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SEVEN IMPORTANT ISSUES

I. MILLIMETER WAVES: FUTURE OF WIRELESS COMMUNICATION

Why in News?

China has officially introduced a human imaging device with millimeter wave technology into its airports security checks. The new technology will gradually replace current metal detectors. Following the United States and the European Union, China is the first in Asia to issue the related technical admission standards.

The millimeter wave human-imaging technology is the most advanced technology for global security checks, helping improve airport efficiency. The technology is harmless to the human body and has a strong imaging capacity. It can detect hidden objects found on a person no matter the size or location, even non-metallic ones. The new-tech is used in airport security checks in several countries such as the United States, Britain, Netherlands, Australia and Japan.

Introduction

A special type of electromagnetic wave technology is known as millimeter wave technology. It is a mature technology and recently has been widely adopted in several applications across the industrial sectors. In the wireless communication, the millimeter wave commonly occupies the frequency range between 30 to 300 GHz.

With end users ranging from corporate data centers to teenagers with iPhones demanding higher bandwidth, the demand for newer technologies to deliver this bandwidth

is higher than ever before. A plethora of technologies exist for the delivery of bandwidth, with fiber optic cable considered to be the ultimate bandwidth delivery medium. However, the fiber optics are not unmatched by any means, especially when all economic factors are considered. Millimeter wave wireless technology presents the potential to offer bandwidth delivery comparable to that of fiber optics, but without the financial and logistic challenges of deploying fiber.

Future communication networks require significantly increased bandwidths in order to cope up with the ever increasing number of wireless devices and high data throughput. Today's millimeter wave technology is mature enough to handle this requirement. Millimeter wave components are usually realized by frequency scaling the microwave components. However, an engineer has to deal with several design challenges in terms of higher loss, high signal-to-noise ratio, signal distortions etc. while implementing a millimeter wave system.

The global market for millimeter wave technology is fragmented into license, product, application and frequency band. Depending on the license the global market is segregated into full license, light license and unlicensed. Depending on the product, the market is categorized into scanner system, telecommunication equipment and radar and satellite

communication system. Depending on the application, the market is divided into healthcare, aerospace and defense, consumer electronics, telecommunication, military and automotive and transportation. Depending on the frequency band, the market is bifurcated into 58 to 86 GHz, 8 to 57 GHz and 87 to 300 GHz band frequencies.

The History

Though relatively new in the world of wireless communication, the history of millimeter wave technology goes back to the 1890's when J.C. Bose was experimenting with millimeter wave signals at just about the time when his contemporaries like Marconi were inventing radio communications. Following Bose's research, millimeter wave technology remained within the confines of university and government laboratories for almost half a century. The technology started to see its early applications in radio astronomy in the 1960's, followed by applications in the military in the 70's. In the 80's, the development of millimeter-wave integrated circuits created opportunities for mass manufacturing of millimeter wave products for commercial applications.

In the 1990's, the advent of automotive collision avoidance radar at 77 GHz marked the first consumer oriented use of millimeter wave frequencies above 40 GHz. In 1995, the FCC (US Federal Communications Commission) opened the spectrum

between 59 and 64 GHz for unlicensed wireless communication, resulting in the development of a plethora of broadband communication and radar equipment for commercial application. In 2003, the FCC authorized the use of 71-76 GHz and 81-86 GHz for licensed point-to-point communication, creating a fertile ground for new of industries developing products and services in this band.

