Potential in India

- ▶ India has tremendous scope of generating solar energy. The geographical location of the country stands to its benefit for generating solar energy. The reason being India is a **tropical country** and it receives solar radiation almost throughout the year, which amounts to 3,000 hours of sunshine.
- ▶ The National Institute of Solar Energy in India has determined the country's solar power potential at about 750 GW.
- ▶ India ranks among the highest in the world in terms of solar irradiation with an average reading of 5.1 kilowatt hours (KwH) per square metre, according to CARE Credit Research. This is higher than Germany (2.9 KwH), Japan (3.65 KwH), the US (4.7 KwH) and Italy (3.8 KwH), all of which have a larger solar installed capacity than India.
- ▶ India's current solar power installed capacity is around 3 GW, or less than 0.5% of the estimated potential.

Advantages of solar energy

- ▶ Solar energy is a truly renewable energy source. It can be harnessed in all areas of the world and is available everyday.
- ▶ Solar energy is a resource that is not only sustainable for energy consumption, it is indefinitely renewable
- ▶ Once a solar panel is installed, solar energy can be produced free of charge.
- ▶ Solar energy will last forever whereas it is estimated that the world's oil reserves will last for 30 to 40 years.
- ▶ This is an inexhaustible source of energy and the best replacement to other non-renewable energies.
- ▶ Solar energy causes no pollution and is eco-friendly.
- ▶ In the long term, there can be a high return on investment due to the amount of free energy a solar panel can produce.

Disadvantages of Solar energy

- ▶ The primary disadvantage of solar power is that it obviously cannot be created during the night.
- ▶ And, also during day time, the weather may be cloudy or rainy, with little or no sun radiation. Hence, this makes solar energy panels less reliable as a solution.
- ▶ Only those areas that receive good amount of sunlight are suitable for producing solar energy.
- ▶ The land space required to install a solar plant with solar panel is quite large and that land space remains occupied for many years altogether and cannot be used for other purposes.

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- ▶ Energy production is quite low compared to other forms of energy.
- ▶ Solar panels require considerable maintenance as they are fragile and can be easily damaged. So extra expenses are incurred as additional insurance costs.

◉ **Government policy in India**

- ▶ As per its latest targets, the government is looking to raise solar power generation capacity to 48 gigawatts (GW) by early 2019, out of a targeted 100GW from solar by 2022.
- ▶ To ensure that there is a stable market for solar energy, the central government has already made it mandatory for state power utilities to buy a certain amount of this clean energy from independent power producers (IPPs).
- ▶ Government is ensuring grid connectivity and subsidies for rooftop solar projects.
- ▶ It also aims to increase the production of solar energy to 100 GW by 2022 which seems too ambitious given the fact that at present world's solar energy production is 181 GW.

◉ **Problems which are being faced by solar energy sector**

- ▶ Dust, high temperatures and the dearth of water are contributing to a significant increase in the cost of operating solar power plants in the country.
- ▶ Some of these factors, such as the level of dust particles and the type of dust, vary from region to region within the country, while other factors such as the hardness of the water and the shortage of a skilled labour force are more general problems faced by plants across the country.

◉ **Problems associated with high temperature**

- ▶ The solar panels that are used are not designed for such high temperatures.
- ▶ In remote areas with high temperatures, it is being found that plants not producing the required units of power. The panels do not yield their optimal usage.
- ▶ Dust is a problem, especially in Rajasthan, where the dust conditions are really bad and require frequent cleaning around two times a month, which then increases the operational costs.

◉ **Cleaning costs**

- ▶ Dust is a problem, especially in Rajasthan, where the dust conditions are really bad and require frequent cleaning around two times a month, which then increases the operational costs.
- ▶ There is alluvial dust (present in plains of north India and delta regions of south India). This type turns into mud when water is poured. Then there is sandy dust (present in Rajasthan and Gujarat), which can be washed away easily with water.
- ▶ Apart from the dust, one other main issue is the hardness of the water.
- ▶ Hard water is not suitable for cleaning, and companies have to invest in reverse osmosis (RO) and other technology to make it suitable.
- ▶ Since many large-scale power plants are located in the interior regions of Rajasthan, Gujarat, Maharashtra, Madhya Pradesh, Chhattisgarh and parts of South India, getting soft water on sites becomes difficult at times. Therefore, reverse osmosis or distillation plants have almost become mandatory for solar plants in order to provide water which can be used for cleaning modules.
- ▶ Apart from treating the water, the unavailability of a steady water supply also proves to be a problem for solar plant operators.

◉ **Rooftop solar**

While the government has sanctioned Rs.5,000 crore to provide a 30 per cent capital subsidy for rooftop solar installations, this works out to a one-time fix. Consumers will still be expected to foot the water bill and cleaning bill which means that individual households will also have to bear the operational costs of having solar modules on their roofs.

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o Skill Labour

- ▶ Skilled workforce required for cleaning and maintenance is not available in these areas and so companies have to bring them in from other areas and train them.
- ▶ All this results into higher operational costs but solar tariffs in India have fallen tremendously which pose a future risk for the industry.
- ▶ Thus companies in India are beginning to employ new technologies to counter the dust problem. For example anti-soiling technology like dust-free glass with self-cleaning hydrophobic nano-coating which stops dust from sticking to the glass of the module.

o Conclusion

- ▶ The government can compensate bidders for delays in evacuation and land acquisition. However, the ideal solution would be to announce a feed-in tariff mechanism, and let companies acquire land and build their own evacuation.
- ▶ There is also a need to invest in supporting infrastructure like transmission and distribution for evacuating power from solar projects. There is a need of policy and infrastructure support from the government and a pragmatic approach from industry players.

3.3 THE DRAFT CENTRAL PORT AUTHORITIES BILL 2016



(Q) What are the major problems faced by Ports in India. What steps have government taken in recent Years to improve the situation. How Will the Draft central port Authorities Bill 2016 help in improving the governance of ports in India.

o Context

The Ministry of Shipping has prepared a draft bill 'The Central Port Authorities Act' 2016' to replace the 'Major Port Trust Act, 1963.

o Why the draft bill is brought?

The bill is aimed at giving more autonomy and flexibility to the Major Ports and to bring in a professional approach in their governance.

o Key features of the bill

Salient Feature of the 'The Central Port Authorities Act' 2016

The salient features of the new Bill are:

- ▶ Composition of board has been simplified. The board will consist of 9 members including 3 to 4 independent members instead of 17-19 under the Port Trust Model. Provisions have been made for inclusion of 3 functional heads of Major Port as Members in the Board apart from a Government Nominee Member and a Labour Nominee Member.
- ▶ The disqualification of the appointment of the Members of the Board, duties of the Members and provision of the meetings of the Board through video conferencing and other visual means have been introduced on the lines of Companies Act, 2013.
- ▶ Port related and non-port related use of land has been defined. A distinction has been made between these two usages in terms of approval of leases. The Port Authorities are empowered to lease land for Port related use for upto 40 years and for non-port related use upto 20 years beyond which the approval of the Central Government is required.
- ▶ The need for Government approvals for raising loans, appointment of consultants , execution of contracts and creation of service posts have been dispensed with. The Board of Port Authority have been delegated power to raise loans and issue security for the purpose of capital expenditure and working capital requirement.
- ▶ The provision for maintenance of books of account and financial statements in accordance with the accounting standards notified under the Companies Act, 2013 or as prescribed by Central Government has been provided.

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- ▶ Concept of internal audit of the functions and activities of the Central Ports has been introduced on the lines of Companies Act, 2015
- ▶ The Board of the Port Authority has been delegated the power to fix the scale of rates for service and assets. The regulation to tariff by TAMP has been removed. ()
- ▶ An independent Review Board has been proposed to be created to carry out the residual function of the erstwhile TAMP for Major Ports, to look into disputes between ports and PPP concessionaries, to review stressed PPP projects and suggest measures to review stressed PPP projects and suggest measures to revive such projects and to look into complaints regarding services rendered by the ports/private operators operating within the ports would be constituted. At present, there is no independent body to look into the above aspects and the Review Board will reduce the extent of litigation between PPP Operators and Ports.
- ▶ Power of Central Govt. to take over the control of the Port Authority is limited to the event of grave emergency or in case of persistent default by Port Authority in performance of their duties.
- ▶ Provisions of CSR & development of infrastructure by Port Authority have been introduced.
- ▶ The status of Port Authority will be deemed as 'local authority' under the provisions of the General Clauses Act, 1887 & other applicable Statutes so that it could prepare appropriate regulations in respect of the area within the port limits to the exclusion of any Central, State or local laws.

o Major Problems faced by Ports in India

Impact of External Factors-Dwell Time

Parameter	India	Singapore	Denmark
Automation	Few processes automated	All custom procedures processed on line via trade net; 90% within 10% minutes of submission	All customs declaration filed & processed electronically
Single Window	No single window concept in use	Single window facility via trade net with links to 34 agencies; unique registration no. required	Single window service single unique registration number required
Examination	Risk management system (RMS) in operation; 50% still physically examined	Mainly post audit controls and use of non intrusive technology for examination	3 tier RMS & only 2 to 5% goods physically examined
Help desk	No single help desk exist	Outsourced call centre 24*7	Outsourced call centre 24*7
Duty structure	Reduced levels but multiple rates with exemptions makes export promotion cumbersome & complicated	Single low duty rate, GST not paid on input for exports	Single low duty rate, duty refund on inputs used in exports

Source: Based on Task Force on Transaction Cost in Exports, 2011, M/o Commerce and Industry

Port sector is backbone of Indian economy -Almost 95 per cent by volume and 70 per cent by value of India's global merchandise trade is carried through the sea route. There are many problems faced by port;

- ▶ Operational problems due to frequent breakdowns and lack of modern equipments.
- ▶ Inadequate dredging and container handling facilities.
- ▶ Inefficient and non-optimal deployment of port equipments.
- ▶ Lack of co-ordination in the entire logistic chain.
- ▶ Lack of proper roads connecting the hinterland for speedy movement of cargo.

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- ▶ Turnaround time in ports is one of the highest in the world
 - ▶ Frequent labour unrest.
 - ▶ Many major ports are affected by silting and require frequent dredging.
 - ▶ Except for Bombay and Madras, other ports do not have the facility of night navigation and pilots. This hampers working round the clock.
 - ▶ Governance issues: Major ports managed by Central govt. while minor ports by state govt. So skewed distribution of traffic, , lack of coordination in port traffic management and non-uniform tariff, resulting in suboptimal utilization of port infra.
 - ▶ Political pressure, lack of autonomy, absence of incentives, excessive bureaucracy, and hierarchical rigidities are contributors to the current state of the Indian ports.
 - ▶ The port are still working on public service model(port trust) unlike the best ports in the world which are managed by landlord port model.
 - ▶ Delay in paper work, customs clearances, high tariff , delay in environment clearances.
- ◉ **Measures Taken by Government in recent years to improve the situation**
- ▶ 100% FDI allowed in port sector.
 - ▶ Sagarmala Initiative- with components like Port led development, Coastal Community development and Coastal Economic Zones.
Maritime India Summit 2016 to attract investment
 - ▶ Boost to Coastal and Inland Waterways- National Water ways Act 2015 and Coastal shipping agreement with Bangladesh.
 - ▶ Project Green Port
 - ▶ PPP contracts for construction of berths and terminal and mechanization of existing berths
 - ▶ Establishing dry ports at Jawahar Lal Nehru Port Trust and Kandla
 - ▶ 100 per cent income tax exemption from income tax is extended to companies investing in port infrastructure.
 - ▶ Port led industrialization and modernization of adjacent situated areas has been envisaged as mechanism for enhancing indigenous manufacturing potential and creating employment opportunities.
- ◉ **What more Should be done?**
- ▶ Corporatization of ports
 - ▶ The govt needs to carry out several policy and regulatory reforms like streamline tariff determination by Tariff Authority for Major Ports(TAMP) with provisions for periodic revisions, ensuring transparent and effective contractual agreements in PPPs
 - ▶ In order to develop infrastructure, it is crucial to maintain draft to handle bigger vessels, ensure mechanization, build new and upgrade existing facilities as well as automate systems/procedures.
 - ▶ implement strengthened communication platforms for information flow among stakeholders, strengthen system integration, ensure paperless clearance of procedures and transactions, develop user information portals.

3.4 GOOGLE TAX



(Q) It is commented by many experts that Recently imposed Google tax and Start up India programme are contradictory to each other. Discuss.

◉ **Context**

The central government has announced that, starting from 1 June, it will impose an 'Equalization Levy' of 6% on cross-border digital transactions of more than Rs 1 lakh.

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To be charged on...
PAYMENT TO NON-RESIDENT
COS FOR SPECIFIED SERVICES

Payment exceeding
₹ 1 Lakh
in a year

6-8%
of gross
payments to
these cos

...for specified services

Online advertising
For storing or distributing
digital content

Use or right to use or download
online music, movies, games etc

Services relating to
online transactions

Online news, online search, online
maps or GPS applications

Online software applications
downloaded

Industry Upset
Strong opposition
from internet
companies such as
Google

◉ What is Google tax?

- ▶ Dubbed as the 'Google tax', this is essentially an indirect tax on foreign companies like Google, Facebook and Twitter for online services they provide to Indian companies that cost above Rs 1 lakh a year.
- ▶ Products and services could range from online advertisements or online advertising space to, design, creation, hosting or maintenance of websites, and so on.
- ▶ The said rule is applicable when the payment is made to companies that don't have a permanent establishment in India. This tax, however, is only applicable when the payment has been made to avail certain B2B services from these technology companies.

◉ Why this tax is imposed by the Indian Government

- ▶ This tax is targeted towards online companies such as Google or Facebook, which provide monetised services in various countries, but route their profits through tax havens, thus avoiding legitimate taxes on their revenue.
- ▶ The government has faced difficulties in bringing them under the tax net because, even where payment for services may take place in Indian currency, the payments are made in tax-friendly locations outside the jurisdiction of Indian authorities.

◉ Who will it impact?

- ▶ If you're a business owner, especially running a small business or an online start up, and you use Facebook or Google for advertising and marketing promotions, then the Google Tax will impact you.
- ▶ Let's take an example: assume that A runs a company and is liable to pay Rs 5 lakh to a foreign company to advertise with them.
- ▶ With the new tax in place, A will have to withhold 6% of the amount – i.e. Rs 30,000 – and pay the balance Rs 4.7 lakh to the foreign company for its services. The withheld amount will be paid to the government.
- ▶ It remains to be seen whether the foreign company will stand to bear the loss by simply accepting lower margins because of the new tax or will they hike the advertising rate taking the new tax into account?
- ▶ If the latter happens, which is most likely, the Indian business owner, in this case, A, will bear the loss.
- ▶ A's overall billing will likely shoot up by about 6%, which means he will have to pay Rs 5 lakh plus taxes. So his total payout may go up to Rs 5.3 lakh.

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◦ Significance of the decision

The tax has been aimed at technology companies that make money via online advertisements. Their revenue is mostly routed to a tax haven country. This tax will help bring the said companies under the tax radar in India

◦ Criticism of the decision

- ▶ Although, some commentators have deemed this to be a positive move to tax companies accused of tax evasion in various countries, others have expressed the concern that it is likely to hurt small and medium Indian companies, and especially start-ups. Given the government's apparent concern for encouraging the growth potential of start-ups, this move is therefore seen as counter-productive.
- ▶ As the proposed 'Equalisation levy' is indirect, it falls upon Indian advertisers to collect the 6% tax and deposit it with the government. Hence it is felt that the Googles and the Amazons are simply more likely to increase the price of their products or services to recoup the taxed amount.
- ▶ Thus, it is the start-ups that lose out in the bargain as the cost of doing business increases, and there are no viable alternatives to their dependence on online resources. More established companies, on the other hand, always have the option of depending on other legacy channels (such as television, newspapers, outdoor advertising, etc.) for promotions and operations. As the cost of operation increases, the price is also likely to increase for the end-customer.

◦ Conclusion

While Google tax is a decent, first attempt at trying to recoup lost tax revenues, it's very indirectness means that a great number of Indian start-ups will be impacted. Direct naming-and-shaming, the way the UK has done to great effect, will go a long way in encouraging Silicon Valley to be more tax compliant. In this regard, the government's close relationship with these technology companies shouldn't matter. If TRAI was allowed to take on Facebook when it came to net neutrality, tax authorities should be allowed to do the same with Google and Amazon.

3.5 SEBI ISSUES STRICTER KYC, DISCLOSURE REGIME FOR P-NOTES



- (Q) What do you understand by Participatory notes? Why they are popular among the investors.
- (Q) Why Participatory notes are criticized. What is the significance of the recently released norms on PN by SEBI.

◦ Context

Recently SEBI put in place a stricter KYC and disclosure regime for participatory notes to make it tougher to use these offshore instruments without disclosing the money-trail and details of their users.

◦ What are P-notes?

Participatory Notes commonly known as P-Notes or PNs are instruments issued by registered foreign institutional investors (FII) to overseas investors, who wish to invest in the Indian stock markets without registering themselves with the market regulator, the Securities and Exchange Board of India - SEBI. SEBI permitted foreign institutional investors to register and participate in the Indian stock market in 1992.

◦ Why It is popular in India

- ▶ **Anonymity:** Any entity investing in participatory notes is not required to register with SEBI (Securities and Exchange Board of India), whereas all FIIs have to compulsorily get registered. It enables large hedge funds to carry out their operations without disclosing their identity.
- ▶ **Ease of Trading:** Trading through participatory notes is easy because participatory notes are like contract notes transferable by endorsement and delivery.

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- ▶ **Tax Saving:** Some of the entities route their investment through participatory notes to take advantage of the tax laws of certain preferred countries.
 - ▶ **Money Laundering:** PNs are becoming a favourite with a host of Indian money launderers who use them to first take funds out of country through hawala and then get it back using PNs.
 - ▶ P-notes are not necessarily just for the India market. In general terms, p-notes are used for any market/share classification whereby there are restrictions for foreign investors (i.e. require a Foreign Investor-type license for non-locally domiciled brokerages). The notable markets include Shenzhen and Shanghai for China A-shares, some MENA markets and Korea in addition to India.
- **What are the Disadvantages of P-notes?**
- ▶ While a common investor has to fill up several KYC (know your customer) forms, provide PAN number and proof of address, etc, a P-Note investor can invest anonymously. This makes it a 'legal' way to route unaccounted wealth in Indian equities, thus feeding the black money monster.
 - ▶ Other than politicians, bureaucrats or business-persons, even terror financiers are feared to misuse the P-Note route to fulfil illegal objectives.
- **Which Factors caused SEBI to Tighten Norms on P-notes**
- ▶ A Special Investigation Team (SIT) appointed by the Supreme Court, a few months ago, came out with a report on black money and exposed the links between Indian stock market and international tax havens.
 - ▶ A flurry of suggestions SIT made to tackle the black buck menace, including cancelling the participation in the Indian markets by way of P-notes altogether. Taking cues from the suggestions, SEBI tightened norms for Participatory notes.
- **Key features of the new norm**
- ▶ Under the new norms, all the users of ODIs(also called P-notes) would have to follow Indian KYC and AML (Anti Money Laundering) Regulations, irrespective of their jurisdictions, while the ODI issuers will be required to file suspicious transaction reports, if any, with the Indian Financial Intelligence Unit, in relation to the ODIs issued by them.
 - ▶ Presently, the details of ODI holders need to be mandatorily reported to Sebi on a monthly basis. Sebi has now decided that in the monthly reports on ODIs all the intermediate transfers during the month would also be required to be reported.
 - ▶ Besides, ODI issuers will have to carry out reconfirmation of the ODI positions on a semi-annual basis. In case of any divergence from reported monthly data, the same should be informed to Sebi in a prescribed format.
 - ▶ ODI issuers shall be required to put in place necessary systems and carry out a periodical review and evaluation of its controls, systems and procedures with respect to ODIs
 - ▶ In order to bring about an uniformity in KYC/AML norms, it has been decided that Indian norms will now be applicable to all ODI issuers. These norms will be the same as that applicable for all other domestic investors.
 - ▶ ODI Issuers will be required to identify and verify the beneficial owners in the subscriber entities, who hold in excess of the applicable threshold — 25 per cent in case of a company and 15 per cent in case of partnership firms, trusts or unincorporated bodies. In such cases, the ODI issuers will need to identify and verify the persons who control operations of these entities.
 - ▶ On KYC review, Sebi said it needs to be done on the basis of the risk criteria — at the time of on-boarding and once every three years for low-risk clients and at the time of on-boarding and every year for all other clients.
- **Significance of the New Rules**
- ▶ The new norms are in line with suggestions made by the SIT in its July 2015 report. The new Rules will enhance transparency and control over issuance of P-notes These changes will not only make the route difficult to access India market but also make it

more expensive. P-note issuers will have to put in place a robust mechanism to track end beneficial owner.

- ▶ The new set of rules is likely to tighten the round tripping of money by Indian investors.

◉ Criticism of the new norms

- ▶ Experts believe that know your customer (KYC) norms are already quite significant and been placed for the last few years where when you issuing the Offshore Derivative Instruments (ODI) you have ensure that the counterparty is regulated entity and compliant and what not.
- ▶ The new stringent norms will really be a major blow to the market. Experts believe that there are large number of genuine investors also who do not want to come and directly into India and registered as an foreign portfolio investment (FPI) for the compliance burden which is put on you whenever you registered yourself in a new market. They prefer therefore the ease of buying ODIs from their known counterpart global dealers. Now that market may get hit because if now as an ODI purchaser you need to go back to the seller to take his consent. It impact the flexibility to sell when a investor want, the way investor want etc in a major manner which means it creates illiquidity and why would then investor want to invest in an instrument where there can be significant illiquidity. Thus experts believe that new norms would make P-notes irrelevant in India.

◉ Conclusion

While the move of SEBI is laudable however along with this The SEBI should make the direct registration of FII investors hassle free so that genuine investors who use P-note route to invest in India because of cumbersome procedure of direct registration can make a smooth transition towards directly registering themselves as FII investors. More curbs on P-Notes may keep some bad elements out, but it will be a pity if in the process genuine investors are also pushed away.

3.6 DISCREPANCY IN GDP DATA



(Q) What do you understand by the term Discrepancy in the context of national income accounting?

◉ Context

The government recently announced that India's Gross Domestic Product has grown from 7.2% in the December 2015 quarter to 7.9% in the March 2016 quarter. However Many economist believe that GDP data doesn't reflect ground realities as there is sharp increase in a budgetary item called discrepancies These were Rs. 1,43,000 crores in Q4 of 2016, compared with Rs. 29,933 crores in Q4 2015.

◉ What is GDP discrepancy?

- ▶ GDP measures the country's output as the sum of final expenditures – including consumer spending, private investment, net exports as well as government consumption and investment. Gross domestic income measures the output in terms of the sum of the costs incurred and the incomes earned in the production of GDP.
- ▶ In theory, GDP should equal GDI; in reality, they are different because their components are estimated using mostly different and less-than-perfect data sources. In national income accounting, the difference between GDP and GDI is called statistical discrepancy; and it is this that balances the GDP and the GDI.
- ▶ This year there is sharp increase in a budgetary item called discrepancies These were Rs. 1,43,000 crores in Q4 of 2016, compared with Rs. 29,933 crores in Q4 2015. This is an increase of more than Rs. 1,13,000 crores. This is just slightly less than the Q4 growth of Rs. 1,27,000 crores in private final consumption expenditure. In other words, discrepancies contributed to about 50% of GDP growth. If the discrepancies were not taken under consideration for calculating the GDP, for the entire year, this would shave off almost 1% – making the expected annual GDP growth 6.9% instead of the 7.9%

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o Indicators which do not match with the GDP numbers

- ▶ **Investment**-Gross fixed capital formation, which is the net increase in physical assets within a period – or simply put, investment – is actually decreasing. It has been declining steadily since Quarter 2, when it was 32.9% of the GDP, to 29.9% in Q3 and 29.4% in Q4.
- ▶ The data released recently shows that gross fixed capital formation in Q4 is down by Rs 17,197 crores or has contracted by 1.9% as compared to Q3. Moreover government expenditure, while having increased by Rs 6482 crores, has actually declined in comparison with the fourth quarter of 2015 by about Rs 4400 crores.
- ▶ Another worrying reality is the widening discrepancy between sectoral growths and GDP growth. Industry growth fell from 8.6% in Q3 to 7.9% in Q4, while the services sector slowed from 9.1% in Q3 to 8.7% in Q4. Only agriculture has reversed the trend, from -1% in Q3 to 2.3% in Q4, after having tumbled down from 2% in Q2. But here too the numbers don't do much to assuage the situation on the ground
- ▶ During the past two years, vast regions of India have been gripped by a severe drought. Production of food grains has remained largely dormant. It fell from 265.57 million tons in 2013-14 to 257.07 million tons in 2014-15. It is expected to further fall to 253.17 million tons in 2015-16. There are visible signs of widespread distress in rural areas; the most visible manifestation is the rural migration to cities in search of jobs.
- ▶ Meanwhile, growth in bank lending remains close to its slowest rate in over a decade. Recent data also point to slack with firms reporting low rates of capacity utilisation.

o Reasons for this GDP figure

- ▶ Private final consumption expenditure has shown a spurt from Rs 71.93 lakh crores in 2014-15 to Rs 80.76 lakh crores in 2015-16. A good part of this increase must be attributed to the huge jump in government wages and pensions (including the One Rank One Pension scheme) by more than Rs 1,10,000 crores over the last year alone. No wonder sales of bellwether industries like private and commercial vehicles and household appliances have shown an uptick.
- ▶ Credit growth has declined from 9.1% to 8.4% in the last year, due to a slump in industrial credit demand. This suggests that while some sectors are clearly back on the growth track, the growth is being driven by sections of the population whose incomes have risen sharply in recent times.

o Does it mean That there is no Improvement in the economy?

- ▶ Certainly not there are some encouraging signs too. Latest corporate results show that profits are rising. A study by *Financial Express* of about 1,200 companies shows that Q4 profits rose by almost 42%.
- ▶ A CRISIL study for the 2015-16 financial year, tracking results of 642 companies representing almost 72% of the National Stock Exchange's market capitalisation, shows that profits rose by 16.7% to Rs 178,833 crores, while revenues rose only 2.5%, to Rs 22,98,030 crores.
- ▶ Clearly, the prospects for investment are now brighter as Q4 results are heartening.
- ▶ Agriculture which grew negative in third quarter grew swiftly in the Fourth quarter at 2.2%.

3.7 GOVERNMENT POLICY FOR MSME



(Q) Discuss the significance of MSME sector to India's economy. What are the schemes govt has taken for promotion of this sector? What measures would you suggest in order to increase the contribution of MSME to growth of the nation?

o Context

The national policy for the micro, small and medium enterprises (MSMEs), which seeks to boost the overall growth of the sector, is expected to be released shortly by the govt

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o What are MSMEs?

Manufacturing Sector	
Enterprises	Investment in plant & machinery
Micro Enterprises	Does not exceed twenty five lakh rupees
Small Enterprises	More than twenty five lakh rupees but does not exceed five crore rupees
Medium Enterprises	More than five crore rupees but does not exceed ten crore rupees
Service Sector	
Enterprises	Investment in equipments
Micro Enterprises	Does not exceed ten lakh rupees:
Small Enterprises	More than ten lakh rupees but does not exceed two crore rupees
Medium Enterprises	More than two crore rupees but does not exceed five core rupees

The administration of the MSME sector falls under the jurisdiction of the Ministry of Micro, Small and Medium Enterprises (Sukshma Laghu Aur Madhyam Udyam Mantralaya), of the Government of India.

o Role of MSMEs in Indian economy

India's MSME sector has been the main vehicle of economic development. The sector not only contribute significant percentage in country's GDP , but also it is the leading sector in employment generation, poverty alleviation, social justice, foreign exchange earner etc.

o Importance of SME's in India

- ▶ SSI is one of the significant segments of the Indian economy, contributing about 7 per cent to the Indian GDP and providing employment to over 28 million people.
- ▶ The Indian SME segment's current production value is almost Rs. 816,000 crore.
- ▶ It contributes to around 40% of industrial production and exports.
- ▶ The SSI sector targets both domestic as well global markets.
- ▶ Globally, 99.7 per cent of all enterprises in the world are SME's and the balance 0.3 per cent are large-scale enterprises.
- ▶ According to the Ministry of Small Scale Industries, the number of registered SSI units in India has increased from 11 million units in 2002-03 to 11.4 million units in 2003-04, up 3.6 per cent.

The following points highlight the role of this sector in Indian economy:

- ▶ It contributes 37.5% to GDP of country, and accounts for more than 40% of country's export. It makes the sector largest receiver of foreign exchange reserve.
- ▶ The share of large corporation in employment generation is only 8%, rest is generated by the MSME. Thus, it promises employment generating growth.
- ▶ The MSME covers segment of area, population (both skilled and non skilled) and sector. Large corporates confine themselves to Urban areas and metro cities and limited area such software , IT , etc . The MSME penetrated itself to the villages, tribal areas , skilled and non skilled work force and most sector of economy.
- ▶ To some extent MSME has been able to contain the migration from rural to urban area. Thus it helped in reducing the stress on cities.
- ▶ The growth model of MSME is inclusive and environmentally sustainable.
- ▶ Social justice through providing employment in large number, source of cheaper products with better quality, competitive products suitable for Indian societies.
- ▶ Wider reach even to remote corners of the country and penetrated markets for goods like match boxes making, bamboo products etc.

o Problems suffered by MSMEs

- ▶ Non-availability of credit and institutional finance – Most financial institutions are averse to lending money to MSMEs. High cost of credit, requirement of collateral, limited access to equity capital and global markets exacerbates the problem.

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- ▶ Outdated technology and innovation – The use of such technology impedes MSMEs' competitiveness and growth;
- ▶ The need for skill development and training has not been addressed adequately.
- ▶ Inadequate industrial and institutional infrastructure – Non-maintenance of roads, affluent plants, adequate water supply and power distribution, common facilities for workers and security reduce the efficiency of these industries;
- ▶ Marketing and Procurement – procurement of raw materials and lack of market information due to lack of awareness and financial assistance are constrain this sector.
- ▶ Constraints on modernisation & expansions
- ▶ Non availability of skilled labour at affordable cost

◉ **Policies in India for MSMEs**

- ▶ Ease of Registration Process of MSMEs- Udyog Aadhaar Memorandum (UAM)
- ▶ ASPIRE - A Scheme for Promotion of Innovation, Rural Industry and Entrepreneurship was launched on 16.03.2015 to set up a network of technology centres and to set up incubation centres to accelerate entrepreneurship and also to promote start-ups for innovation and entrepreneurship in rural and agriculture based industry with a fund of 210 crore.
- ▶ NATIONAL MANUFACTURING COMPETITIVENESS PROGRAMME (NMCP): The NMCP is the nodal programme of the Government to develop global competitiveness among Indian MSMEs. The Programme was initiated in 2007-08. This programme targets at enhancing the entire value chain of the MSME sector.

◉ **Programmes for the MSME Sector**

▶ **Cluster Development Initiative (CDI)**

- ▶ Clusters are defined as sectoral and geographical concentrations of enterprises that share common opportunities and threats
- ▶ Clusters facilitate the development of inter-firm cooperation to promote local production and collective learning
- ▶ Clusters account for over 60% of manufactured exports from India
- ▶ The CDI in India is supported by the Cluster Development Programmer of the United Nations Industrial Development Organisation (UNIDO)

▶ **National Manufacturing Competitiveness Programme (NMCP)**

- ▶ Launched in 2005
- ▶ Aims to increase competitiveness in the face of liberalization and moderation of tariff rates
- ▶ Implemented by the National Manufacturing Competitiveness Council functioning under the Ministry of MSME

▶ **Scheme of Fund for Regeneration of Traditional Industries (SFURTI)**

- ▶ Launched in 2005
- ▶ Aims to achieve comprehensive development of clusters of khadi, village and coir industries
- ▶ Implemented by the KVIC and the Coir Board

▶ **Rajiv Gandhi Udyami Mitra Yojana (RGUMY)**

- ▶ Launched in 2008
- ▶ Aims to provide support and assistance to first-time entrepreneurs
- ▶ Helps in dealing with various procedural and legal formalities required for the establishment of the enterprise
- ▶ Implemented by the Ministry of MSME
- ▶ Programmes like make in india, skill india, MUDRA yojana further seek to boost this sector.

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o Way ahead

- ▶ The problems faced by MSMEs need to be considered in a disaggregated manner for successful policy implementation as they produce very diverse products, use different inputs and operate in distinct environments.
- ▶ In general, there is need for tax provisions and laws that are not only labour-friendly but also entrepreneur-friendly. More importantly, there is need for skill formation and continuous upgrade both for labour and entrepreneurs.
- ▶ While the government has to strengthen the existing skilling efforts for labour, there is an urgent need for managerial skill development for entrepreneurs running MSMEs — an area that is considerably neglected.

3.8 RBI ISSUES NEW NORMS FOR BAD LOANS MANAGEMENT



(Q) What are the new norms issued by RBI for managing bad loans? What will be the challenges in implementing the new norms?

o Context

Seeking to slow the build-up of sticky loans and ease the pressure on company balance sheets, RBI has offered a measure of relief to banks stressed by bad loans.

o What are the measures suggested by RBI?

- ▶ Banks will be allowed to convert up to half the loans held by corporate borrowers into equity or equity-like securities. This is expected to help restore the flow of credit to crucial sectors and reduce stress on corporate borrowers.
- ▶ Banks will be allowed to rework stressed loans under the oversight of an external agency, thereby ensuring transparency while also protecting bankers from undue scrutiny by investigative agencies.
- ▶ Scheme for Sustainable Structuring of Stressed Assets' (S4A) for the resolution of large stressed accounts has been formulated by RBI.

o What is S4A?

- ▶ S4A envisages determination of the sustainable debt level for a stressed borrower, and bifurcation of the outstanding debt into sustainable debt and equity/quasi-equity instruments.
- ▶ In simple terms, a bank can determine the amount of debt that it thinks a firm can service with its current cash flows. This proportion of debt must not be less than half the loans or funded liabilities of the company. Once the sustainable level of debt has been determined, banks can convert the rest of the debt into equity or quasi-equity instruments.

o However, the scheme comes with a number of caveats

- ▶ Banks are not allowed to offer any moratorium on repayment on the sustainable part of the debt. They are also not allowed to extend the repayment schedule or reduce the interest rate on the debt, which would be akin to restructuring of a loan.
- ▶ The conversion of part of debt into equity or equity-like securities will be governed by a set of valuation criteria laid down by RBI and the Banks will need to set aside higher provisions if they choose to follow this route.
- ▶ An Overseeing Committee, set up by the Indian Banks Association, in consultation with the RBI, comprising of eminent experts, will independently review the processes involved in preparation of the resolution plan, under the S4A, for reasonableness and adherence to the provisions.

o What are the challenges in implementation?

- ▶ These allow only projects where commercial operations have commenced; so the banks will not be able to do much for projects which are still under implementation.

- ▶ If the current cash flows are used as a basis to ascertain sustainable debt, then there is a risk of accumulating too much unsustainable debt, which would then make the proposal unviable.
- ▶ The guidelines do not allow for banks to change the terms and conditions of the loan which means that not too much support to the sustainable part of the debt can be extended.
- ▶ Another concern could be the high level of equity dilution that may result from a scheme of this nature. This could be negative for shareholders and may also reduce the incentive for promoters to actually turn around the company.

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3.9 INDIA'S POST PAYMENTS BANK GET CABINET NOD



(Q) What is Payment bank. List its main features. Recently the union cabinet has given nod to Indian post payment bank. How will it act as a game changer in Indian scenario?

◉ Context

- ▶ The Union Cabinet has approved the setting up of India Post's payments bank at a total project cost of Rs 800 crore recently.
- ▶ The India Post Payment Bank (IPPB), is expected to generate employment opportunities for about 3,500 skilled banking professionals, and set up 650 branches and 5,000 ATMs across the country by 2017.

◉ What are payment banks?

These are the new stripped-down type of banks, which are expected to reach customers mainly through their mobile phones rather than traditional bank branches. They are expected to increase the financial inclusion in the country by providing banking services to the people who are currently out of the reach of banking services.

◉ Features of Payment Banks

- ▶ Payments Banks can accept demand deposits (only current account and savings accounts) with a ceiling limit of Rs.1 lakh per customer.
- ▶ Payment Banks will pay interest at the rate notified by the RBI.
- ▶ Payment Banks can issue Debit Cards but not credit cards.
- ▶ Payment Banks cannot engage in lending services i.e. they cannot give loans, thus phasing out the fear of NPA.
- ▶ The Deposit up to Rs.1 lakh is insured by the DICGC (Deposit Insurance and Credit Guarantee Corporation), same as in bank accounts.
- ▶ Payment banks cannot involve in any credit risk and can only invest in less than one year G-Secs or treasury bills.
- ▶ Payment Banks will charge a fee as commission. This will be the sole earning for the banks.
- ▶ Payment bank will also have to maintain CRR (Cash reserve ratio) just like other Scheduled commercial banks (SBI, PNB, BoB, Dena, ICICI etc)

Major difference between the payment banks, PPI and Commercial banks:

System	Can give loans?	Can accept deposits?	Can make payments?	Can offer interest on deposits?
Commercial Banks (SBI, PNB)	Yes	Yes	Yes	Yes
Payment Banks	No	Yes	Yes	Yes
Pre-Paid Instruments	No	Yes	Yes	No
Payment Network Operator (Visa, MasterCard)	No	No	Yes	No

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o **Why does India need payment banks when we already have so many PSB?**

The objectives of setting up of payments banks is to further financial inclusion by providing (i) small savings accounts and (ii) payments/remittance services to migrant labour workforce, low income households, small businesses, other unorganised sector entities and other users.

- ▶ These banks have been created to help India reach its financial inclusion targets. This type of bank can be highly useful for migrant labourers, low income households, small businesses, and other unorganised sector entities.
- ▶ There are large population in India do not have banking facilities due to India's geographical spread, regional disparities, reach and connectivity. It is expected that these payment banks can use the mobile platform to provide basic banking transactions, in particular, payment for services and subsidies through mobile phones.

o **How These Payment Banks Will Survive, when they can not lend?**

The questions are being raised as to how these new banks will be able to survive in absence of income from lending.