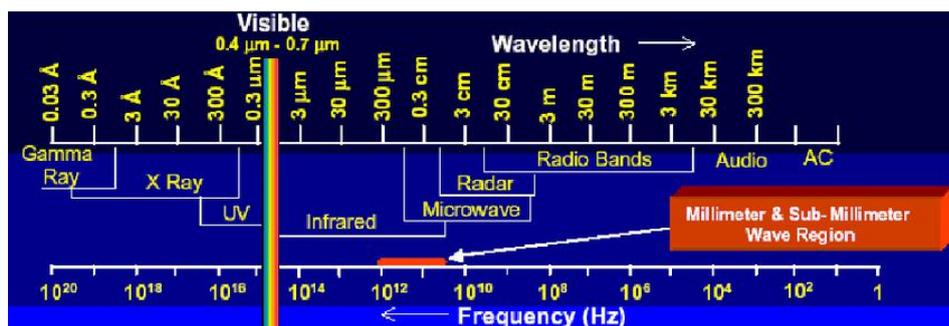
Millimeter Waves

Millimeter waves (MMW) are electromagnetic waves with the wavelength from 1 to 10 millimeters. MMW share the features of microwaves and far infrared waves since the wavelength ranges between these two waves, this means millimeter waves are longer than infrared waves or x-rays, for example, but shorter than radio waves or microwaves. Millimeter wave, which is also known as extremely high frequency (EHF) or very high frequency (VHF) by the International Telecommunications Union (ITU), can be used for high-speed wireless broadband communications. Millimeter wave is an undeveloped band of spectrum that can be used in a broad range of products and services like high speed, point-to-point wireless local area networks (WLANs) and broadband access.

The Electromagnetic Spectrum

The electromagnetic (EM) spectrum is the range of all types of EM radiation. Radiation is energy that travels and spreads out as it goes – the visible light that comes from a lamp in your house and the radio waves that come from a radio station are two types of electromagnetic radiation. The other types of EM radiation that make up the electromagnetic spectrum are microwaves, infrared light, ultraviolet light, X-rays and gamma-rays.

The millimeter-wave region of the electromagnetic spectrum corresponds to radio band frequencies of 30 GHz to 300 GHz. They have high atmospheric attenuation and are absorbed by gases



in the atmosphere, which reduces the range and strength of the waves. Rain and humidity can impact performance and reduce signal strength, a condition known rain fade. Due to its short range of about a kilometer, millimeter wave travels by line of sight, so its high-frequency wavelengths can be blocked by physical objects like buildings and trees.

High-bandwidth point-to-point communication links are used on millimeter wave ranging from 71 Ghz to 76 Ghz, 81 Ghz to 86 Ghz and 92 Ghz to 95 Ghz, and require a license from the Federal Communications Commission (FCC). Unlicensed short-range data links can be used on 60 Ghz millimeter wave. The IEEE Wi-Fi standard 802.11ad will run on 60 Ghz millimeter wave.

Commercial Applications of Millimeter Waves

1. 5G and small cell concept: 5G is one of the most discussed technologies in recent times. Due to its requirement to support higher data rate, 5G will be using millimeter waves (between 24GHz and 86 GHz range). Tech companies are testing and investing in WLAN infrastructure with the support of millimeter waves. Small cell concept could choose millimeter waves for its future implementation.

Millimeter waves can replace traditional fiber optic transmission lines connecting mobile base stations.

2. HDvideoapplications: Millimeter waves can be used to transmit ultra high definition (UHD) video to HDTV

wirelessly. Tiny transmission modules can be integrated to devices for HD transmission from digital set top boxes, HD game stations and other high definition video sources.

3. IEEE 802.11ad WiGig technology: Wireless Gigabit Alliance – WiGig is a technology designed to support future audio and visual media devices and wireless display interfaces at gigabit rate. High performance transmission of data between devices and computers can be achieved using WiGig transmission protocol.

4. Satellite Communication: Millimeter waves are perfect candidates for satellite communication. At higher altitudes of orbits, it operates perfectly with massive data rate and low latency.

5. Automotive Applications: Autonomous driving is a hot topic in technology world. It requires detection of passengers and other obstruction in real time and low latency. Accurate detection is important and necessary decision has to be made in millisecond time frame. Millimeter waves are best option for detection radar for automobiles.

6. Body Scanners: Millimeter wave human body scanners are getting popular nowadays. It has the ability to scan with high precision and cause less harm to human body. Technology giants like Rohde&Schwarz has recently introduced millimeter wave human body scanner for airport security. It uses transmit power of 1 mW and operates at frequency range between 70 GHz to 80 GHz.

7. Radar applications: High frequency radar technology has been developing and emerging for multiple applications. It uses one the property of millimeter waves called beamwidth. Miniature sized radar on single chip has been developed using sophisticated semiconductor technology. It can be used for motion sensors, automatic doors, collision avoidance systems, intrusion alarm devices and speed detection of vehicles etc.