- ▶ The payments banks are expected to bring in to their fold millions of customers who are currently not within the fold of the formal financial system. This would lead to large volumes of transactions fetching the payments banks fees - a charge of even 1 or 2 per cent on a large volume can be lucrative on normal cash transfers, which will include government's direct benefits transfer programmes.
- ▶ Moreover, new payments banks can also earn 7.0% or so on their investments in government securities.
- ▶ With no need for any provisions or losses on NPAs for these payment banks, they may become fitter banks than existing banks.

o **How will Indian post payment bank a game changer?**

- ▶ In contrast to the Banks, Indian Post have the wide and well establish network in the length and Breadth of the India. IPPB will, on the day it launches, have a network of more than 150,000 branches, of which almost 140,000 are in India's rural hinterland. So, they will be able to provide services in rural and Remote area where bank fail to expand.
- ▶ People of the India have the trust in post and Have Experience of the Post Financial service like small Deposit and Pension etc. Which banks mainly lack. So, It will also not have to gain trust of customers like its competitors, especially in the rural areas, as the local postman is still an integral part of the day-to-day lives of the rural populace.
- ▶ In The era of the internet the use of the Postal service has decreased , so, This Banking May increase the efficiency of the Resources of the post.
- ▶ It will not lend money and, as a result, will be shielded from the risks that conventional banks are exposed to.
- ▶ with the postal department moving towards shifting its entire operations to a core banking solution, it will be able to truly become a payments bank with both an offline and online presence.
- ▶ It will be able to deliver mnrrega payments, subsidies ,pensions, DBT, remittances and insurance in difficult, inaccessible and hilly areas where brick and mortar banks are unviable to setup.
- ▶ Indian posts will have greater access to capital and credit increasing its profits through equity, joint ventures, global partnerships and greater earnings.

o **Challenges**

- ▶ As a Bank, Post have to follow the RBI Guidelines which Post have no experience yet.
- ▶ Indian post needs the wide scale technological up gradation and also Human resources management to handle the banking operations.
- ▶ The post office payment bank will have to quickly move to an online platform to make it easier for customers to access their accounts and conduct transactions.
- ▶ It can't provide loan, can't accept demand deposit more than 1 lac , it will be required to invest minimum 75% of its "demand deposit balances" in Statutory Liquidity Ratio(SLR) etc. These excessive regulations will act as a hurdle on the way of financial inclusion.

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3.10 HAS LIC BECOME THE LENDER OF LAST RESORT?

Context

It has been observed that state-owned LIC has become the most sought-after lender by the government across sectors—be it for extending soft loans to the railways, subscribing to the power sector's Ujwal Discom Assurance Yojana (UDAY) bonds, investing in the National Investment and Infrastructure Fund (NIIF) or capitalizing state-run banks, besides actively participating in the government's disinvestment agenda.

Who is the lender of last resort and why is it said so?

- ▶ It is An institution that offers loans to banks or other eligible institutions that are experiencing financial difficulty or are considered highly risky or near collapse.
- ▶ It is called so because when all sources fail, any institution can go to it and it has to provide money or other help needed.

Who is India's lender of last resort?

RBI in India is known as Lender of Last Resort because, banks are supposed to meet their shortfalls of cash from other sources and if the other sources don't meet the demand, then they approach RBI.

How has the scenario changed?

With assets of Rs.20 trillion and long-term funds from policyholders, LIC has come among the best equipped to lend long term, and hence, not surprisingly, the government's preferred lender.

The given illustration denotes the investments and the loans that have been extended by LIC

LIC'S INVESTMENTS/LOANS

	₹ crore
▶ Investment by LIC as proposed by the government in National Infrastructure and Investment Fund (NIIF)	4,000
▶ Investment in Railways till 2020 (each year)	upto 30,000
▶ Uday Bonds in 2015-16	4,200
▶ Bond issuances of state run banks (in 2015-16)	8,000
▶ Bank equity (in 2015-16)	5,000

Source: Mint Research, Government data

It has been observed that LIC does not typically give loans. It normally buys debt instruments — bonds or debentures — from companies that typically want to raise money for long-term needs.

About LIC

- ▶ Life Insurance Corporation (India) (LIC) is an Indian state-owned insurance group and investment company headquartered in Mumbai. It is the largest insurance company in India
- ▶ The Life Insurance Corporation of India was founded in 1956 when the Parliament of India passed the Life Insurance of India Act that nationalised the private insurance industry in India.
- ▶ LIC is under the regulation of IRDAI (Insurance Regulatory and Development Authority of India).

Way forward

- ▶ The increasing investment by LIC denotes the failure of banking system to provide loans in times of need. The LIC was not set up with the idea of funding and investments.

It has the primary role of insurance. At times, concerns have also been raised about its lending as they have led to default as well.

- ▶ If LIC will ultimately become the lender of last resort in the country, then in the case of failure it may have a negative effect on the financial health of the country.
- ▶ LIC has the money which has been invested by the people. In case if the loans forwarded by it become bad loans, it may cost heavily for LIC.

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3.11 CENTRE MAY CUT 5 IN 5/20 AIRLINE RULE

- ▶ The government may allow domestic airlines with 20 aircraft to fly international routes and lift a restriction of 5 years of local operations. The new norms are the part of the civil aviation policy, while the 5 year restrictions could be lifted.
- ▶ Domestic carriers may still be required to comply with the present fleet norms consisting of, having at least 20 planes and they would also required to deploy, at least 20% of their total aircraft capacity on domestic sectors in order to secure international flight permits.
- ▶ As per the present 5/20 rules, airlines in India are permitted to fly abroad only if it has 5 years of domestic flying experience and at least 20 aircrafts in its fleet.

◉ Draft of civil aviation policy has proposed 3 options:

- ▶ Keeping the same rule
- ▶ Doing away with old rule
- ▶ Replacing it with a credit base system.
- ▶ The aviation companies are divided over this rule and the lack of consensus is partly responsible for delays in rolling out the new aviation policy.
- ▶ Vistara and Air Asia, on the other hand, are in favour of scrapping the 12 year-old rule, which restrict them to fly to international airports from India. On the other hand private airline that are allowed to fly abroad such as, Indigo, Jet Airways and Spice Jet have opposed to proposal to abolish the rule.
- ▶ The proposal to replace the '5/20 norms' with a '20/20 rule' appears to be a compromise between logical, global precedence and domestic compulsion. Though sub-optimal, it is perhaps a practical move to break the stalemate that has held back the NCAP 2016, which has wide ranging reforms far beyond just the 5/20 issue.
- ▶ Vistara a joint venture of Tata Sons and Singapore Airlines (SIA), recently inducted its 10TH Plane and AirAsia India owned by Tata sons and Air Asia Bhd, flies 6TH planes on domestic routes as of now. Both the Airlines may take around 12-15 months after the release of the civil, aviation policy to induct 20 aircrafts to be able to fly on domestic routes.
- ▶ The revised rule of '20 aircraft and 20% ASKM in the market' defines the logic of identifying an airline's financial sustainability and ability of operating international flights.

3.12 GOVERNMENT STARTS UBIN DRIVE FOR BUDDING ENTREPRENEURS

- ▶ The Union Government has started the process for issuance of Unique Business Identification Number (UBIN) to enable budding entrepreneurs set up their business without any delays.
- ▶ The expedition has been launched by 'Department of Industrial Policy and Promotion (DIPP) under the Union Ministry of commerce and Industry'.
- ▶ The UBIN would be automatically linked to the Ministry of Corporate Affairs (MCA) portal after is issued to the intended beneficiary and subsequently sent to the Central Board of the Direct Tax (CBDT) which would nomenclature it as PAN for Unique Business Identification Number.
- ▶ This action is seen as major steps towards boosting up the Start-up India initiative and the ease of doing business of the government under the 'minimum government and maximum governance' approach.

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o About the UBIN

- ▶ A number identification code that is attached to an item or business entity which is exclusive to that particular entity.
- ▶ For many products this can be a serial number or similar identification.
- ▶ UBIN is used as the means of tracking and monitoring regulations compliance across the state lines or the product lines.
- ▶ UBIN is set up as a single window clearance mechanism to make the registration procedure speedier and convenient in nature, this new drive scraps down the procedure to produce the PAN and Company Identification Number (CIN) along with Labour identification Number (LIN).

3.13 INDIA RANKED 2ND ON GRD INDEX ON EASE OF DOING BUSINESS

India has been ranked 2nd just after the China, as per the 2016 Global Retail Development Index (GRDI). India has jumped 13th positions from 2015 to rank 2nd among 30 developing countries on ease of doing business.

o About Global Retail Development Index

- ▶ The GRDI is annually published by London-based business consultancy A T Kearney.
- ▶ It analyses 25 retail-specific and macroeconomic variables to help retailers devise successful global strategies to identify emerging market investment opportunities.
- ▶ The study is unique as it identifies the markets that are most attractive in present and also their future potential.

o Key features about the GRDI 2016

- ▶ A keen pick up in India's GDP growth and better clarity regarding FDI regulation have helped India to achieve a 2nd ranking.
- ▶ India has relaxed several key Foreign Direct Investment (FDI) regulations in single brand retail and this has given an easy way for multinational firms to enter into the market.
- ▶ India's retail sector has expanded at a compound annual growth rate of 8.8% between 2013 and 2015, with annual sales crossing the USD 1 trillion mark.
- ▶ India has also become the world's fastest growing economy and more attractive market because of its large population base and the easing of FDI regulations in the retail sector.
- ▶ India's retail sector has also benefited from the rapid growth in the e-commerce led by online retailers such as, Amazon, Flipkart, and Snapdeal.

o Steps taken to improve the Retail Sector in India

The Indian retail industry in the single-brand segment has received Foreign Direct Investment (FDI) equity inflows totaling US\$ 344.9 million during April 2000–September 2015, according to the Department of Industrial Policies and Promotion (DIPP).

- ▶ **The Government of India has taken various initiatives to improve the Retail Industry in India such as:**
 - ▶ The Ministry of Urban Development has come out with a Smart National Common Mobility Card (NCCM) model to enable seamless travel by metros and other transport systems across the country, as well as retail purchases.
 - ▶ The Government of India has accepted the changes proposed by Rajya Sabha select committee to the bill introducing Goods and Service Tax (GST). Implementation of GST is expected to enable easier movement of goods across the country, thereby improving retail operations for pan-India retailers.
 - ▶ The Government has approved a proposal to scrap the distinctions among different types of overseas investments by shifting to a single composite limit, which means portfolio investment up to 49 per cent will not require government approval nor

will it have to comply with sectoral conditions as long as it does not result in a transfer of ownership and/or control of Indian entities to foreigners. As a result, foreign investments are expected to increase, especially in the attractive retail sector.

- ▶ IKEA, the world's largest furniture retailer, bought its first piece of land in India in Hyderabad, the joint capital of Telangana and Andhra Pradesh, for building a retail store. IKEA's retail outlets have a standard design and each location entails an investment of around Rs 500–600 crore (US\$ 75–90 million).






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◉ Retail Industry situation in India

- ▶ Retail Market expected to grow at 12% per annum, modern trade would expand twice as fast 20% per annum and traditional trade at 10%.
- ▶ Retail spending in the top 7 Indian cities amounted to Rs. 3.58 trillion; with organized retail penetration at 19% AS OF 2014. Online retail is expected to be at par with the physical stores in the next 5 years.
- ▶ India is expected to become the world's fastest growing e-commerce market, driven by robust investment in the sector and rapid increase in the number of internet users. Various agencies have high expectations about growth of Indian e-commerce markets.
- ▶ Indian e-commerce market is expected to reach US \$ 55 billion in terms of gross merchandise value (GMV) and 530 million shoppers by 2025, led by faster speeds on reliable telecom networks, faster adoption of online services and better variety as well as convenience.
- ▶ India's direct selling industry increased 6.5 per cent in FY2014-15 to Rs 7,958 crore (US\$ 1.19 billion) and is expected to reach a size of Rs 23,654 crore (US\$ 3.55 billion) by FY2019-20, as per a joint report by India Direct Selling Association (IDSA) and PHD.

◉ Way Ahead

- ▶ In Future it expects to see e-commerce to propel India's growth and make it a more attractive proposition. However, there are some challenges as well. India remains a challenging and complex market for foreign retailers, where understanding dynamics at the state level is important.
- ▶ Infrastructure bottlenecks including labour laws, complex regulations, high labour attrition rates, and limited high-quality retail space remain areas of concerns for retailers.
- ▶ Both organized and unorganized retail companies have to work together to ensure better prospects for the overall retail industry, while generating new benefits for their customers. Nevertheless, the long-term outlook for the industry is positive, supported by rising incomes, favorable demographics, entry of foreign players, and increasing urbanization.

Rank	Country	Score	Remarks
1	 China	72.5	China's economic growth has slowed, yet the GRDI's top-ranked country remains one of the most attractive global retail markets.
2	 India	71.0	GDP growth, improved ease of doing business, and better clarity regarding foreign direct investment (FDI) regulations put India in 2nd place.
3	 Malaysia	59.6	Malaysia is the most business-friendly environment among Southeast Asian countries ranked in the GRDI.
4	 Kazakhstan	56.5	Economists see retail as a source of economic growth amid low oil prices. The challenge is assuring investors that the country has the scale for long-term opportunities.
5	 Indonesia	55.6	Despite its relatively low retail sales per capita and currency volatility, Indonesia's huge population and cities make it quite attractive to foreign retailers.

6		Turkey	54.3	Turkey's retail market remains attractive, with solid growth and untapped potential for concepts that could upend a market still dominated by traditional retailers.
7		United Arab Emirates	53.6	The UAE remains an attractive and relatively low-risk market option for retailers.
8		Saudi Arabia	52.2	Retail sales in the country grew by 5 percent over 2014, thanks largely to favorable demographic conditions.
9		Peru	51.9	Peru is Latin America's top-ranked country, as it performed above regional averages and had 3.6 percent GDP growth, well ahead of the overall region.
10		Azerbaijan	51.2	The government has put effort into attracting tourists, advertising the capital Baku as a luxury destination.
11		Vietnam	50.8	Vietnam has low market saturation and GDP growth that is highest among Southeast Asian countries in the GRDI.
12		Sri Lanka	50.7	This island nation remains a favorable market for retail, thanks to a strong economy and few restrictions on foreign investment.

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3.14 CYPRUS TEAM TO NEGOTIATE REVISIONS IN TAX TREATY

o Context

Cyprus is willing to negotiate changes to its Double Taxation Avoidance Agreement (DTTA) with India. Cyprus has agreed to give India the right to tax capital gains similar to the provisions in the revised India- Mauritius tax treaty, but want to be removed from an Indian blacklist.

o What is DTAA?

- ▶ A DTAA, also referred to as a Tax Treaty, is a bilateral economic agreement between two nations that aims to avoid or eliminate double taxation of the same income in two countries.
- ▶ {Example citing the working of a DTAA: An NRI individual living in a country (Say, USA) maintains an NRO account with a bank based in India.}
- ▶ The interest income on the amount in the NRO account is deemed as income that originates in India and hence is taxable in India. Now, if India and Nation X are contracted under a DTAA, this income will have tax implications in accordance with the rate specified in the agreement.
- ▶ The benefits of a DTAA for an Indian cannot be stated definitively, because India has a comprehensive Double Taxation Avoidance Agreement (DTAA) with 84 countries as of now; and the provisions vary from country to country.

o Provisions of Data with Cyprus

- ▶ Cyprus was also one of the key destinations through which companies based in Europe and the US invested in India, benefiting from the treaty between both countries. The treaty provided for 0% capital gains tax and a low withholding tax rate of 10% on interest payments made to entities based in Cyprus.
- ▶ But India, keen to move on tax avoidance and black money, declared Cyprus a notified jurisdiction in November 2013 saying the European nation had failed to share adequate information on tax evaders. As a result, business transaction with entities based in Cyprus came under increased scrutiny of the income tax department. The notification made it difficult for taxpayers to claim deductions on transactions with entities based in Cyprus. It also subjects a taxpayer to enhanced reporting requirements and higher tax outgo.

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- ▶ At present, because of Cyprus's status as a notified jurisdiction, if an assessee enters into a transaction with an entity in Cyprus, the entity will be treated as an associate enterprise and the deal will be treated as an international transaction attracting transfer pricing regulations. Transfer pricing is the practice of arm's length pricing for transactions between group companies based in different countries to ensure that a fair price one that would have been charged to an unrelated party is levied.
- ▶ In addition, if any sum of money is received from a person located in Cyprus, the onus will be on the assessee to explain the source of the money in the hands of that person. Also, any payment to a Cypriot entity will attract a withholding tax of 30%.
- ▶ No deduction in respect of any other expenditure or allowance arising from a transaction with a person in Cyprus, or a payment made to a financial institution, is allowed unless the assessee provides the required documents.

○ Similar kind of DTAA especially with Mauritius

- ▶ As per the revised terms of the India- Mauritius DTAA, India gets the rights to tax capital gains made on investments from Mauritius earlier, only Mauritius could levy the tax on capital gains and since the tax rate there was close to zero, entities investing from Mauritius did not have to any tax.
- ▶ The treaty with the island country has continued to be a subject matter of on-going litigation, resulting in continued and increasing anxiety for the international investor community. It was also a cause of concern for various governments and remained at the centre of multiple controversies and allegations of treaty abuse and round tripping of funds.
- ▶ Treaty shopping is tax planning or tax avoidance, has now largely been obviated in the context of share investment from Mauritius since after re-negotiation, India gets taxing rights on capital gain income arising on shares of an Indian company acquired on or after April 1, 2017. The government while withdrawing the exemption has approached the same in a responsible and mature fashion.
- ▶ A reduced rate of tax of 7.5% has been introduced on new debt claims on or after April 1, 2017, for all investors, including banks. Viewed solely from a tax perspective, Mauritius a very attractive jurisdiction for debt investments into India (historically, this has not been the case as interest income was taxed at domestic tax rates for investors/lenders other than Mauritius banks).

○ What are the reservations?

India wants Limitation of Benefit (LOB) to be part of its double taxation avoidance agreement (DTAA) with Cyprus to prevent investors from misusing the treaty to avoid paying taxes in India.

This meant that companies that had business dealings with entities in the Mediterranean island-nation came under increased scrutiny of the Indian income tax department. Cyprus is keen that it be removed from the list of notified jurisdictions, but India insists it will only do so after the DTAA is amended to its satisfaction.

Some of the main advantages companies can derive from using a Cyprus Holding Company to maintain Indian investments are:

- ▶ Cyprus has a very low corporation tax rate of 10% and is a cost efficient and mature jurisdiction with good Treaty networks. It can be compared favorably to other jurisdictions which are commonly used such as Mauritius, Singapore and Netherlands.
- ▶ Though India does not withhold tax on payment of dividends to non-residents, a 16.99% dividend distribution tax is payable on all dividends declared, distributed, or paid by an Indian resident company. With strategic planning it is possible to reduce this withholding through a structured "Buy Back" for instance.
- ▶ Cypriot participation exemption rules will normally result in no tax on dividend income received from India.
- ▶ Cyprus has no Transfer Pricing or Thin Capitalisation regime.
- ▶ Interest and Royalty payments from India to Cyprus attract withholding tax of 10%. Leverage can therefore be taken against Indian profits through suitable debt push-down strategies, and through Cypriot licensing structures (up to permissible limits in India).

- ▶ Credit relief is provided in Cyprus on all taxes paid in India (up to the level of taxes paid in Cyprus).
- ▶ Cyprus does not levy withholding taxes on payment of dividends, interest, and royalties (subject to certain conditions) paid to a non-resident (such as UK resident individual shareholders).
- ▶ It is possible to rely on the Treaty to mitigate tax on capital gains from sale of Indian shares (but subject of course to the proposed amendments to the Indian Direct Tax code, mentioned above). Two tier investment structures also allow a Cypriot superior Holding company structure to be established with multiple Special Purpose Vehicles (SPVs) per Indian project. Disposals can then take place through a sale of the shares in each SPV which are tax exempt transactions in India.

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◉ Way Ahead

Cyprus was a preferred route for investors investing in the real estate and infrastructure sector in India and it being declared a notified jurisdiction three years back severely impacted investments coming in from that country because of increased scrutiny and the 30% withholding tax clause.

3.15 RESERVE BANK OF INDIA, GOVERNMENT TO SET UP JOINT STRESSED ASSET FUND

The Reserve Bank of India (RBI) has given its approval to the idea of setting up a Joint Stressed Asset Fund led by banks to invest in debt ridden companies that do not have the ability to service their debt. As per the RBI Guidelines, banks should not have majority ownership in any stressed asset fund that the government plans to set up together with banks and investors.