8. Virtual Reality headsets: Virtual reality applications are the future of multimedia world. Millimeter waves perfectly fit for virtual reality devices. It can support high bandwidth which is necessary for high definition video and audio transmission. VR devices allow high speed tethering from computers, other multimedia devices and offers excellent user experience.

9. Medical applications – mmW therapy: Researchers found that millimeter wave technology can be used in medical applications like treating acute pain. Millimeter wave therapy uses frequency ranges between 40 Ghz and 70 GHz to experiment several medical conditions.

10. Weapon system: Non-lethal weapon system called Active Denial System (ADS) emits a beam of radiation with a wavelength of 3 mm.

Advantages

- **Large Bandwidth:** The large bandwidth translates to better data transfer rates, attaining speeds of about 10Gbps or more compared to the 1Gbit/s limit when using the microwave frequencies. This makes high-quality video streaming, real-time gaming and other bandwidth intensive applications a reality.
- **Small Components Sizes:** The components and antennas for the higher millimeter wavelengths are usually very small compared to those for lower frequencies. This makes it possible to design physically smaller circuitry and

equipment. For example, a half-wave dipole operating at a 900MHz cellular frequency is about six inches long but this would reduce to 2.5 mm at 60GHz in free space or less if on a dielectric substrate. As such, it is possible to make very small and lightweight radio equipment comprising the radio and antenna or build multiple elements phased arrays on a chip.

- **Greater Resolutions:** The narrow beam could allow the ability to achieve greater resolutions.
- **Low Interference and Increased Security:** The narrow beam and short range can be a benefit since there is less interference from nearby radios. In addition, it is much harder to intercept the signals and there is also increased security since the signal is only restricted to a small area.

Disadvantages

Millimeter waves require line of sight communication. One of the major disadvantages of the millimeter waves are distortion from atmosphere. This phenomenon can be observed in digital video broadcasting (D2H services). During cloudy atmosphere, digital video broadcasting services will be distorted due to poor signal quality.

Due to higher distortion from atmospheric conditions like fog and dust, it is not suitable for long distance communication. Millimeter wave architecture is complex, it required advanced technology infrastructure to develop a system.

Challenges in Using Millimeter Waves

- **Limited Range:** The millimeter waves, due to the short wavelength, have a short transmission range of about 10 meters for most low power applications. However, the range is extended by using high transmit power and antenna gains and receivers with high

sensitivity. In addition, the short wavelengths of between 10 and 1 millimeter suffer high atmospheric attenuation; with fog, rain and moisture attenuating the waves the highest, and shortening the transmission distances. All these factors reduce the possible range to about one kilometer. Sometimes, designers may use high-gain antenna arrays to boost the effective radiated power and increase the transmission range.

- **Requires Line of Sight:** Physical objects such as trees and buildings will block the waves, leading to weak wave signals and a reduced range.
- **Costly Components:** Manufacturing the small components requires more precision and care, hence increasing costs.

Way Forward

Millimeter wave technology is one of the fastest growing technologies in this decade. Higher demand for high speed data, ultra high definition multimedia, HD gaming, security and surveillance etc. will drive millimeter wave technology to next level. It will continuously develop and offer wide spectrum of applications in the future.

Regulations and lack of affordable components that could produce and receive millimeter waves were at one time a challenge that limited the use of the spectrum. However, designers and manufacturers have now made significant progress in developing affordable semiconductor devices for commercial high-speed communications and other millimeter wave applications.

General Studies Paper- III

Topic: Science and Technology-developments and their applications and effects in everyday life.



2. NATIONAL TESTING AGENCY: AN OVERVIEW

Why in News?

The National Testing Agency (NTA) has started work with the promise of being leak-proof and its first test will be the National Eligibility Test (NET), a gateway to college lecturers' jobs, in December. The NTA system, which would also conduct the national-level NEET and JEE(Main), would be leak-proof and modern. The Central Board of Secondary Education, which was plagued by question paper leaks, had been handling both the exams. NEET would be conducted in February and May 2019.

The NTA would also conduct National Eligibility cum Entrance Test Common Management Admission Test (CMAT) and Graduate Pharmacy Aptitude Test (GPAT).