◉ Facts Related to the Bank-sponsored stressed asset fund

- ▶ Stressed assets which includes gross bad loans, advances whose terms have been restructured and written off account etc. has rose to 14.5% of banking sector loans that are stuck.
- ▶ Majority ownership by banks of any such firm is probably not wise or warranted. Perhaps some from the minority ownership with the number of the other players coming in the addition to the government to provide capacity, especially for managing the stressed asset.

◉ Reasons to set up the Joint Stressed Asset Fund

- ▶ Each bank has to get board approval on how much they can commit to the equity investment fund. If the Banks won't be a part of the fund that gives working capital.
- ▶ The Government has to officially commit a certain amount from the NIIF (National Infrastructure Investment Fund) as well as would be invite domestic and international investors to joint in the joint stressed asset fund.
- ▶ The fund once set up, it will take bad asset of the books of the banks directly. However if banks hold s majority equity in this fund, they will continue to have exposure to these stressed asset indirectly.
- ▶ Infrastructure and metals are the two largest contributors to the stress in the banking system. Turning around these projects is expected to take time. A fund which can help infuse equity into these projects will help make them more viable.
- ▶ A number of Asset Reviving companies also require new management and better operations. Stressed Asset professionals and insolvency professionals are need to help turn around firms that can be revived and recover money from those that can't.

A bank sponsored fund will join a wide variety of stressed asset funds from around the world that have shown interest in the Indian markets. Many of these funds have held discussion with banks to directly invest in stressed asset and take them off bank books. But deals have been slow to close since the seller and buyers have found it difficult to agree to a violation.

4
SCIENCE
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4.1 BABY BORN IN U.K. THROUGH NEW DNA METHOD

- ▶ A woman named Ewa Wybacz, 36 of age has given birth to a baby boy 'Biagio Russu' after doctors used a new DNA procedure to screen her embryos.
- ▶ Despite the history of medical problems that had led her to believe she would never conceive, Biagio is the first baby boy to be born in the U.K. from a trial of Next Generation Sequencing (NGS), which gives doctors a detailed picture of the health of an embryo's chromosomes.
- ▶ The couple's first cycle of IVF produced 10 embryos, but DNA screening revealed that only 3 of them had the normal set of chromosomes in their cells. The other 7 had the wrong number of chromosomes and a little chance of producing a healthy baby. Ewa had one embryo transferred to her womb, and other 2 healthy embryos frozen for future use.
- ▶ NGS replaced older, less precise techniques already used in the Pre-implantation Genetic Screening (PGS) of embryos. NGS costs 2000-3500 pounds on top of standard IVF fees, which is about half the price of existing screening but in the future view, the price will fall as the technique becomes more widely used.
- ▶ Under the technique, doctors study the DNA of each embryo when it is just 5 days old. Then they select the one that has the best chance of implanting in the patient's womb. The counting of chromosomes makes the doctor's decision more likely to be accurate than standard microscope methods.
- ▶ Doctors are aiming further to bring these tests within reach of all patients undergoing IVF not only the wealthy but up to the grass root level of the society.

4.2 EUROPEAN SPACE AGENCY ANNOUNCES THAT THE SECOND EXOMARS MISSION WILL BE LAUNCHED IN 2020

- ▶ The Roscosmos State Corporation and the European Space Agency (ESA) launched the jointly developed ExoMars interplanetary Mission, comprising the Trace Gas Orbiter (TGO) and the Schiaparelli lander.
 - ▶ The second ExoMars Mission involves a Russian-led surface platform and a European-led rover; also to be launched on a proton from Baikonur, Russian and European experts made their best efforts to meet the 2018 launch schedule for the mission has willfully delays till the July 2020.
 - ▶ According to the Tiger Team Report and Joint ExoMars Steering Board (JESB) considered the possible way of the schedule aiming towards the launch to the next available Mars launch window in July 2020.
 - ▶ The successful implementation of both ExoMars missions will allow Russia and Europe to jointly validate cutting-edge technologies for the Mars entry, descent, and landing, for the control of surface assets, to develop new engineering concepts and service systems that can be used by other solar system exploration mission, and to carry out novel science at Mars and set up Russian-European cooperation in solar system exploration.
- **Key Facts of second launch of 2020**
- ▶ It will have an 1800 kg. Russian built landing platform system derived from the 2016 Schiaparelli EDM lander built by 80% Russian company Lavpchin and 20% ESA.
 - ▶ Parachute moving at supersonic speed, most of the landing system hardware, the heat shield, retro rocket equipped lander etc. are produced by the Lavochkin.
 - ▶ The platform is expected to image the landing site, monitor the climate on the Mars, investigate the atmosphere, analyse the radiation environment, study the distribution of any surface water at the landing site, and perform the geophysical investigation of the internal structure of Mars.

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Objective of the Mission

Scientific objective:

- ▶ To search for possible biosignatures of Martian life, past or present.
- ▶ To characterize the water and geochemical distribution as a function of depth in the shallow subsurface.
- ▶ To study the surface environment and identify hazards to future manned missions to Mars.
- ▶ To investigate the planet surface and deep interior to better understand the evolution and habitability of Mars.
- ▶ Achieve incremental steps ultimately culminating in a sample return flight.

Technological objectives:

- ▶ Landing a large payloads on Mars
- ▶ To exploit solar electric power on the surface on Mars.
- ▶ To access the surface with a drill able to collect samples down to a depth of 2 meters.
- ▶ To develop surface exploration capability using a rover.



ExoMars TGO, Schiaparelli and rover

4.3 VIRTUAL HEART TOOL TO PREDICT SUDDEN CARDIAC DEATH RISK

- ▶ Scientists have developed a non-invasive personalized 3-D virtual heart assessment tool to help doctors determine whether a patient faces a risk of life-threatening arrhythmia, a condition when the heart rhythm is irregular or abnormal.
- ▶ When electrical waves in the heart run amok, sudden death can occur; to save the life of a patient at risk, doctors currently implant a small defibrillator to sense the onset of arrhythmia, and jolt the heart back to a normal rhythm.
- ▶ However it is difficult to decide which patients truly need the invasive, costly electrical implant. Its new digital approach yielded more accurate predictions than the imprecise blood pumping measurement now used by most physicians.
- ▶ This non-invasive and personalized virtual heart-risk assessment could help prevent sudden cardiac deaths and allow patients who are not at risk to avoid unnecessary defibrillator implantations. Researchers made predictions by using the Magnetic Resonance Imaging (MRI), records of patients who had survived a heart attack but were left with damaged cardiac tissue that predisposes the heart to deadly arrhythmias.
- ▶ The study involved data from 41 patients who had survived a heart attack and had an ejection fraction—a measure of how much blood is being pumped out of the heart—of less than 35%. Researchers used pre-implant MRI scans of the recipient's hearts to build patient-specific digital replicas of the organ.
- ▶ Using computer-modeling techniques, the geometrical replica of each patient's heart was brought to life by incorporating representations of the electrical processes in the cardiac cells and the communication among cells.

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- ▶ This method allowed researchers to factor in the geometry of the patient's heart, the way electrical waves move through it and the impact of scar tissue left by the earlier heart attack.

4.4 FOOD IN INDIA UNTESTED FOR DIABETES-LINKED CHEMICAL (ALLOXAN)

- ▶ Alloxan, a chemical allegedly used in the manufacture of refined flour, faced the prospect of limitation on its use after the litigant approached the Madras High court to request a ban on the mixing of alloxan in white flour.
- ▶ About the Chemical Alloxan and its Increased Risk:
- ▶ This Chemical is used in laboratories to induce diabetes in rats and to test the efficiency of anti-diabetic medicines but no test have been scientifically done to detect its presence in India.
- ▶ This chemical has been banned by the Food Safety and Standard Authority of India (FSSAI), the Delhi-based central body which is responsible for protecting and promoting public health through the regulation and supervision of the food safety.
- ▶ Alloxan's chemical existence has been known since the 19TH century, when it was discovered in human excretions, indicating that it could be synthesized in the human body.
- ▶ Its structure mimics that of glucose, which allow it to be absorbed by the pancreas and one inside the organ, it destroys insulin-producing beta cells, moreover it cannot be taken up by the human pancreas, though it has been shown to be associated with liver and kidney toxicity.
- ▶ Its presence in the flour implies that consumer of popular Indian food such as, 'Parathas and Puris' are at increased risk of diabetes as well as heart disease.
- ▶ No known studies have yet specifically discovered alloxan in Indian Food whether it will be served as street food, any edible houses or the Hotel. However other bleaching agents that are used to make flour white, such as benzoyl peroxide and chlorine oxide are permitted by the FSSAI provided they appear below specific limits.

4.5 WESTERN GHATS UNDER THREAT

- ▶ Many natural and mixed World Heritage Sites, including the Western Ghats, are threatened by harmful industrial activities such as mining.
- ▶ The harmful industrial activities include oil and gas exploration and extraction, mining, illegal logging and large-scale constructions. The main aspect is protecting people through nature, prepared by the world Wildlife Funds and the International Union for Conservation of Nature (IUCN). The harmful industrial development poses a threat to these ecosystem services and the communities that depend on them.
- ▶ Three of the seven such Indian sites- Manas Wildlife Sanctuary, Sundarbans, and the serial sites of Western Ghats have been listed as being under threat besides that the Western Ghats support the single largest population of endangered Asian elephants and vulnerable Indian bison.
- ▶ As per the IUCN's World Heritage Outlook report, nearly half of all natural World Heritage Sites, including the Grand Canyon and the Great Barrier Reef, are threatened by Industrial activities.
- ▶ The site are facing extractive threats in the form of oil and gas concessions and mines and mining concessions. The Manas Wildlife Sanctuary faces unsustainable water use where as Sunderbans has issues related to water management.
- ▶ Directly, 11 million people are dependent on the World Heritage Sites for food, water, shelter and medicine.

4.6 KARNATAKA GOVERNMENT PUTS STATE ON ALERT FOR BIRD FLU

- ▶ An alert has been sounded across Karnataka, after the outbreak of bird flu in a privately owned poultry farm at Melkera village of Humnabad Taluka in Bidar district.

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- ▶ State has consisting around 7000 poultry farms, which are both layers and broilers varieties having a stock of more than 5 crore birds and the daily egg production is about 1.2 crore. A total of 1.5 lakh heads of chicken of the private farm will now be culled to prevent the outbreak of avian influenza (H5N1 Virus) to rest of the farms and areas just after the 23000 birds perished in the month.
- ▶ Under the adaptation of bio-security measures, poultry farm owners advised and instructed to take precautionary measures to prevent infection of chicken with H5N1 virus, and in case of viral infection not to sell or move any of the bird/eggs and material out of farm.
- ▶ The state Government provide compensation to the farmer immediately after culling the infected farm along with all poultry birds within 1 Km. radius of the infected farm.
- ▶ The Government advices the farm owner to set up, vigil and surveillance of potential sources of infection such as, indigenous chicken and poultry farm chicken, ducks and migratory birds moreover to conduct regular inspection in the poultry farms and closely monitors the movement of wild and migratory birds, who carry the highly pathogenic H5N1 virus.
- ▶ Doctors and scientist of Institute of Animal Health and Veterinary, Biological, Bangalore visited the affected place for collecting the samples for testing which were tested at National Institute High Security Animal Diseases, Bhopal made the positive confirmation of H5N1.
- ▶ To prevent and spread of more commercial loss in trade, payment of compensation, Government While framing the Rapid response team has adopted all the precautionary measures to control and keep ready with all the materials for culling the birds as well as sanitation(vigilant and disinfect vehicles carrying feed materials from the neighbouring state etc.)

4.7 EXOTIC HEAT-RESISTANT GEL: A SPINOFF FROM ISRO

- ▶ A near invisible silica gel that would serve as a thermal barrier in cryogenic fuel tanks boot soles and sun films may sound like a magical product straight from a sci-fi.
- ▶ But in reality, researchers of the Indian Space Research Organization (ISRO) at its Vikram Sarabhai Space Centre (VSSC) Thiruvananthapuram have made it possible.
- ▶ The hydrophobic silica aero gel as it is know now is supposed to have low thermal conductivity and density and high specific surface area and can be applied on any surface.

o About of Silica Aero Gel

- ▶ Silica aero gel with its 'exotic properties' are attractive solution for many unique thermal, optical, acoustic, catalytic and chemical applications and are best known for their 'super insulating property.
- ▶ This gel can be made in chunks (granular), beads, powder and tape or sheet form, and may be used as the application demands.
- ▶ As air fills the gel up to 95% of its size, it comes as super lightweight material. The air molecules trapped insight the gel would act as insulators, and its heat conductivity is close to zero.
- ▶ It could be used for coating the windows of houses and vehicles as they would let in 95% of the light that falls on the surface and fully deflect the heat.
- ▶ The gel acts as the thermal barriers; it could be used as a protective component of clothes and boots of soldiers stationed in extremely cold regions such as, Siachen and Kargil. The weight of the military clothes could be brought down to the ordinary dresses after applying the gel over it thus giving the much required freedom of movement for the soldiers
- ▶ The gel could also be used for heavy duty dressed used by researchers working in Arctic/Antarctic expeditions.
- ▶ It also used in acoustic insulations, building and pipeline insulation and window facades as translucent panels which allow natural light but not heat for hot areas where air conditioners are and trapping heat in cold places.

- ▶ Application is used for controlling oil spills and vibration along with acoustic damping materials and insulation in refrigerators, fillers or additives in paints, sealants, adhesives, cement, coatings, foams, and for increasing the heat resistance of the material.

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4.8 A SWEET OPTION TO FIX BROKEN BONES

- ▶ A team of scientist from Bengaluru's Indian Institute of Science (IISc) has developed a Bone reconstruction method similar to sutures. By using an ingredient such as, maltitol, derived from maltose, a sweetening agent found in most sugar-free foods like ice-creams.

○ About the ingredient Maltitols

- ▶ Maltitol is combined with other components to make long chain-like structures that become plastic
- ▶ This is then used to fill the bone gap caused by fracture, instead of traditional rod.
- ▶ But Maltitols reacts to water as the body is primarily made of water, the bones starts breaking slowly, over a course of time. As once the bones grows back, the structure simply disintegrates.
- ▶ This material would be a huge advantage over existing ones, such as metal rods, which do not allow growth of the bone, especially in infants and adolescents.

○ Advantages

- ▶ Alternative to Maltitols were too soft to be used for bone reconstruction.
- ▶ To make the scaffold or structure to be implemented in the bone is that drugs can then be injected into it to hasten healing.
- ▶ To wrap the protein layer around the structure before it is implemented into the bone. The measures should be taken as; the side effects of direct consumption are as the implant in the body would not be 'terribly harmful'.

4.9 MALWARE INFECTION INDEX - 2016

- ▶ Microsoft Asia today announced the launch of its Malware Infection Index 2016 (MII2016), which identifies the key malware threats in the region and ranks markets in Asia Pacific according to how much they are affected.

○ The top three most encountered malware include

- ▶ **Gamarue:** A malicious computer worm that is commonly distributed via exploit kits and social engineering; heavily affected regins are Indonesia, and it is particularly prevalent in Mangolia
- ▶ **Skeeyah** and **Peals** which are Trojans: That tries to look innocent to convince you to install them. These malware can steal your personal information, download more malware, or give a malicious hacker access to your PC.
- ▶ The findings are based on data from the Microsoft Malware Protection Center (MMPC) and the Microsoft Security Intelligence Report (SIRv20).
- ▶ The Asia Pacific region is especially vulnerable with emerging markets most at risk of malware threats. Out of the top 5 locations across the globe most at risk of infection, a total of four are from the Asia Pacific Pakistan, Indonesia, Bangladesh and Nepal, topping the rankings at first, second, fourth and fifth places respectively in terms of computers encountering malware.
- ▶ Each country had an average of close to 40% or more computers encountering malware, compared to the worldwide average of only 20.8%, as of 4Q 2015, up from 17.6% in 1Q 2015.
- ▶ The discovery of a group of cybercriminals, dubbed PLATINUM, who have actively since 2009 been targeting governmental organizations, defense institutes, intelligence agencies, and telecommunication providers in South and Southeast Asia.

○ Area of Concerns

- ▶ The usages of IT assets which are old, unprotected, or are non-genuine in nature.
- ▶ Unmanaged and unregulated IT assets usage, procurement and maintenance

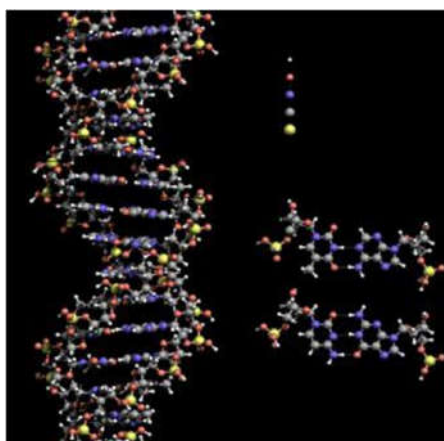
- ▶ Poor cyber hygiene of users and negligent employee behavior inside companies.
- ▶ The inability of the companies to timely monitor, detect and remove modern cyber threats, among others, are some of the common causes for cybercrime risks.

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○ Way Ahead

- ▶ As part of Microsoft's commitment to building trust in technology in the region, a new Cyber security Center (CSC) to advance the fight against cyber threats was opened in South Korea in March, following a similar launch in Singapore last February.
- ▶ The CSCs drive greater public-private partnerships to fight cybercrime, as well as strengthen the cooperation with local businesses, governmental and academic organizations on cyber security. These CSCs are an extension of the Microsoft Cybercrime Center in Redmond, USA, the headquarters of Microsoft Digital Crimes Unit (DCU).
- ▶ The other Satellite Centers in Asia are located in Singapore, Beijing, Tokyo and India.

4.10 SCIENTIST IDENTIFIED A PROCESS TO REMOVE DNA MOLECULES FROM X-FILES



- ▶ The New research conducted by leading scientist at the University of Sheffield in the UK, has revealed how branched DNA molecules are removed from the iconic double-helical structure and as to how our DNA can replicate and repair itself a process which scientists have been looking to unlock for over 20 years which is essential for all life forms.

○ About the Findings of the Research

- ▶ The branches of DNA were identified in several episodes of the X- Files as Agent Scully suspects' aliens inserted it in the blood. This branched DNA is formed every day in our bodies. It happens every time human cells divide.
- ▶ These branches are essential intermediates formed during the process of copying human DNA.
- ▶ The scientist team has captured never before seen snapshots of the molecular events in incredible detail.
- ▶ The team shows how Flap Endo Nuclease enzymes (FEN's) trim branched DNA molecules after the cell divided.
- ▶ The FEN threads the free end of the branch through a hole in the enzyme before sliding along to the trunk where it acts like a pair of molecular secateurs, trimming the branch and restoring the iconic double-helix.
- ▶ By using the Diamond Light Source- the UK's synchrotron which works like a giant microscope harnessing the power of electrons to produce bright X-ray light which scientists can use to study anything from fossil and jet engines to viruses and vaccines.
- ▶ DNA replication is essential for all life forms, understanding how it works at a molecular level provides insight into one of the most basic cellular processes common to all life.
- ▶ This discovery could pave the way for better diagnostics or new drugs that will be used to fight antibiotic resistant bacteria, cancer, tumors progression and mutation.