Introduction

Students emerging from the higher secondary system and seeking admission to professional programmes of study at the undergraduate level in higher education appear in a multitude of entrance examinations. These examinations are conducted either by the institution or by a consortium of institutions or by state agencies on behalf of institutions both at the state or national level.

The standards of these entrance examinations vary widely. The burden thereby imposed on the student in terms of time, money and the stress caused in scheduling and preparing for each examination is tremendous. The student has to concomitantly restrict his/her choice of institutions for which he/she can compete based on the scheduling arrived at. For admission to Social Science and Humanities courses on the other hand, the performance of the student at the secondary school

leaving examinations conducted by boards of secondary education at the central and state level is the usual determinant of merit in the admission process.

There are two problems that exist in this case. The secondary school board examinations are one-off affairs and the student is not provided the opportunity to improve upon his/her score. There is, therefore, no margin for any contingency or unforeseen circumstance that could affect performance. The anxiety and trauma on the student and parents has been highlighted on numerous occasions. Secondly, the wide disparity in standards of examinations and evaluation across the state boards does not render itself to an objective, transparent and reliable cross-country comparison. Generally, admission practices in institutions of higher learning can be categorized into four types as follows:

- **Type 1:** Admission based on performance in the examinations of the course last attended. e.g. admission to undergraduate courses in universities based on the performance in the Class XII examinations.
- **Type 2:** Entrance examinations that test subject knowledge, achievement and learning levels for a student to attempt the course for which he/she seeks admission. e.g. Joint Entrance Examinations (JEE) conducted by IITs.
- **Type 3:** Standardised aptitude tests that measure the general cognitive, analytical and communication abilities rather than achievement. e.g. Common Aptitude Test (CAT) conducted by IIMs.

- **Type 4:** Admissions based on academic performance over a period of time or on the application dossier. e.g. admission to post-graduate courses based on academic performance at the undergraduate level along with references from professors.

The reliability and validity of the entrance examinations is best determined by their ability to accurately evaluate the candidates' academic performance at the university level. Studies indicate that secondary/high school leaving performance is a better indicator of academic success. This has also been stressed by the committee that went into restructuring of the JEE. However, with the wide variation in the examination processes at the higher secondary level across the country and the difficulties associated with normalization of the results of the examinations across state boards of secondary education makes it well-nigh impossible to arrive at a reliable or reasonable predictor of relative merit.

National Agency for Testing: The Genesis

The Programme of Action, 1992 for implementation of the National Policy on Education, 1986 describes far-reaching changes in the examination and evaluation systems at the university level.

The National Knowledge Commission in its report (2006-2009) also mentioned the setting up of a National Testing Service for certification of language competence, recruitment of language teachers, development of open and distance education and open educational resources.

This will be first of its kind in India with administrative and financial autonomy, self-reliant

and self-sustained premier testing organization, which will conduct tests and assessments for admissions, scholarships, etc. It will be governed by a governing council. It will follow a ZERO tolerance policy in conducting tests and assessments which means facilitating standardized selection and authentic measurement of candidate's knowledge and skills. Following its core value, National Agency for Testing (NAT) will always strive for excellence in all its endeavours to improve systems, procedures and issues that attribute to the traditional testing services.

National Testing Agency

The NTA will bring qualitative difference in the examination process by its focus on research and scientific test design using services of experts, researchers, statisticians, psychometricians, test item writers and education specialists. The item writers would be trained to ensure that the quality of questions is as per the test design. The experts, statisticians and item writers/subject matter experts are already identified for being inducted into NTA. The new system will be student friendly, fair, transparent and flexible.

For the first time in the history of competitive examinations, the JEE (Main) and NEET (UG) will be conducted twice before admissions in the next academic session. This gives a choice to the students especially if they fail to appear in a test due to unwarranted circumstances. The syllabus and the pattern of question paper would remain the same and there will be no increase in the exam fees currently being charged.

The examinations for all candidates will be conducted in computer based mode only (starting from next exam UGC-NET exam). These examinations will use highly secured IT software and encryption to ensure delivery of tests just in time. This will ensure no leakages and other malpractices.

National Testing Agency (NTA) was approved by the Union Cabinet in November 2017 as an autonomous and self-sustained premier testing organization to conduct entrance examinations for higher educational Institutions.

The Objectives

- To conduct efficient, transparent and international standards tests in order to access the competency of candidates for admission and recruitment purposes.
- To undertake research on educational, professional and testing systems to identify and bridge the divide between prevailing academics and operational gaps in the systems.
- To showcase the capacities of the educational and professional individuals and institutions by professional certification through testing and assessment.
- To produce and disseminate information and research on education and professional development standards.

Features of exams to be conducted by NTA

- This will give more chances to students thereby giving adequate opportunity to bring out his/her best and reducing stress which develops due to single exam conducted on one single day in the year. However, sitting in both the tests will not be compulsory. The two tests (each for JEE (Main) and NEET (UG)) will be equated using psychometric methods, standardisation techniques and best of the equated scores will be used for the admissions.
- All the tests (UGC-NET (December), JEE (Main) and NEET (UG)) will be conducted in multiple sittings and a candidate will have an option of dates to choose from. Scores of

different candidates in multiple sittings will also be equated using standardisation techniques.

- NTA will establish a network of test practice centres for students of rural areas so that everyone will have an opportunity to practice before the exam. Schools/engineering colleges with computer centres would be identified and kept open on Saturday/Sunday starting from 3rd week of August. Any student can use the facility free of charge.
- All tests would be set in a scientific manner with the test items developed jointly by the subject matter experts and psychometricians. Before developing the question papers, the item writers for the exams will be given feedback on the functioning of the previous years' items so that they are able to make test items which are more valid and reliable.
- Establishment of NTA will benefit about 40 lakh students appearing in various entrance examinations. It will also bring in high reliability, standardized difficulty level for assessing the aptitude, intelligence and problem solving abilities of the students.
- In order to serve the requirements of the rural students, it would locate the centres at sub-district/district level and as far as possible would undertake hands-on training to the students.

Advantages

- Provide opportunities to the student for improvement.
- Provide flexibility to the institution in structuring its admission process.
- Be structured in a manner which is perceived to be transparent, fair, reasonable and reliable.

- Accommodate the diversity in learning outcomes at the secondary level without compromising on its ability to indicate merit.
- Account for the difference in the social-economic background of students in a manner that is objective and discernible and to elucidate the diversity in categorization at the level of states.
- Be cost neutral for the testing agency with a mechanism to share revenue with state boards.
- As with any new system that comes into play, the NTAs exam system will also face technological glitches at first. Some of the tests that it is in charge of are bound to be computer based tests and that means that any glitch could throw off the chances of a lot of students to take the exam that year and get into their preferred colleges.
- Another thing that could be potentially problematic is the standardization of the content. Considering the fact that the agency will be in charge a multitude of entrance exams, it will need to standardize these exams and introduce common content as far as possible or the amount of work it will have to do for each exam is going to be too much.

Challenges

The government announced a slew of reforms related to education. One of those reforms has attracted a lot of attention. The reform in question deals with the establishment of a National Testing Agency, an organization that is going to be in charge of conducting every entrance examination related to academics in India. This means that the Central Board of Secondary Education or CBSE and the All India Council for Technical Education or AICTE will no longer have to deal with the administrative headaches that go along with conducting these tests.

- Some of the tests are likely to be computer-based and conducted multiple times a year which requires high-end technology, detailed planning and proper execution for safety and quality.
- Testing authorities have to strengthen the system against cheating, impersonation and corruption.
- One of the major threats that the NTA and indeed any agency or organization that is online, faces is blackhat hackers. The NTA will be taking care of some of the most important entrance exams in the country. This means that it will need to ensure that no one tries to access its systems and data via unauthorized means and for nefarious purposes.

Way Ahead

The NTA is an interesting initiative. However, the amount of work that lies in front of it is quite daunting. It has to take the burden off the shoulders of the CBSE and AICTE and not only ensure that it administers and conducts these exams, but also does so in a way that brings these exams to the standards used by international testing organization.

What is required is an admission process that navigates the intrinsic problems associated with the adoption of a single admission system in its reliability to predict academic success as well as being discernible as credible, transparent, fair and reasonable.