5

ENVIRONMENT

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5.1 SHOULD CULLING OF ANIMALS BE ALLOWED



(Q) The human population boom is the biggest drain on the planet's resources. So if we don't consider culling humans, we do not have the right to cull other species. Critically Comment in the context of current debate on culling of animals.

o Context

- ▶ A few months ago, the Union environment ministry asked states to submit proposals if they wanted to declare as vermin certain wildlife species that were causing harm to crops, property or human life. Declaring these species as vermin would allow state and forest authorities to kill these animals without attracting penal provisions under the Wildlife Protection Act, 1972.
- ▶ Subsequently, three states were given permission to designate as vermin species that were proving to be a nuisance to humans. These were wild pigs in Uttarakhand, nilgais and wild pigs in Bihar and rhesus macaques in Himachal Pradesh.
- ▶ A species can be declared vermin under Section 62 of the Wildlife Protection Act, 1972. Once this happens, the species moves to Schedule 5 of the Act and loses protection under the law.
- ▶ The recent mass killing of nilgais in Bihar led to spat between Women and Child Development Minister Maneka Gandhi and Environment Minister Prakash Javadekar which have generated debate around whether culling is a right method.

o What is culling?

- ▶ Selection is the process of weeding out of the weak — through starvation, disease and predation. It is nature's way of controlling population and maintaining the robustness of a stock.
- ▶ A population boom makes individuals compete for food and safety, and the weaker ones lose out, leaving a smaller population of more able individuals. As a result, no forest supports more herbivores than can possibly forage adequately, and more carnivores than those herbivores can provide for.
- ▶ In the post-conservation era, however, human intervention became necessary for the management of wildlife populations through controlled hunting, which is now referred to as culling.

o Arguments

Arguments in favour of Culling?

- ▶ The wild herbivore population has multiplied in many areas — the result of bans or restrictions on hunting, loss of natural predators, availability of non-forest food sources (cropland, garbage dumps), etc. When too many wild animals compete with humans for resources, posing a threat to life and livelihood, it is considered necessary to restrict or reduce such populations through controlled culling.
- ▶ Culling is essential for the health of the national herd. For example if we take example of deer Culling maintains the balance between deer numbers and the environment they live in. If there are too many deer, they eat out the understorey of the woods, so there's nowhere for other mammals and birds to roost. It can be bad for the deer too: when densities get too high, they can become diseased.
- ▶ Many believe that culling is unnecessary because we can prevent crop-raiding by adopting non-invasive measures. It's a misconception. Fencing fields merely shifts conflict to the next accessible cropland. Used extensively, it creates an enclosure for wildlife. Even selection of crops that traditionally repelled animals does not seem to work any longer.
- ▶ Loss of forestland to mines, industry, agriculture, roads, railways, canals etc. is a big trigger for man-animal conflict. But while loss of forest cover creates flashpoints between people and large species such as elephants and tigers, crop-raiding by smaller herbivores becomes acute primarily due to a local population boom. Moreover, even the best protected forests do not offer as high-nutrient options as, say, standing wheat or maize.

- ▶ Other measures are mostly long-term and can keep a check on conflict only in situations where crop damage is still reasonable. But in pockets where the situation is already out of hand, the only option is often to reduce the number of habitual crop-raiders.
- ▶ When we don't allow lawful intervention, the farmers often retaliate by illegal means. And their hostility targets all wildlife species in an area and not just those animals which are responsible for damage of the crops.

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◦ Arguments Against Culling

- ▶ The primary objection is ethical. The human population boom, many animal rights activist argue, is the biggest drain on the planet's resources. So if we don't consider culling humans, we do not have the right to cull other species.
- ▶ Animal Wildlife is forced out of forests and these animals raid cropland because forests are being encroached upon by people.
- ▶ The other issue is the sweeping nature of the orders, which may lead to a killing spree. For instance, the orders for killing wild boar in Telangana stated that the animals could be killed anywhere in the state, but those that appear to be 'running back to the forests' should be spared. "This order was full of loopholes. There are reports that other animals, such as spotted deer, were being poached, after the wild boar culling order. Snares and traps were being laid, which do not discriminate between animals. The entire exercise in most states is random and unscientific.
- ▶ If states will allow any citizen to kill animals because vermin by definition implies that anyone can do the exterminating. This could mean a change in attitude for the worse toward wildlife, and it may complicate the protection of other species that are still deemed protected.
- ▶ Culling can potentially worsen conflict as many vermin animals make up a significant proportion of the prey base of apex predators like the tiger and leopards-which survive under tremendous stress outside PAs. For example Maharashtra which shot in the past few months no less than 300 wild pigs in the Chandrapur district, known for its Tadoba Tiger Reserve. This district has a high density of tigers (more than 40 tigers), including breeding tigresses outside of the Protected Area of Tadoba. This will stress the animals and will push them into preying on livestock, thus escalating conflict. On one hand, the government is doing a camera trapping to monitor tigers, and at the same time, massacring its key natural prey base, en masse, that too during the pinch period, when water is scarce.

◦ Way Forward

- ▶ Killing should only be the last resort, and people themselves do not ask for such extreme steps until it seems their own survival is at stake.
- ▶ Culling drives Should be well monitored
- ▶ We must create buffer zones so that crops do not stand at the edge of the forest, promote non-edible crops in such areas, offer prompt compensation etc to limit conflict. But these are mostly long-term measures and work in situations where crop damage is still reasonable .Only In pockets where conflict is acute Culling should be allowed.

5.2 GM SEEDS IN INDIA



(Q) Discuss the debates related to GM seeds in India. Should govt come forward to regulate the prices of GM seeds? What will be the pros and cons of the govt regulation in this regard? Suggest measures to regulate this issue.

◦ Context

Recently, the Ministry of Agriculture has emphasised that it would have a wider consultation with seed companies, seed technology companies and farmers before introducing a new policy for technology agreements between seed technology companies and private seed companies.

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◦ What are GM seeds?

Genetically engineered seeds (also referred to as GMO's-Genetically Modified Organisms) mix genes in crops from unrelated organisms- for example genes from soil bacteria, fish etc, which could not have mixed through biological reproduction, and conventional breeding. In addition, antibiotic resistance marker genes or viral promoter genes are also added in this process.

◦ Advantages

- ▶ Can increase yields grown on the same or less acreage.
- ▶ Can reduce crop damage from weeds, diseases and insects, which means herbicide applications are more precise or used more efficiently.
- ▶ Can reduce crop damage from adverse weather conditions.
- ▶ Can potentially improve nutritional value or other health benefits.
- ▶ Can improve soil through conservation tillage made possible by herbicide resistant crops and reduced soil compaction.
- ▶ Can reduce costs and labour intensity for farmers.

◦ Disadvantages

- ▶ Despite the fact that crops from GM seeds and plants produced using genetic engineering undergo more safety testing than any other agriculture products, including conventional or organic crops, some experts believe that they are not safe and more research needs to be done.
- ▶ A worrisome issue in GM foods is the ability of a food to trigger an allergy in humans. Some of the genes used in GM technology might be taken from a food that causes allergies in some people. Inserting that gene into another organism could cause the host organism to express that allergen as a trait.
- ▶ The ability to protect GM seed plants from herbicides that destroy weeds may lead to herbicide resistant weeds. In addition, overuse of a single pesticide when growing GM seed crops may lead to a pesticide resistance in insects.
- ▶ There is also a potential for pests to evolve resistance to the toxins produced by GM crops and the risk of these toxins affecting non target organisms.

◦ India's experiences so far

Currently, India has the world's **fourth largest GM crop acreage on the strength of Bt cotton**, the only genetically modified crop allowed in the country.

- ▶ The introduction of Bt cotton has been both highly successful and controversial. Cotton yield more than doubled in the first decade since its introduction in 2002. At the same time it was also shadowed by controversy, with a tangle of pricing and intellectual property rights (IPR) issues followed by government price interventions and litigation.
- ▶ An agreement to develop Bt brinjal was signed in 2005 between Mahyco—American agricultural biotech giant Monsanto's Indian Bt cotton partner—and two Indian agricultural universities. Following the study of biosafety data and field trials by two expert committees, Bt brinjal was cleared for commercialization by India's top biotech regulator, the Genetic Engineering Appraisal Committee, in 2009. But nothing came of it, with moratoriums imposed by then government following opposition from civil society groups and brinjal-growing states.

◦ Patented seeds, factor of monopoly & pricing and the woes of the local farmers

- ▶ The introduction of genetically engineered (GE) crops has corresponded with increasing monopolization of seed by biotechnology companies and higher seed costs. This has led to pushing out of conventional, non-GE seeds and reducing farmer seed choices.
- ▶ The amended patents act, 1970 incorporated the provisions for granting product patent in all fields of Technology including chemicals, food, drugs & agrochemicals. Thus, it allows patents on seeds and plants which are not a result of essentially biological process.

- ▶ The company which produces patent seeds, Monsanto, does not allow farmers to produce and save seeds which they buy from it. Thus, farmers have to again and again buy the seeds which increase the cost for them.
- ▶ Besides, the monopoly of the company enables it to charge for the seeds at its own discretion.
- ▶ So, At times, debates have been raised to let the govt control the prices of these seeds.

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◉ Should govt control the prices of patent seeds?

Arguments for

- ▶ Price control will reduce the price to the consumer
- ▶ Prices vary across seed producers and it is desirable to have a uniform price.
- ▶ Presently technology companies are forcing seed companies into one-sided contracts without any legal backing. Seed companies are not even allowed to test a new technology from another company. To avoid this regulation is needed.
- ▶ companies like Monsanto have earned royalties even on expired patents (for Bollgard I Bt cotton technology) and through govt regulation on the prices, Farmers will have a wider choice and existing monopolistic practices of technology providers will go for good
- ▶ it will encourage more domestic seed companies to enter the market.
- ▶ It is fair for the government to dictate what royalty the holder of a proprietary product or technology should charge for licensing it to other companies for commercial use.

Arguments against

- ▶ Controlling prices will affect the incentive to develop and supply good seeds in future, especially in the private sector which is now an important source of supply.
- ▶ Even Economic Survey for 2015-16 has specifically criticized the decision to control the price of Bt cotton seeds, arguing that the objective of achieving adequate availability of good quality seeds is best left to the market.
- ▶ Previously, the govt lowered the price of Bt cotton seeds by about 4%, but lowered the trait value payment by 74%. In effect, all the reduction in the seed price was at the expense of a reduction in the trait value.
- ▶ The current Bt cotton variety Bollgard II is expected to run out of vitality in a few years, when it would need to be replaced by a new variety, Bollgard III. The new price control regime could discourage the technology holder from introducing the new variety
- ▶ The development of new seeds is expensive, and especially so with GM technology, where prolonged safety testing is involved. Profitability may not be the key consideration for public sector seed producers but India cannot rely exclusively on the public sector to provide seeds.
- ▶ Experience thus far shows that the private sector has done a good job in seed production and it could do more. But, with the govt regulation, they might be discouraged.

◉ Way ahead

- ▶ This problem needs to be handled by strengthening the procedures that the Genetic Engineering Approval Committee follows for GM seeds.
- ▶ Once new varieties have received approval there should be assurance that the technology holder will get a reasonable return for their investment.
- ▶ There is need to create an environment that encourages research in developing new seeds and innovation. The National Intellectual Property Rights (IPR) Policy outlines what is needed to encourage innovation.
- ▶ The govt must promote competition by allowing development of such seeds by more private and public sector bodies. But the government's present policies governing GM crops are far from conducive to the emergence of such competition. Well-advised changes in these policies are, therefore, urgently needed.

Conclusion

- ▶ Introduction of genetically modified cotton in India has enhanced both output and yield. But this initial experience has not been followed by the introduction of GM food crops on account of the protests.
- ▶ Clearly, there can be no credible argument against scientific experiments in agriculture that advance the goal of developing plant varieties that can withstand drought, resist pests and raise yields to feed the growing world population. But this should be done through a transparent regulatory process that is free of ethical conflicts. All this underscores the need for a cautious approach — one that fosters scientific inquiry, allows for scrutiny and is underpinned by regulation. Enacting a comprehensive law that covers all aspects of GM crops should be a priority.

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5.3 URBAN HEAT ISLAND: PROBLEMS AND SOLUTION



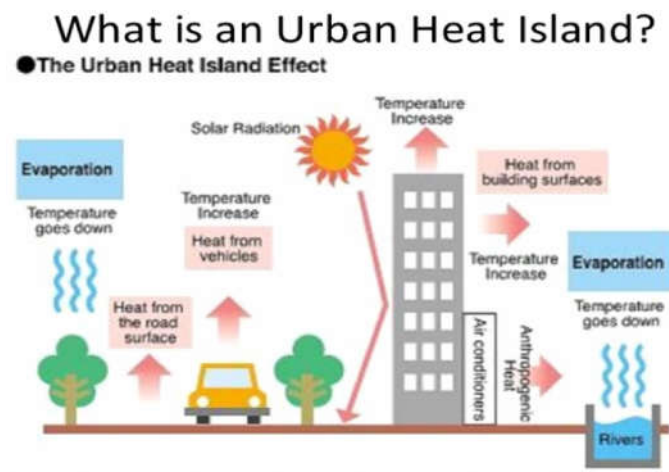
- (Q) What do you mean by urban heat island? Discuss the causes and impact of this phenomenon.
- (Q) Discuss the recent Abu Dhabi model to manage urban heat islands.

Context

Abu Dhabi has come up with a new climate model that can help mitigate the phenomenon of urban heat islands.

What is urban heat island?

These are defined as “built-up areas that are hotter than nearby rural areas”. Urban Heat island is a phenomenon of increased temperature of a urban region compared to neighboring rural areas generally by 1 to 6 degree Celsius.



Causes of UHI

- ▶ **Reduced vegetation in urban regions:** Reduces the natural cooling effect from shade and evapotranspiration.
- ▶ **Properties of urban materials:** Materials commonly used in urban areas for pavement and roofs, such as concrete and asphalt, have significantly different thermal bulk properties and surface radiative properties than the surrounding rural areas. This causes a change in the energy balance of the urban area, often leading to higher temperatures than surrounding rural areas.
- ▶ **Urban geometry:** The height and spacing of buildings affects the amount of radiation received and emitted by urban infrastructure. The tall buildings within many urban areas provide multiple surfaces for the reflection and absorption of sunlight, increasing the efficiency with which urban areas are heated.
- ▶ **Weather:** Certain conditions, such as clear skies and calm winds, can foster urban heat island formation.
- ▶ **Geographic location:** Proximity to large water bodies and mountainous terrain can influence local wind patterns and urban heat island formation.

- ▶ **Human Activities:** Air conditioning, manufacturing, transportation, fossil fuel combustion and other human activities discharge heat into urban environments.
- ▶ **Pollution:** High levels of pollution in urban areas can also increase the UHI, as many forms of pollution change the radiative properties of the atmosphere.

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○ **Consequences of Urban Heat Islands**

- ▶ **Impaired air quality:** Warmer air accelerates the formation of smog (ozone) from airborne pollutants like nitrogen oxides and volatile organic compounds. Elevated demand for cooling energy in the form of Air conditioning and Refrigerator use can also increase the emission of air pollutants and greenhouse gases from fossil-fuel power plants.
- ▶ **Impact on Health:** Higher air temperatures and lower air quality can cause heat-related and respiratory illnesses.
- ▶ **Effect on Weather:** It may also increase cloudiness and precipitation in the city, as a thermal circulation sets up between the city and surrounding region.
- ▶ **Impact on Plants and Forest:** High temperatures may create disturbances on ornamental plants and urban forests.
- ▶ **Impact on water bodies:** It may increase temperatures of urban water bodies which lead to a decrease in diversity in the water.

○ **How can the impact be reduced?**

- ▶ The effects of a heat island can be reduced by developing efficient cooling systems, adding vegetation to buildings, cooling paved surfaces with reflective paint etc.
- ▶ Along with this, The effect can be mitigated by proper planning of infrastructure and green cover area. Forming green zones around industries and cities to reduce heating effect, using sustainable energy fuels like CNG, electricity etc to power vehicles, nature friendly material to build building and road can be used to mitigate harmful effects of urban heat island.

○ **What is this Abu Dhabi's new model?**

- ▶ It is a 3D climate model developed in the area, to help minimise effects of the heat island.
- ▶ The computational model describes the flow of heat between buildings — how heat released from the cooling devices of one building was absorbed by the neighbouring structure, increasing temperatures.
- ▶ With the help of data collected from local weather stations, the model calculated air temperature, wind speed and solar radiation, building facade and ground temperature in the Abu Dhabi downtown area. To understand the geographical structure of the city, the researchers used data from Abu Dhabi's geographical information systems (GIS). With the help of this data, the researchers calculated the cooling demands of each building in the area individually. The 3D model helped measure the heat ejected by the cooling devices. The researchers also calculated the heat emitted by motorised traffic. Finally, they integrated all the information to get an accurate picture of heat flow through the region.

○ **How will this new model help?**

- ▶ The model can help in tackling the heat island effect in the city and can be used by other countries too to mitigate the effect of the process.
- ▶ This model will be a tool for city managers and planners to conduct simulation-aided design of Abu Dhabi's downtown, showing them how the construction of an additional building, park, street, or other infrastructure will impact the urban heat flow.
- ▶ The new model will also help urban planners weigh different design scenarios for buildings and develop 'shading strategies' that will be most suitable in reversing the heat island effect.
- ▶ In the long run, the model can help reduce the energy costs and carbon foot print of a city.

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5.4 ARCTIC REGIONS GETTING GREENER DUE TO CLIMATE CHANGE

- ▶ Arctic regions of North America are getting greener, with almost a 3rd of the land cover looking more like landscape found in warmer ecosystem due to the climate change.

○ Context

- ▶ With 87,000 images taken from Landsat satellites, converted into data that reflects the amount of healthy vegetation on the ground, the researchers found that western Alaska, Quebec and other regions became greener between 1984 and 2012.
- ▶ The new Landsat study further supports previous work that has shown changing vegetation in Arctic and boreal North America. Landsat is a programme that provides the longest continuous space-based record of Earth's land vegetation in existence.

○ Arctic region of the Earth

- ▶ It is a polar region located at the northernmost part of Earth. This region consists of Arctic Ocean and Parts of Alaska (USA), Canada, Finland, Greenland (Denmark), Iceland, Norway, Russia, and Sweden.
- ▶ The Arctic region consists of an ocean and adjacent seas with a seasonally varying ice cover, surrounded by treeless permafrost. The area can be defined as north of the Arctic Circle (66° 33'N), the approximate limit of the midnight sun and the polar night. Alternatively, it can be defined as the region where the average temperature for the warmest month (July) is below 10 °C (50 °F); the northern most tree line roughly follows the isotherm at the boundary of this region.
- ▶ The Arctic region is a unique area among Earth's ecosystems. For example, the cultures in the region and the Arctic indigenous peoples have adapted to its cold and extreme conditions. In recent years, the extent of the sea ice has declined.
- ▶ Life in the Arctic includes organisms living in the ice, zooplankton and phytoplankton, fish and marine mammals, birds, land animals, plants and human societies.

○ Alternate heating and cooling of the Earth

- ▶ The earth originally heated up from gravitational energy released during its formation, as matter fell together. Then the radioactive particles that it contained melted the earth.

As it cooled a crust formed that slowed the heat loss by convection. Many asteroids then melted the crust again; about 20% was melted at any one time, to a depth of a kilometer. A particularly large body joined to the earth and gave it more core, but blew crust into space.

- ▶ Ocean water keeps the earth temperature stable at the surface.

Below the surface the temperature depends on bubbles of hot rock rising from the mantle below, but is very steady overall.

The atmosphere moves heat around the surface to keep the effect of the sun regulated. The tilt of the earth causes seasons as it moves around the sun. Wobbles can affect the cycles. The amount of ice on the surface of the earth stops the land and part of the oceans trapping or releasing heat from the sun, by reflection, and more ice forms until an ice age happens.