- A mix and match strategy in the right proportion would deliver better results than a single methodology. Therefore, the design of a national examination for entry to undergraduate courses that can capture the knowledge and learning levels along with the aptitude of the student in a manner

which is comparable across the country requires an aptitude test to be administered concurrently with subject tests.

- The aptitude test would assess the ability of the student to analyse, comprehend, interpret, communicate and evaluate.
- To make the test tailored to the choice of the student and also to be less stressful on the student, the test could be administered at two difficulty levels, moderate and high.
- In so far as subject tests are concerned, these tests would perform the standardization function across states boards and CBSE/ICSE and the scores obtained in these tests could normalize the results obtained by the student in the board examinations in the subjects of his/her choice.
- This provision would cause states to orient the tests in these subjects to the state context appealing to local history, culture and language. It would also be in keeping with the trend that inter-state mobility amongst students pursuing programmes of study emerging from these subjects is minimal.

In order to ensure that the changes do not result in further exploitation of students. Ultimately, any process of reform at the level of entrance examinations can be meaningful only if the school education system is revamped and learning outcomes are improved.

General Studies Paper- II

Topic: Issues relating to development and management of Social Sector/ Services relating to Health, Education, Human Resources.



3. INDIA AND SOUTH KOREA: DEEPENING TIES

Why in News?

That South Korean President Moon Jae-in undertook a four-day visit to India last week, when there is hectic diplomacy over the Korean peninsula, speaks of his commitment to improving bilateral ties. India and South Korea have set a target of increasing bilateral trade to \$50 billion by 2030 from \$20 billion and speedily conclude negotiations to upgrade the bilateral Comprehensive Economic Partnership Agreement (CEPA). India and South Korea signed 11 agreements, including in the areas of trade, cultural and scientific and technological cooperation, during the visit.

Introduction

At a time when major powers along with middle powers in the Indo-Pacific region are pursuing the “free and open Indo-Pacific” policy, Moon had enunciated his 'New Southern Policy' last year to further strengthen bilateral relations with countries in South and Southeast Asia in general and India in particular. The New Southern Policy was rolled out against the backdrop of South Korea's diplomatic row with China over deployment of the U.S. Terminal High Altitude Area Defence (THAAD) anti-missile system in South Korea, which led to retaliatory measures from Beijing.

Moon's 'New Southern Policy' aims to strengthen the economic-cooperation and build a prosperous and people-centric community of peace while India's 'Act East Policy,' focuses on promoting deeper economic engagement, reinvigorating cultural and civilizational relations and developing new strategic partnerships with countries in the Indo-Pacific region through continuous engagement at bilateral as well as at multilateral levels. Both these policies

show convergence in their objectives and should further strengthen the special strategic partnership between India and South Korea.

In recent years, relations between New Delhi and Seoul have made great progress and become multidimensional, stimulated by a substantial convergence of strategic interests and high-level government exchanges. The India-South Korea axis can be very valuable at a time when the world is passing through a phase of uncertainty; this vital bilateral partnership can significantly contribute to peace, security and stability in the Indo-Pacific region, especially through strengthened economic partnership and deepen security relations. South Korea's open market policies finds a clear resonance with India's economic liberalization and the 'Act East Policy' certainly complements the 'New Southern Policy' and adds new substance and impetus to bilateral cooperation between two nations in all areas of engagement. A lot of complementarities exists at various levels between two countries; for example, South Korea's technological advancement and manufacturing capabilities can be helpful in India's economic growth and human resource development. Seoul's successful development story of the last few decades can complement PM Modi's vision of making a “New India” by 2022.

Background

India-Republic of Korea (RoK) relations has made great strides in recent years and has become truly multidimensional,

spurred by a significant convergence of interests, mutual goodwill and high level exchanges. Bilateral consular relations were established in 1962 which was upgraded to Ambassador-level in 1973. In course of time, RoK's open market policies found resonance with India's economic liberalization and 'Look East Policy' as well as “Act East Policy”. Consistent Indian support for peaceful reunification of the two Koreas has been well received in this country.