○ Changes of the climatic poles and Equator

- ▶ Places located at high latitudes (far from the equator) receive less sunlight than places at low latitudes (close to the equator). The amount of sunlight and the amount of precipitation affects the types of plants and animals that can live in a place. The collection of all the living things in a place, as well as the non-living resources, is called an ecosystem or biome. Listed below are the types of ecosystems that exist in the climates of different latitudes.
- ▶ Global variation in climate depends on the position of the sun relative to the surface of the earth.

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- ▶ In polar areas the sun's rays strike the Earth in an oblique manner and deliver less energy than at tropical locations for two reasons
- ▶ The energy is spread over a larger surface nearer to the poles.
- ▶ The energy passes through a thicker layer of absorbing, scattering and reflecting atmosphere.
- ▶ Seasonal variation
- ▶ Earth's inclined axis of rotation (23.5 degrees) causes increasing seasonal variation in temperature and day length with increasing latitude.
- ▶ When perpendicular to tropic of cancer, it is the summer solstice in Northern hemisphere. Perpendicular to tropic of Capricorn when summer in Southern hemisphere (our winter solstice).
- ▶ Global temperature differentials create winds and drive atmospheric circulation.

◉ **Effect of the climate change and the melting of an ice**

- ▶ Arctic sea ice is declining rapidly, with the seasonal low in summer shrinking particularly quickly.

◉ **Loss of ice means more heat is observed**

As sea ice retreats, sunshine that would have been reflected back to space by the bright ice is instead absorbed by the ocean, which heats up, melting even more ice." Snow-covered sea ice has a high albedo and reflects 85 per cent of sunlight. But the open water revealed as ice melts is darker and absorbs more – reflecting just seven per cent. The less sunlight is reflected, the more heat the planet absorbs.

◉ **Melting Greenland ice sheet raises sea level**

The loss of reflective sea ice is part of the reason Arctic temperature has risen three times faster than the global average in recent decades. This effect, known as Arctic amplification, has consequences for nearby land ice. As land ice melts, it adds freshwater to the oceans causing sea levels to rise, and surface melt from Greenland is increasing, as the image below shows. Satellite data suggest over the last 20 years, the Greenland ice sheet has lost 140 billion tonnes of ice per year.

◉ **Thawing permafrost amplifies warming**

Rising Arctic temperatures are thawing once-frozen ground in the Arctic – known as permafrost. Scientists are concerned carbon dioxide and methane released from the carbon-rich permafrost could cause additional warming by adding to greenhouse gases already in the atmosphere – another positive feedback. Frozen methane also exists in methane hydrates in the sea floor.

◉ **Ocean circulations could change**

Another impact of Arctic and Greenland ice melt could be that the freshwater runoff into the ocean disrupts part of a major circulation system known as the Atlantic Meridional Overturning Circulation (AMOC). The AMOC carries warm surface water northward, giving Europe its mild climate.

Warm surface waters sink in the waters surrounding Greenland, forming the Meridional Overturning Current.

◉ **Melting Sea ice can influence winter weather**

As temperatures rise faster in the Arctic than at lower latitudes, this changes large-scale temperature and pressure gradients – which has consequences for northern hemisphere winter weather. The pressure change alters atmospheric circulations, including the jet stream – a stream of fast-flowing air in the atmosphere. It also makes the jet stream's path meander more, which allows cold Arctic air to reach further south, affecting the climate in the mid-latitudes.

Scientists are just beginning to understand the effect quicker Arctic sea ice melt could have on northern hemisphere climate. It's difficult to attribute any particular event to effects of the changing Arctic region.

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o Possible Impact on Earth and our living condition

- ▶ The average annual temperatures are projected to rise by 3 to 7°C (5 to 13°F), with the greatest warming occurring in the winter months
- ▶ Precipitation is projected to increase by roughly 20%.
- ▶ Sea ice is expected to continue to decline significantly, reflecting less solar radiation and thereby increasing regional and global warming.
- ▶ The area of Arctic land covered by snow is expected to decrease by 10 to 20%.

o Effects on Planet

- ▶ The amount of the **sun's energy reflected back to space** decreases as snow and ice melt, leading to a more intense surface warming.
- ▶ Increased regional precipitation can add freshwater to the oceans, and potentially affect **ocean currents** in the North Atlantic
- ▶ More **greenhouse gases could be released** into the atmosphere by the thawing of the permafrost. However, warming can increase biological growth, and thus absorption of CO₂.
- ▶ Access to Arctic resources is likely to be affected by climate change, including: wildlife, such as whales, seals, birds, and fish sold on world markets; and oil, gas and mineral reserves. Moreover affecting migratory species 'summer breeding and feeding ground can vary with the climatic change.

o Effects on vegetation

Arctic vegetation zones are likely to shift, causing wide ranging impacts like expansion of forest is likely to amplify global warming, insects outbreaks will increasingly disturb large areas of forest, along with increase the range of the crops that can be grown in Arctic and to extend the growing seasons.

o Effects on Animals

- ▶ A strong effect on Arctic **marine fish stocks**, which are an important food source for the world and play a vital role in the region's economy.
- ▶ Rising temperatures could have both positive and negative impacts on the **aquaculture** of salmon and trout, which is a major industry in the Arctic
- ▶ A decline in certain types of vegetation would affect the animals that feed on them (such as lemmings or reindeers). In turn, predators (such as foxes or birds of prey) and human communities that depend on these animals would be affected
- ▶ Freshwater ecosystems, such as rivers, lakes, and wetlands are home to a variety of animals. They would be affected by increases in water temperature, thawing of permanently frozen ground, and ice cover breaking up earlier in spring.

o Effects on Settlement and infrastructures

- ▶ Sea level rise is likely to cause flooding of marshes and coastal plains and accelerate beach erosion. Some towns and industrial facilities are already suffering severe damage as a result of erosion, and are now facing the prospect of relocation.
- ▶ Reduced sea ice is very likely to increase marine transport and access to resources.
- ▶ Thawing ground will disrupt transportation, buildings, and other infrastructure.

o Effects on the specific areas of the Arctic

- ▶ Impacts on the environment, such as changes in habitats and in the geographic spread of plant and animal species,
- ▶ Impacts on the economy, such as changes in access to resources, and
- ▶ Impacts on people's lives, such as effects on traditional lifestyles or damage to infrastructure.

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5.5 WESTERN GHATS UNDER THREAT

- ▶ Many natural and mixed World Heritage Sites, including the Western Ghats, are threatened by harmful industrial activities such as mining.
- ▶ The harmful industrial activities include oil and gas exploration and extraction, mining, illegal logging and large-scale constructions. The main aspect is protecting people through nature, prepared by the world Wildlife Funds and the International Union for Conservation of Nature (IUCN). The harmful industrial development poses a threat to these ecosystem services and the communities that depend on them.
- ▶ Three of the seven such Indian sites- Manas Wildlife Sanctuary, Sundarbans, and the serial sites of Western Ghats have been listed as being under threat besides that the Western Ghats support the single largest population of endangered Asian elephants and vulnerable Indian bison.
- ▶ As per the IUCN's World Heritage Outlook report, nearly half of all natural World Heritage Sites, including the Grand Canyon and the Great Barrier Reef, are threatened by Industrial activities.
- ▶ The site are facing extractive threats in the form of oil and gas concessions and mines and mining concessions. The Manas Wildlife Sanctuary faces unsustainable water use where as Sunderbans has issues related to water management.
- ▶ Directly, 11 million people are dependent on the World Heritage Sites for food, water, shelter and medicine.

5.6 GUWAHATI DECLARES GANGETIC RIVER DOLPHIN AS ITS 'CITY ANIMAL'

◉ Content

- ▶ Guwahati has become the first city to have its own City Animal with the Kamrup Metropolitan district administration declaring locally known 'Sihu' the Gangetic River Dolphin as the mascot.
- ▶ Black Softshell Turtle who were found in the river and its tributaries along with the Greater Adjutant Stork which are on the verge of extinction have been stood second and third respectively on online and offline voting, organized by the district administration.

◉ About the Gangetic Dolphin

- ▶ The distribution range of the Ganges River Dolphins in India covers 7 states namely, Assam, Uttar Pradesh, Madhya Pradesh, Rajasthan, Bihar, Jharkhand and West Bengal. Including the Upper Ganga River, Chambal River, Ghaghra and Gandak, Ganga, Son and Kosi, Brahmaputra and the river kulsi are the ideal habitats for the Ganges River Dolphin.
- ▶ They have a sturdy, yet flexible, body with large flippers and a low triangular dorsal fin. It weights upto 150 kg. The calves are chocolate brown at birth and becomes greyish brown in adulthood with a smooth and hairless skin. Females are larger than males.
- ▶ Dolphins are amongst one of the oldest creatures in the world along with some species of turtles, crocodiles and sharks. The Gangetic Dolphins are generally blind and catch their prey in a unique manner. They emit an ultrasonic sound which reaches the prey. The dolphin then registers this image in its mind and subsequently catches hold of its prey.

◉ Problem faced by them

- ▶ River Dolphin has dwindled abysmally to less than 2000 during the last century owing to direct killing, habitat fragmentation by dams and barrages, indiscriminate fishing and pollution of the rivers. Hydroelectric and water development projects. Over 50 dams have been constructed in the dolphin's range, causing their populations to fragment and some populations to die.
- ▶ Huge amounts of toxic contaminants in the water

- ▶ Deliberate killing of dolphins by tribal's and local fishermen for their oil, a fish-attractant
- ▶ Killing of dolphins accidentally caught in fishermen's gears
- ▶ It is painful that not only has the river Goddess been turned into Asia's largest sewage canal but also the intelligent, living creatures in it with such great importance to Indian culture are being threatened with extinction

Measures taken

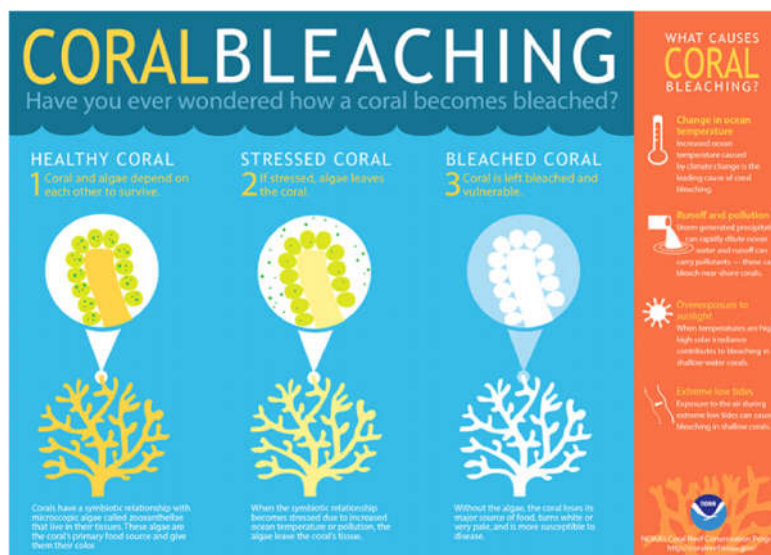
- ▶ Listed by IUCN as 'endangered' and placed in Schedule-I of the Wildlife (Protection) Act, 1972, the Ganges River Dolphin enjoys high levels of legal protection both nationally and internationally.
- ▶ WWF-India adopted Ganges River Dolphin as a species of special concern. A Ganges River Dolphin Conservation Programme was initiated in 1997 to build a scientific database of the population status of the species and study the habitat quality of the dolphins' distribution range.
- ▶ WWF-India has been working closely with various government departments, specially the State Forest Department, local NGOs, scientists, researchers and universities to ensure the implementation of the action plan through capacity building and carry out conservation awareness and education activities
- ▶ A River Watch Programme has been initiated to identify hot spots and develop management plans with the help of the Forest Department and create awareness in target areas. WWF-India has been working towards designating an international status like the 'Ramsar site' or 'Community Reserve' for these hot spots.

Way Ahead

Increasing awareness among the fishermen, tribal groups and creating a strong pressure group for dolphin-friendly damming needs to occur at a rapid pace. Local and national NGOs are quite active in building a grassroots level movement for its conservation. However, Government and society need to contribute as much as the conservations efforts listed in the current and futuristic concerns.

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5.7 AUSTRALIA'S GREAT BARRIER REEF, A 3RD OF THE CORAL KILLED DUE TO BLEACHING



Context

- ▶ Mass bleaching has killed more than a 3rd of the coral in the northern and central parts of Australia's Great Barrier Reef, through corals to the south have escaped with the little damage.
- ▶ 2300 kilometer reef off Australia's east coast found that around 35% of the coral in the northern and central sections of the reef are dead or dying and some parts of the reef had lost more than half of the coral to bleaching.

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o About the Coral

- ▶ Corals are marine invertebrates living in compact colonies of many identical individual polyps.
- ▶ The group includes the important reef builders that inhabit tropical oceans and secrete calcium carbonate to form a hard skeleton.
- ▶ Some corals can catch small fish and plankton, using stinging cells on their tentacles.
- ▶ Most corals obtain the majority of their energy and nutrient from photosynthetic unicellular dinoflagellates which live within their tissues.
- ▶ Corals are major contributors to the physical structure of the coral reefs that develop in tropical and subtropical waters, such as the enormous Great Barrier Reef off the coast of Queensland, Australia.

o Coral Reef Formation

- ▶ Coral reefs begin to form when free-swimming coral larvae attach to submerged rocks or other hard surfaces along the edges of islands or continents. As the corals grow and expand, reefs take on one of three major characteristic structures—fringing, barrier or atoll.
- ▶ If a fringing reef forms around a volcanic island that subsides completely below sea level while the coral continues to grow upward, an atoll forms. Atolls are usually circular or oval, with a central lagoon. Parts of the reef platform may emerge as one or more islands, and gaps in the reef provide access to the central lagoon.

o Phenomena of Coral Bleaching and its effects

- ▶ When corals are stressed by changes in conditions such as temperature, light or nutrients, Water Runoff and pollution, Overexposure to sunlight, Extreme low tides they expel the symbiotic algae living in their tissues, causing them to turn completely white.
- ▶ Warmer water temperatures can result in coral bleaching. Not all bleaching events are due to warm water sometimes cold water is also responsible for coral bleaching.
- ▶ When water is too warm, coral will expel the algae living in their tissues causing the coral to turn completely white. This is called coral bleaching.
- ▶ When a coral bleaches, it is not dead. Corals can survive bleaching event but they are under more stress and are subject to mortality.
- ▶ Cold waters cold stress event will make coral more susceptible to disease in the way that warmer water impact corals.

o Ecological and Socioeconomic impacts of coral bleaching

- ▶ Bleached corals are likely to have reduced growth rates, decreased reproductive capacity, increased susceptibility to diseases and elevated mortality rates.
- ▶ Changes in coral community composition can occur when more susceptible species are killed by bleaching events.
- ▶ Changes in coral communities also affect the species that depend on them, such as the fish and invertebrates that rely on live coral for food, shelter, or recruitment habitat. Change in the abundance and composition of reef fish assemblages may occur when corals die as a result of coral bleaching.
- ▶ Declines in genetic and species diversity may occur when corals die as a result of bleaching.
- ▶ Degraded coral reefs are less able to provide the ecosystem services on which local human communities depend. For example, degraded reefs are less productive and may not be able to sustain accretion rates necessary to ensure reefs continue to provide shoreline protection services.
- ▶ Reefs damaged by coral bleaching can quickly lose many of the features that underpin the aesthetic appeal that is fundamental to reef tourism. The resultant loss of revenue from reduced tourist activity can threaten the livelihoods of local communities.

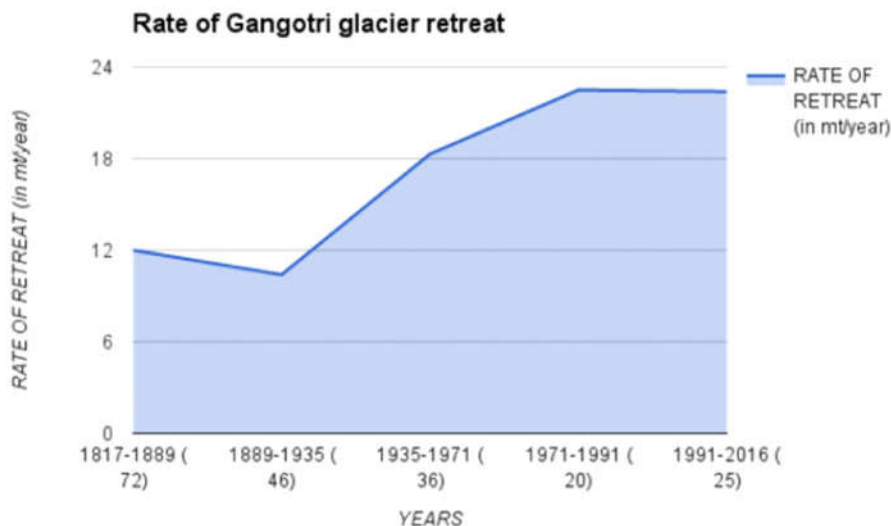
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- ▶ Coral bleaching events that lead to significant coral mortality can drive large shifts in fish communities. This can translate into reduced catches for fishers targeting reef fish species, which in turn leads to impacts on food supply and associated economic activities.
- ▶ Cultural values of many tropical island communities (e.g., religious sites and traditional uses of marine resources) depend upon healthy coral reef ecosystems and can be adversely affected by coral bleaching.
- ▶ Coral reefs are a valuable source of pharmaceutical compounds. Degraded and dead reefs are less likely to serve as a source for important medicinal resources (i.e., drugs to treat heart disease, cancer, and other illnesses).
- ▶ Ecological impacts of coral decline can have detrimental effects on Fish communities, results of decline in fish populations following extensive coral bleaching have also been observed in other areas, such as 'The Great Barrier Reef', Tanzania and the Seychelles.

o Location of Great Barrier Reef on Map



5.8 GANGOTRI GLACIER RETREATED BY 3K.M. IN TWO CENTURIES



- ▶ Gaumukh, the snout of the Gangotri glacier, name after its shape like the mouth of a cow, has retreated by over 3 Kilometers since 1817. It was nearly 2 centuries ago that the retreat of the glacier was first documented by John Hodgson, a Survey of India geologist.

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o Context

With 10 Indian States reeling under drought and the country facing a severe water crisis after two weak monsoons, the story of retreating freshwater sources such as the Himalayan glaciers is worrying.

o Glacier Formation

Glaciers begin to form when snow remains in the same area year-round, where enough snow accumulates to transform into ice. Each year, new layers of snow bury and compress the previous layers. This compression forces the snow to re-crystallize, **forming** grains similar in size and shape to grains of sugar.

- ▶ Three-kilometer retreat over a period of two centuries might seem insignificant at first glance; data shows that the rate of retreat has increased sharply since 1971. The rate of retreat is 22 meters per year.
- ▶ In summer, the melting of the glacier feeds the Bhagirathi River, the source stream of the Ganga, when scaled 4,255 meters to reach the glacier, the day time temperature was about 15 degree cels. And the Bhagirathi was swollen with water. However, dwindling snowfall levels have also affected the volume of water discharged during summer into the river, compared to peak levels.
- ▶ Small lakes have formed on top of the glacier while going beyond Gaumukh towards Tapovan, "It was the blast of one such glacial lake in Chorabari that led to the June 2013 flood disaster in Kedarnath "If such fast pace of melting continued in the area as well, such disasters cannot be ruled out."
- ▶ Earlier the Gangotri glacier appeared as a convex shape structure from atop Tapovan, the meadow at the base of Shivaling peak beyond Gaumukh, but now the glacier appears to be caving in and is concave in shape.

o Movement and Retreat of the Glacier

- ▶ Glacier motion occurs from four processes, all driven by gravity- basal sliding, glacial quakes generating fractional movements of large sections of ice, bed deformation, and internal deformation.
- ▶ A glacier's terminus moves forward faster than it melts, the net result is advance. **Glacier retreat** occurs when more material ablates from the terminus than is replenished by flow into that region.
- ▶ While the Himalayan Gangotri glacier has been retreating since measurements began in 1842, the rate of retreat, which was around 62 feet per year between 1935 and 1971, has almost doubled. Gangotri Glacier is 29 kilometres long, and two to six kilometres wide, and sweeps like a gigantic river through the heart of the mountains. It is the longest glacier in the Central Himalayas, with its snout just to the north of the Great Himalayan Range.
- ▶ In the years since 1960, there has been a striking decline in the overall volume of glaciers worldwide. This decline is correlated with global warming. As a glacier thins, due to the loss of mass it will slow down and crevassing will decrease.

o Possible effects

- ▶ Himalayan glaciers are rapidly retreating, with a gradual increase in droughts, flash floods, and landslides not the only issues to worry about. Just when power companies are planning more hydro energy sources to power India's growing economy, a rising level of sediment in regional rivers is creating havoc for many grids.
- ▶ There is likely to be increased severity and frequency of monsoonal storms and flooding in the Himalayas, which are expected outcomes of climate change, may significantly alter the area's erosion, river discharge, and sediment dynamics. Eventually, this may affect existing hydropower reservoirs, as well as those planned for construction in the Himalayas. Part of the generated sediment may be deposited on agricultural lands or in irrigation canals and streams, which will contribute to deterioration in crop production and in the quality of agricultural lands.
- ▶ Dozens of mountain lakes in Nepal and Bhutan are so swollen from melting glaciers that they could become mountain tsunamis, bursting their seams and devastating many Himalayan villages. Glacial lake outburst floods are potentially disastrous as

temperature increases create an increase in the number and extent of glacial lakes. Catastrophic outbursts of glacial lakes result in widespread damage to persons and villages, washing away bridges, and filling water with debris and large logs.

- ▶ The drinking water comes from sources like the Himalayan Gangotri glacier, and in the coming years there is a high likelihood that water shortages will ensue due to melting of these glaciers. According to WWF studies, and due to the rise in temperature, the river flow will increase by 20% initially because of more snow melt. But, ultimately, the flow will decrease by 20 per cent. A population equal to Europe lives in the Ganges basin. Their livelihoods are dependent on the river.

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◉ **What to do?**

There is no cost effective method or measure to take that would stop the melting of Gangotri glaciers in a timely manner. As unfortunate as it is to say, the melting of the world's ice is a natural phenomena that has merely been accelerated by human influence.

6

SOCIAL ISSUES

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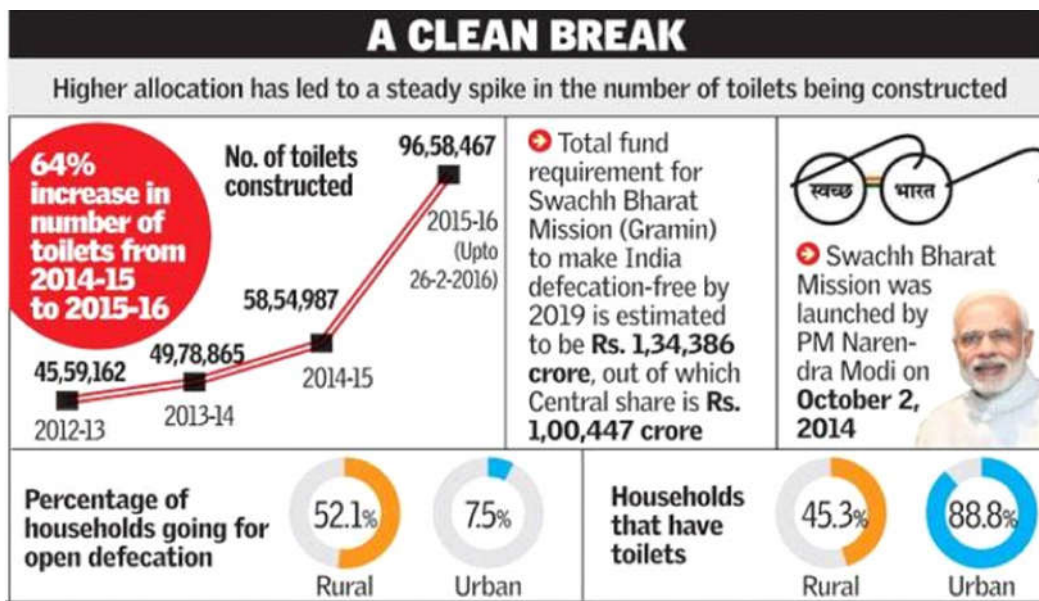
6.1 ISSUE OF OPEN DEFECTION IN INDIA



(Q) Despite Schemes like Nirmal Bharat Abhiyaan and Swachha Bharat Abhiyaan. Why do people in India still defecate in open. What measures are required to Make India Defecation free.

Context

In spite of Government giving adequate attention in recent years to solve the problem of open defecation by launching schemes like Nirmal Bharat Abhiyaan and Swachha Bharat Abhiyaan More than half the rural population of the country still opts for open defecation, says the recently released Swachhta Status Report by the National Sample Survey (NSS) Office.



What is open defecation?

Open defecation is a practice where people relieve themselves in fields, bushes, open spaces and into open bodies of water.

Why Open Defecation is a problem?

- ▶ When people defecate in the open, flies feed on the waste and then carry small amounts away on their bodies. The flies then come into contact with food.
- ▶ Human waste can also run into wells and streams, contaminating water that may be used for drinking or bathing.
- ▶ Ingested bacteria and worms spread diseases, causing sickness and malnutrition.
- ▶ Faecally transmitted infections are also the main reason why nearly half of Indian children under five are underdeveloped.
- ▶ Open defecation also makes women more vulnerable to sexual crimes.

Why the Situation has not improved much on Open Defaction?

- ▶ The main reason for open defecation is behaviour and mindset of the people who have continued the practice for centuries
- ▶ Many Indians still prefer not to use toilets, even if they are available because of reasons like they found it "pleasurable, comfortable, or convenient", it provides them an opportunity to take a morning walk, see their fields and take in the fresh air". Still others regarded open defecation as "part of a wholesome, healthy virtuous life".
- ▶ The approach of the Government is too centralized
- ▶ In rural India, 57 per cent of the household toilets have no water for use. 44 per cent of those toilets had no arrangement for liquid waste disposal and Therefore the residents do not use the toilets.

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o What needs to be done to Improve the situation?

- ▶ Firstly, too much of centralised planning needs to be replaced by a community-led Total Sanitation approach. It will encourage communities to take the lead and identify their own measures to end open defecation. The national level approach is meaningless if its not getting the desired results. The community should become the entry point and single window for implementing the Swachh Bharat Mission. There is also a concerted need for a dedicated pool of cadre to upscale the sanitation programme.
- ▶ Secondly, annual plans prepared by the district should be done away with. Micro-planning at the Gram Panchayats should be there far more effective and efficient functioning of the Swachh Bharat Mission. The government should also work on the entire value chain and not just focus on isolated interventions.
- ▶ The third area is behaviour change through effective campaigns where the government needs to move up a gear. Celebrities and sportspersons should be used as the agents of change. A recent campaign by UNICEF in partnership with International Cricket Council and Board of Control for Cricket in India called Cricket for Good and Team Swachh showed how the popularity of sportspersons amongst children can be leveraged to advocate for better sanitation and hygiene. By playing cricket, the sportspersons pitched for the use of toilets amongst underprivileged children. However, solely relying on celebrities would not be enough. It needs to be coupled with fostering of local heroes and champions. Many states in India are still grappling with the absence of local champions to lead the Swachh Bharat Mission. Till the time we have local advocates to champion for the cause of a Swachh Bharat, we will only have satisfactory results.
- ▶ Fourthly construction of toilets and campaigns needs the backing of required physical infrastructure for regular monitoring, servicing and assessment. In 54.9% of the villages having community toilets, cleaning was being done by the persons employed by the panchayat or on contract payment. In 17.0% villages, it was being done by the residents themselves. The survey finds that in 22.6 per cent of the villages, community toilets were not being cleaned. By comparison, in only 8.6 per cent wards of cities, toilets were not being cleaned by anyone.
- ▶ Post construction of toilets, there should be regular monitoring by the community on whether people are actually using the toilets. We have had a huge problem in the past with what were termed 'ghost toilets'. We need to learn from the past and not repeat the failures.. Thus, corrective and collective action is the only way forward to achieve a 'Swachh Bharat' for national development.

6.2 ATTACK ON AFRICAN STUDENT

o Context

Recently a Congo student in Delhi was heckled to death due to some minor argument over sitting in Taxi. In the same week following Olivier's death, two other major instances of violence were reported. In Hyderabad, a 23-year-old male Nigerian student was beaten up with a rod and hospitalized after a tiff over a parking lot. In the south Delhi area, three separate attacks took place, when a group of men with bats and rods launched allegedly unprovoked attacks on nine African nationals, four men, four women and a boy. Many African students and experts have termed this incident as Reflection of racism prevalent in the Indian society.

o What were the consequences of this attack on Indo-africa relations

- ▶ African envoys threatened to Boycott the African day celebration and there were retaliatory attacks on Indians in many places in Africa. It also adversely effected the soft power which India enjoys in Africa.
- ▶ India and Africa have had a close relationship. massive investment opportunities is available in Africa for India however at present China is having a clear edge over India in Africa .Through massive investments, India hopes to check China's growing influence in the region, and infrastructure is still a virgin area in most of Africa but attacks on Africans in India are going to make things difficult for India as It embark on a journey of economic enrichment.

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o Is it racism or a law and order Problem

- ▶ It is very strange to call that the attack on African student in the capital is simply a law and order problem. The problem is more severe than a person can understand. There is no doubt that the element of racism exists in the Indian society but the larger question is what kind of measures we have taken to address such problem.
- ▶ India and Africa share similar history culturally and politically. But despite having similarity, African students who come to India face huge amount of discrimination at all levels, be it renting the house or to overpay to taxi etc. This puts them under severe emotional and psychological pressure that sometimes they tend to resort to violence or create nonsense in public.
- ▶ This is a social problem. There is absence of any sensitisation programme that is conducted to African students when they arrive in India. A person from foreign country feels foreign until he is accepted in the host society. But this thing is not happening at grassroots level as there is a very narrow notion about such people who instead of letting them to join the society face more alienation. This thing needs to be addressed.
- ▶ Finally we need to understand that there is a problem of discrimination or racism and there should be a will to accept the problem. India being a heterogeneous society has its own deep rooted cultural and social problems. But this should not manifest in showcasing this cultural or social insensitivity to foreign nationals.

o Way Forward

- ▶ Wide range of steps needs to be taken to address the issue of discrimination domestically, there is a need for a policy that prevents discrimination against foreign nationals.
- ▶ Sensitisation programmes starting from school level and numerous cultural exchange programmes should be conducted to increase the awareness of the problem and steps thereafter to prevent such incidents
- ▶ Ministry of external affairs should coordinate with HRD ministry to conduct more programmes to avoid the conflict.
- ▶ Whenever African students arrives at India the external affairs Ministry should sensitise them about Indian culture and society so they can better understand Indian culture.
- ▶ More Police should be deployed in the areas where majority of African student reside.
- ▶ People saying Racist taunts like Nigger should be given exemplary Punishment.

6.3 LARGEST SHARE OF NON-WORKERS AMONG MUSLIMS



(Q) In the context of India what do you understand by the term working population and non-workers. Why Muslims non-workers population is highest in India. What should be done to improve the situation.

o Context

The percentage of the non-working population is highest among Muslims in the country, according to data released by the Census office recently.

o What is Working Population?

Working population refers to the number of people who are willing and eligible to work. Those who are above 15 years of age and willing to work are considered in this bracket. Retirement age differs from one country to another so respective working populations are affected accordingly.

o Who is Main Workers?

Those workers who had worked for the major part of the reference period (i.e., 6 months or more) are termed as Main Workers.

o Who is Marginal Workers?

Those workers who had not worked for the major part of the reference period (i.e., less than 6 months) are termed as Marginal Workers.

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◦ Who is a Non-Worker?

A person who did not at all work during the reference period was treated as non-worker. The non-workers broadly constitute students who did not participate in any economic activity paid or unpaid, household duties who were attending to daily household chores like cooking, cleaning utensils, looking after children, fetching water etc. and are not even helping in the unpaid work in the family farm or cultivation or mulching, dependent such as infants or very elderly people not included in the category of worker, pensioners those who are drawing pension after retirement and are not engaged in any economic activity.

◦ Key Findings of the Report

MOST NON-WORKERS			
Community	Population	Non-workers	% share of non-working population
Muslim	17.22 cr	11.61 cr	67.42%
Jain	0.44 cr	0.29 cr	64.27%
Sikh	2.08 cr	1.33 cr	63.67%
Hindu	96.62 cr	56.96 cr	58.95%
Christian	2.78 cr	1.61 cr	58.09%
Buddhist	0.84 cr	0.48 cr	56.85%
Others	0.79 cr	0.41 cr	51.50%

Source: Census 2011

- ▶ A massive 11.61 crore Muslims — who make up 67.42% of the 17.22 crore Muslim community — have been listed as non-workers.
- ▶ The total 72.89 crore Indians have been listed as non-workers — 60.20% of the total population of 121.08 crore.
- ▶ Following Muslims in the list of communities with the largest share of non-workers are Jains. There are 0.29 crore non-working Jains, who make up 64.47% of the total Jain population. After them are Sikhs (63.76%), Hindus (58.95%), Christians (58.09%), Buddhists (56.85%) and Others (51.50%).
- ▶ An analysis of the Census records shows that the percentage share of non-workers fell slightly between 2001 and 2011. In 2001, out of a total population of 102.8 crore, 62.63 crore were registered as non-workers — making up 60.88% of the population. In 2011, the number of non-workers has gone up to 72.88 crore, but they now make up 60.2% of the total 121.05 crore population.
- ▶ Among all religious communities, the share of people working as 'main workers', that is, those who worked for most part of the year, declined between 2001 and 2011 while the share of 'marginal workers' - those not getting work for more than six months a year - increased.
- ▶ While 44% of the working age population were main workers and 14% marginal workers, a staggering 42% were 'non-workers'. The vast bulk of these were women looking after domestic duties. This trend was reflected across various religious communities. Sikh and Jain communities had the lowest proportion of marginal workers but the highest share of non-workers. This is due to the lower participation of women in even marginal work, rendering them non-workers.
- ▶ Among tribal communities, primarily of central India and the northeast, main workers were much less than the national average while marginal workers are very high at 35% of the working age population. Non-workers' share is just 25% compared to the country-wide average of 42%, because women in these communities are heavily involved in work. But the most worrying indicator is that 28% of the working age people in these communities are seeking work.

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Reasons why Muslims have largest share of non-workers?

- ▶ Lack of adequate employment opportunities
- ▶ Exceptionally skewed work participation ratio between men and women. Women make up only 15.58% of the community's main total working population. The participation of women in the main workforce in India is 24.64%. This is due to prevalence of traditional thinking in many Muslim Households due to lack of education.
- ▶ Low educational Skills among the Muslims

6.4 GOVT COMES WITH DRAFT BILL ON PASSIVE EUTHANASIA: RIGHTS OF TERMINALLY ILL



(Q) Recently the govt has come with a draft bill on passive euthanasia. What are the main features of this bill? What are the concerns associated with the bill?

Context

Addressing the contentious issue of mercy killing, the government has come up with a draft Bill on passive euthanasia which will give a patient the right to withhold from medical treatment in case they are terminally ill.

Background

- ▶ After several cases of euthanasia, such as Aruna Shanbaug a nurse who spent 42 years in a vegetative state as a result of sexual assault, the issue gained attention.
- ▶ Recently the Supreme Court heard a public interest litigation filed in 2005 by NGO Common Cause which said when a medical expert opines that the person afflicted with a terminal disease has reached a point of no return, then he should be given the right to refuse being put on life support as it would only prolong the agony.
- ▶ SC had, two years ago, issued notices to states and Union Territories on the issue. The Centre had also strongly opposed the petition earlier saying it is a form of suicide.
- ▶ Formulation of regulatory provision for euthanasia was earlier examined in Health Ministry in 2006 based on the 196th report of the Law Commission of India in consultation with experts. However, based on their opinions, Health Ministry at that time had opted not to make any law on it.

What is euthanasia?

Euthanasia is a medical term meaning 'easy death'. It is the act of deliberate or voluntary end of someone's life to prevent any further suffering or pain to the person.

Active and Passive euthanasia

- ▶ Active euthanasia involves a doctor injecting a lethal medicine to trigger a patient's cardiac arrest.
- ▶ In passive euthanasia, doctors, with the consent of relatives, withdraw the life support system of a person being kept alive with the help of machines.

Key facts of the bill

- ▶ According to the Bill, "every competent patient, including minors aged above 16 years, has a right to take a decision and express the desire to the medical practitioner attending on her or him."
- ▶ The Bill goes on to say that such a decision will be binding on the medical practitioner. He or she has to inform the spouse, parents or any other close relative of the patient and desist from carrying out the decision for a period of three days after informing them.
- ▶ The Bill provides protection to patients and doctors from any liability for withholding or withdrawing medical treatment and states that palliative care (pain management) can continue.

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- ▶ The Medical Council of India has been given the authority to formulate guidelines from time to time for the guidance of medical practitioners and might review and modify the guidelines periodically.
- ▶ In case any patient is not competent enough to take a decision then his or her next of kin, including spouse, parents or sibling, can approach the High Court, which will have to take a decision within a period of one month.

○ **Should euthanasia be legalised?**

Arguments For Euthanasia:

- ▶ It provides a way to relieve extreme pain.
- ▶ It provides a way of relief when a person's quality of life is low.
- ▶ Frees up medical funds to help other people.
- ▶ It is another case of freedom of choice.

Arguments Against Euthanasia:

- ▶ Euthanasia devalues human life.
- ▶ Euthanasia can become a means of health care cost containment.
- ▶ Physicians and other medical care people should not be involved in directly causing death.
- ▶ There is a "slippery slope" effect that has occurred where euthanasia has been first been legalized for only the terminally ill and later laws are changed to allow it for other people or to be done non-voluntarily.

○ **What does SC say about euthanasia?**

- ▶ In 2011, in Aruna Shanbaug case the Court had ruled in favour of passive euthanasia and the law ministry had opined that the SC's "directions should be followed".
- ▶ In its landmark 2011 verdict that was notable for its progressive, humane and sensitive treatment of the complex interplay of individual dignity and social ethics, the Supreme Court laid down a broad legal framework.
- ▶ It ruled out any backing for active euthanasia, or the taking of a specific step such as injecting the patient with a lethal substance, to put an end to a patient's suffering, as that would be clearly illegal.
- ▶ It allowed 'passive euthanasia', or the withdrawal of life support, subject to safeguards and fair procedure.
- ▶ It made it mandatory that every instance should get the approval of a High Court Bench, based on consultation with a panel of medical experts.

○ **Criticism of the Bill**

- ▶ The draft has disappointed experts who wanted complete clarity on the concept of a living will. A living will is defined as "a document in which a person states his/her desire to have or not to have extraordinary life-prolonging measures used when recovery is not possible from his/her terminal condition"
- ▶ The Bill creates an irrational distinction between patients who are competent at the time at which a decision has to be made about refusing or withdrawing life-sustaining treatment, and those who are incompetent at such time, even though they might have expressed their decision earlier in the form of an advance directive. Clause 3 of the Bill states that the decision of the former category of patients to refuse such treatment is binding on their medical practitioners. For the second category of patients, Clause 9 of the Bill requires medical practitioners or relatives to move the High Court for permission to withdraw treatment. The time at which the decision was made to refuse or request the withdrawal of treatment cannot be a rationale for distinguishing between these categories of patients, so long as such decisions were taken freely, fully informed, and not altered fundamentally since. Apart from being an infringement of the right to life under Article 21, the classification stands the risk of being struck down as unreasonable and therefore a violation of the right to equality under Article 14.
- ▶ The choice of the High Court as a forum to obtain permission for the withdrawal of treatment from incompetent patients imposes an unrealistic burden on medical

practitioners as well as relatives and does not take into account the fact that High Courts are unlikely to be able to deliver swift judgment in such cases.

- ▶ The bill allows a child to decide something as important as life and death which has been criticised by the child activists.
- ▶ The Bill's biggest fault lies in its failure to protect the constitutional rights of patients who wish to have their decisions about medical treatment respected.

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o **Conclusion**

Although the ethical and philosophical arguments for passive euthanasia apply equally to active euthanasia, the government has made the correct decision in addressing only the former at the moment. By doing so, it has curtailed the potential for misuse of the proposed legislation. A revised bill would be a significant step towards allowing suffering individuals a measure of human dignity.

6.5 GUJARAT GOVERNMENT ISSUED MINORITY STATUS TO THE JAIN COMMUNITY

- ▶ The Gujarat Government issued a Government Resolution (GR) giving minority status to the Jain community. In the year 2014, the previous UPA government had conferred minority status on the community at the national level.
- ▶ Due to the Patidar reservation agitation in Gujarat, the Jain community reservation matter had been put on hold for some time moreover in other say, confusion is that, the large section of Jain community has performs the several rituals are similar to those practiced by the Hindus, so the Jains are a part of the Hindu community and should not be treated as separate entity.
- ▶ As per the GR, the status will benefit the poor among the Jain community as they can avail of various scholarships, government welfare schemes. Similarly, Jain Institutions will get special status like those accorded to Christians and Muslim Institutions.
- ▶ The decision comes within the week of the state government awarding 10% reservation to the economically backward class among the upper cast in the face of Patel community agitation for OBC quota.

7

INTERNAL SECURITY

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7.1 FAKE CURRENCY PROBLEM IN INDIA



(Q) Discuss the extent of Fake currency Problem in India. How is it a threat to Indian security. What steps have Government taken in recent years to curb the menace.

o Context

At a meeting Recently, the RBI Central Board recommended designs for a new banknotes series to the government. A key reason for proposing the new series is that India remains a cash-based economy, and fake currency notes continue to be a huge menace.

o How big is the fake currency problem?

- ▶ As many as 250 out of every 10 lakh notes in circulation are fake, according to a study conducted by the Indian Statistical Institute. Typically, at any point in time, banknotes with a face value of Rs 400 crore are in circulation in the country. The study revealed that fake currency notes with a face value of Rs. 70 crore are infused into the system every year, and law enforcement agencies are able to intercept only a third of them — a fact that is acknowledged by the agencies themselves.
- ▶ The detection rates of fake 100- and 500-rupee notes were found to be about the same or 10% higher than the detection rate of 1,000-rupee notes. The study added that fake 1,000-rupee notes constitutes about 50% of the total value of fake notes.

o How do these notes find their way to India, and who profits from them?

- ▶ Pakistan's military spy agency, the Inter-Services Intelligence (ISI), has been raking in an annual profit of around Rs. 500 crore by circulating counterfeit notes in India, according to a report prepared by the IB, R&AW, Directorate of Revenue Intelligence and CBI.
- ▶ The ISI has been making a profit of 30-40% on the face value of each counterfeit Indian note produced in Pakistan, according to the report. The cost of printing a Rs. 1,000 counterfeit note, for instance, is Rs. 39 (the RBI spends Rs. 29 to print a Rs. 1,000 note), but it is sold at Rs. 350-400, according to the report. The total fake notes that came into India in 2010 from abroad was pegged at Rs. 1,600 crore, and going by this estimate, the report put the ISI's total profit at Rs. 500 crore.

o Why they are Threat to India?

- ▶ Criminal networks exchange counterfeit currency for genuine notes, which not only facilitates money laundering, but also represents a threat to the Indian economy.”
- ▶ Most terrorist activities were conducted by international terrorist groups and entities linked to the global jihad, with the support of both state and non-state external actors, all of whom “often use counterfeit currency and hawaladars.
- ▶ Currency inflation: If large amount of fake currency notes are circulated then high demand of goods and commodities takes place. Then, since supply cannot meet demand so scarcity of commodities occurs and it leads to hike in the price.
- ▶ Non-reimbursement by Banks: Big businesses and industries of a nation are likely to incur huge amounts of losses. When the banks are informed about fake currency being involved in some significant business transactions, it is confiscated with immediate effect, but most of the time, the businesses do not get reimbursement for their money. This leads to heavy losses that may affect them, either immediately or in the long run.

o What has been the government's track record in intercepting these notes?

- ▶ According to data submitted by the Home Ministry to Parliament recently, there has been a slight decrease in the circulation of fake Indian currency notes (FICN) in the country in the three years beginning 2013. In calendar year 2015, investigative agencies and RBI seized and recovered 6.32 lakh fake currency notes with a face value of Rs 30.43 crore. While the number of fake Indian currency notes was down 10% from a year ago, in value terms, it was down 15% in the same period.

- ▶ In 2015, various agencies filed 788 FIRs in cases of smuggling and circulation of FICN, in which at least 816 people were accused. Data show that Delhi and Uttar Pradesh together accounted for over 43% of recovered and seized FICN in 2015.

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◉ What has the government done to tackle this problem?

- ▶ The government has formed a special Fake Notes Co-ordination (FCORD) Group in the Home Ministry to share FICN information with security agencies of states and the Centre. It has also constituted a Terror Funding & Fake Currency Cell (TFFC) in the National Investigation Agency to investigate terror funding and fake currency cases.
- ▶ Under the Unlawful Activities (Prevention) Act, 1967, effective from February 1, 2013, damage to the monetary stability of India by production, smuggling or circulation of high quality fake Indian paper currency, coin or any other material has been declared an act of terror.
- ▶ Apart from this, the government in August 2015 signed an MoU with Bangladesh to prevent the counter-smuggling and circulation of fake currency notes. This, after it found that smugglers were increasingly using the India-Bangladesh border to smuggle in FICN. Under the MoU, the two countries will share intelligence on such cases.

7.2 ARMY CHIEF ORDERED A HIGH-LEVEL STUDY TO DETERMINE AND RECOMMEND MEASURES TO IMPROVE TOOTH-TO-TAIL RATIO OF ARMY

In an attempt to make the world's 3RD largest standing Army a leaner and meaner fighting force and to promote 'jointness' reforming structure within the armed forces, the Chief of the Army Staff, General Dalbir Singh, has ordered a high level study to determine and recommend measures to improve its tooth-to-tail ratio.

◉ What is tooth-to-tail (T3R) ratio approach?

The tooth-to-tail ratio, referred to as T3R in the Army, is the ratio of fighting arms, which wage the actual battle such as infantry and armoured wings, to support services, such as, logistics, signals and ordnance.

Objectives to achieve:

- ▶ The study will undertake by the committee headed by an Army commander. The report is expected by August-end, after which recommendations will be considered for implementation.
- ▶ The study will comprehensively look at all arms and services, including logistics organizations and establishment to achieve right-sizing. Operation logistics will be reviewed along with the philosophy and concepts to arrive at an optimal substance model both in peace and war.
- ▶ The study is to achieve savings in manpower and cutting down on the burgeoning revenue expenditure to free up resources for military modernization.
- ▶ The study will look at the impact to equipment modernization and automation level improved communication and critical infrastructure development to review stock levels, inventory management models and logistics chain which add to the tail.
- ▶ The Army is in the process of raising a new mountain strike corps based in Panagarh, West Bengal, comprising 35000 soldiers, to guard the China front.

7.3 INDIAN NAVY LAUNCHES THE STATE OF THE HARBOR DEFENCE SYSTEM, VIZ, INTEGRATED UNDERWATER HARBOR DEFENCE AND SURVEILLANCE SYSTEM

- ▶ The Indian Navy has launched the state-of-the-art harbor defence system, viz, integrated underwater harbor defence and surveillance system and mine warfare data centre in Visakhapatnam. This would enhance the navy's surveillance capability and response to security threats at the naval dockyard.

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- ▶ Vice admiral HCS Bisht, AVSM flag officer commanding-in-Chief, Eastern Naval Command inaugurated the 2 systems. The state of the art facility will be the nodal centre for maintaining an underwater information database of harbours along the East coast.

About the System:

- ▶ Integrated Underwater Harbour Defence and Surveillance System (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.
- ▶ Post 26/11 Mumbai Attack, the Indian Navy was made responsible for the security of the country's vast coastline of 7516 km. in coordination with other agencies like Indian Coast Guard, Marine Police, Fisheries, etc.
- ▶ Creation of the Sagar Prahari Bal (SPB), induction of Fast Interceptor Crafts (FICs) and commissioning of the IUHDSS are some of the Navy's measures to strengthen Security. While the MWDC will collate, analyse and classify data collected by the Navy's Mine Hunting Ships from various ports along the East Coast.

7.4 EXERCISE EAGLE II CONCLUDED

After the Desert Eagle I IN 2008, The Exercise Desert Eagle II has been concluded in the series of bilateral exercises between Indian Air Force (IAF) and United Arab Emirates Air Force (UAE AF). The 10 day Air Exercises undertook from the Al-Dhafra Air Base, Abu Dhabi.

Features of the Exercise:

- ▶ Shown of having strong bilateral relations which date back to more than hundreds of years.
- ▶ After signing of the 'Agreement of Defence co-operation in 2003' both the nations gained momentum and keen in resolving to engage each other in multiple facets.
- ▶ A wide variety of missions were flown under the Beyond Visual Range (BVR) environment with varied levels of complexities.
- ▶ Exercise Desert Eagle-II saw the IAF Su 30 MKI participating along with Mirage 2000-9 and F-16 block 60 of the UAE Air Force.

7.5 INDIA BECOME CO-CHAIR OF WORKING GROUP ON MARITIME SECURITY AWARENESS UNDER (CGPCS)

India was chosen to co-chair the important working group on improving Maritime Situational Awareness (MSA) in the region through consensus. The 19th plenary session of the Contact Group on Piracy off the Coast of Somalia took place in Mahe, Scyelles. More than 60 countries and organizations participated in the 4 day meeting.

About the CGPCS & its Issue in the Indian context:

- ▶ The CGPCS is an international governance mechanism established in New York in 2009 to facilitate the discussion and coordination of actions among states and organizations to suppress Somali Piracy the group of interested and affected nations, industry associations and multilateral agencies to take pro-active steps in the Indian Ocean region through a UN Security Council Resolution.
- ▶ The main discussion held in the meeting is action taken and their results in combating piracy in the Indian Ocean across the coast of Somalia.
- ▶ The CGPCS has been spearheading its efforts through four Working Groups (WGs) focused on Capacity Building on legal, judicial framework and processes, and poverty alleviation in Somalia, Improving Maritime Situational Awareness in Indian Ocean Region and coordinating efforts for Disrupting Piracy Networks.
- ▶ The Indian Navy and Coast Guard have played a very important role by enhanced patrolling in the high seas and providing armed naval escorts to ships moving in the area. Other countries and organizations such as EU, US-led Combined Maritime Forces, NATO, China, Russia, Japan and South Korea have also significantly contributed to increased alertness and patrolling in the region due to which the piracy problem has been largely contained.

- ▶ To protect Indian ships and Indian citizens employed in sea-faring duties, Indian Navy commenced anti-piracy patrols in the Gulf of Aden from 23 October 2008. In addition to escorting Indian-flagged ships, ships of other countries have also been escorted by the Indian Navy. Merchant ships are currently being escorted along the entire length (490 nm long and 20 nm wide) of the Internationally Recommended Transit Corridor (IRTC) which is heavily patrolled by Indian Navy vessels.
- ▶ More than 25 IN ships are deployed for patrolling, escorting ships and in anti-piracy mission in the Gulf of Aden. To maintain high degree of alertness in the region, around 19 coastal security operations and exercises have been undertaken over the past year.
- ▶ During the height of piracy all the ships calling on and leaving Indian Ports passing through the High Risk Area (HRA), which was drawn at the Indian Ocean area west of 78 degrees E longitude which affected almost 22000 ships calling on and leaving from Indian ports, to pay an additional premium to insurance companies most of whom were outside India.
- ▶ It is estimated that this premium, called Additional War Risk Premium (AWRP) amounted to around Rs. 8500 crores during the years 2010 to 2015. This premium amount was added in the overall freight charges and therefore the Indian consumer had to bear the burden of this extra premium amount.

The Government took up the issue of redrawing of the High Risk Area Line back to 65 degrees E (from 78 degree E) in the international, Maritime Organization and CGPCS in 2015, as a result the HRA as redrawn at 65 degree E. The ships coming to or leaving Indian Ports are exempt for paying the AWRP.

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8

**DISASTER
MANAGEMENT**

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8.1 PM RELEASES COUNTRY'S FIRST NATIONAL DISASTER MANAGEMENT PLAN



(Q) PM has recently unveiled country's first National Disaster Management Plan. Discuss the main features of the plan. What are flaws with India's present structure and What additional measures can India take to strengthen disaster management in the country?

Context

Prime Minister has recently released the first National Disaster Management Plan (NDMP) in the country.

Purpose of the plan

- ▶ It aims to make India disaster resilient and significantly reduce the loss of lives and assets.
- ▶ It is based on the four priority themes of the "Sendai Framework," namely: understanding disaster risk, improving disaster risk governance, investing in disaster risk reduction (through structural and non-structural measures) and disaster preparedness, early warning and building back better in the aftermath of a disaster.

Salient Features of the Plan

- ▶ The plan covers all phases of disaster management: prevention, mitigation, response and recovery. It provides for horizontal and vertical integration among all the agencies and departments of the Government.
- ▶ The plan also spells out the roles and responsibilities of all levels of Government right up to Panchayat and Urban Local Body level in a matrix format. The plan has a regional approach, which will be beneficial not only for disaster management but also for development planning.

It identifies major activities such as early warning, information dissemination, medical care, fuel, transportation, search and rescue, evacuation, etc. to serve as a checklist for agencies responding to a disaster.

- ▶ It also provides a generalized framework for recovery and offers flexibility to assess a situation and build back better.
To prepare communities to cope with disasters, it emphasizes on a greater need for Information, Education and Communication activities.
- ▶ The plan incorporates a chapter on strengthening disaster risk governance and lays down six thematic areas: mainstream and integrated disaster risk reduction, capacity development, promoting participatory approach, working with elected representatives; grievance redress mechanism and promoting quality standards, certification and awards for disaster risk management.

Why does India need a national plan for disaster management?

- ▶ The main purpose of having a National Disaster Management Plan is to outline the prevention, preparedness, mitigation and response measures of any situation emerging out of natural or human-induced disasters in the country.
- ▶ It provides operational guidance relating to the all-hazard emergency situations and describes the overall roles and responsibilities of the concerned departments / organisations in minimising loss of life and suffering.
- ▶ It also provides for a rapid response to disasters through effective use of Local, State, National and International resources.
- ▶ After the formulation of NDMA, 2005 India has still no national plan for disaster management for such a long period of time. It is expected to boost the mitigation response of the country to national hazards and disasters.

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o Agencies involved in disaster management

- ▶ **National Disaster Management Authority (NDMA):** The NDMA being an apex body for disaster management is lead by the Prime Minister . The common superintendence, direction and control of the National Disaster Response Force (NDRF) is carried out by the NDMA.
- ▶ **National Executive Committee (NEC):** The NEC consists of members like Union Home Secretary as Chairperson, and the Secretaries to the Government of India (GoI) like Ministries/Departments of Agriculture, Atomic Energy, Defence, Drinking Water Supply, Environment and Forests and so on. The NEC prepares the National Plan for Disaster Management as per the National Policy on Disaster Management.
- ▶ **State Disaster Management Authority (SDMA):** The SDMA is headed by the Chief Minister of the respective state. The State Government shall constitute a State Executive Committee (SEC) to assist the State Disaster Management Authority (SDMA) on Disaster Management.
- ▶ **District Disaster Management Authority (DDMA):** The DDMA is headed by the District Collector, Deputy Commissioner or District Magistrate as the case may be, with the elected representative of the local authority as the CoChairperson. The DDMA ensures that the guidelines framed by the NDMA and the SDMA are followed by all the Departments of the State Government at the District level and the local authorities in the District.
- ▶ **Local Authorities:** Local authorities would include PanchayatiRaj Institutions (PRI), Municipalities, District and Cantonment 11 Institutional and Legal Arrangements Boards, and Town Planning Authorities which control and manage civic services.
- ▶ **National Institute of Disaster Management (NIDM):** The NIDM's primary responsibility is capacity development, along with training, research, documentation and development of a National level information base. The NIDM runs the training of trainers, DM officials and other shareholders.
- ▶ **National Disaster Response Force (NDRF):** The command and supervision of the NDRF would be under the Director General of Civil Defence and National Disaster Response Force selected by the Central Government. Currently, the NDRF comprises eight battalions and these battalions will be positioned at different locations as per the varying requirements.

o Challenges in disaster management

- ▶ Even though the Disaster Management Act 2005 stipulated the setting up of the Disaster Response Fund and the Disaster Mitigation Fund at national, state and district levels, only the National and State Disaster Response Funds have become operational till now.
- ▶ Weak compliance of policies: The follow up actions expected from nodal agencies in preparing plans and corrective actions to address the critical gaps in the existing policies are not initiated.
- ▶ Shortage of trained manpower and training facilities.
Lack of proper remunerative facilities and less salary than the counterparts causes the paramilitary forces aversion in joining NDRF.
It is complained that the NDRF are not given as much appraisal as their counterparts in spite of their risky work.
NDRF is also suffered from the ambiguity of command and control structure. NDMA has administrative control over NDRF and MHA provide the force with financial resources. Hence it vacillates between both of them for the action and it causes the delay in relief processes.
- ▶ The local security and the armed forces are well prepared to deal with such catastrophic events so they are asked for help first.
- ▶ The local forces are well known to the area in terms of terrain and so are able to carry out the work faster than the NDRF which usually has been known for arriving late at times.


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o **Steps needed for strengthening institutional mechanism for disaster management**

- ▶ Either home secretary or NDMA secretary should be given the entire responsibility to manage a disaster. This will reduce response time which is very long at present. · NDMA should be empowered to give directions to a state to comply with its guidelines · Fire and civil defence authorities should be brought under NDMA · NDMA clearance should be taken before construction in flood-prone and earthquake-prone areas · National Disaster Mitigation Fund should be created
- ▶ There is a need for more coordination between NDMA, SDMA AND DDMA.
- ▶ India still lacks an advisory committee to NDMA since 2010. This hampers the formulation of an effective plan during need.
- ▶ Only few states have constituted State Disaster Response Force. Even the local Regional Response Centres are ill equipped. So the forces should be increased both in number and capacity.
- ▶ One national force is not enough; each State must build and maintain its own State- and district-level response units. NDMA guidelines say that States must have a contingency plan that ranges from making vulnerability studies to preparing lists of sources that can be tapped for trucks, food or blankets; lists of doctors who can be called for trauma duty or post-mortems; and even firewood suppliers for mass cremations.
- ▶ States should be mandated to train personnel from the fire, police, and home guards departments and keep them disaster-ready thus supplementing the efforts of already existing forces in place.



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