As the first decade of the 21st century ended, India-Republic of Korea (ROK) relationship has assumed robustness in almost all dimensions – political, cultural and economic. As both countries enter the new year, a new dimension – security and strategic – that began in the preceding decade is likely to be seen in the expanding military cooperation, that began in the closing months of the preceding year. The foundation for such a relationship is already in place as both countries have identified a convergence of interests. Closer military relations will not only strengthen the strategic dimension of the bilateral ties, but it will also yield economic dividends. This will take the form of collaboration in projects, development and production of defence technologies, etc.



Moon's visit offers the possibility of strengthening India's role and relevance to the Korean Peninsula. Independent India played an interesting role in the Korean Peninsula in the immediate aftermath of the second world war. India was also among the few countries that maintained diplomatic relations with the North and South during the Cold War. As India opened up its economy in the early 1990s, South Korea became an important participant in India's economic rejuvenation. As post-Soviet Russia and China stepped up their collaboration with the economic powerhouse that South Korea had become, the socialist North was increasingly isolated.

South Korea's 'New Southern Policy'

South Korean President Moon Jae-in, long-overdue visit comes at a time when the geopolitical landscape of Northeast Asia is evolving due to shifting dynamics on the Korean Peninsula, not to mention India's own general election in early 2019. Despite internal and external pressures and amid uncertainty over regional activities, both countries seem to have understood that a summit meeting should come sooner than later. A pressing need for diplomatic diversification in the age of escalating geopolitical as well as economic uncertainty is the rationale behind Moon's ambitious move. It is partly a hedging strategy amid the U.S.-China tug-of-war in the region and partly a forward-looking move to address how Korea and India can together meet the demands of a dynamic future.

Moon's commitment to the strengthening of Korea's ties with India has been clear since he took office. During his tour to three ASEAN countries, Moon outlined his "3P" vision to build a people-centered, peace-loving and mutually prosperous community through the 'New Southern Policy' aimed at boosting ties with India as well as ASEAN member countries.

India- Korea: Bilateral Initiatives

- The deeper economic partnership between New Delhi and Seoul can also be understood from the newly inaugurated Samsung Electronics cellphone manufacturing unit in Noida, Uttar Pradesh. Built at a cost of 49.15 billion rupees (\$720 million) under the 'Make in India' initiative, the factory can produce 120 million smartphones every year and will also create thousands of new jobs in India.
- South Korea's Kia Motors is in the process of setting up an automobile manufacturing plant in the Yerramanchi village of Anantapur district in Andhra Pradesh. It is expected that from March 2019 onward, this automobile plant will be able to produce 300,000 vehicles annually, with an investment of \$1.1 billion.
- The South Korean government has also expressed interest in the Nagpur-Mumbai expressway project and is expected to partially fund the total cost of the project, which is 460 billion rupees.
- The South Korean government will tap into the Korea-India financing package worth USD 10 Billion to provide active funding for these infrastructure projects and both countries will also set up the Korea-India Future Strategy Group, in which the governments and private sectors of the two nations will cooperate in artificial intelligence, electric vehicles, energy and healthcare.

These investments will certainly play a key role in transforming India by making it a manufacturing hub in years to come.

Defence Relation

India and South Korea have also deepened their bilateral relations in the defense sector through more military exercises and training as part of efforts to enlarge their partnership

beyond economic engagement. The two countries hold a joint anti-piracy, search and rescue exercise, Sahyog-Hyeoblyeog, which is conducted between the Indian Coast Guard (ICG) and Korean Coast Guard (KCG) to improve maritime security and interoperability in the Indian Ocean Region. Besides holding more joint exercises, New Delhi is also looking to attract South Korean defense companies to invest in India.

Economic Relation

On the economic front, relations have room for further growth. India's total exports to South Korea stands at \$4.95 billion which is just 1.03 percent of South Korea's total imports. India's imports from South Korea are \$15.1 billion, 3.3 percent of India's total imports. The South Korean economy is largely based on an export-led model and is heavily dependent on the United States, China and Japan as its export markets. But a combination of China's economic sanctions imposed last year on South Korea in the wake of THAAD deployment, the ongoing U.S.-China trade war and almost complete exhaustion of these markets has forced Seoul to diversify its options. Thus Moon's 'New Southern Policy' is a clear push to find new partners and new markets so as to decrease Seoul's overdependence on China and the United States. In this context, there are boundless opportunities for businesses from India and South Korea to take advantage of the unexplored potential for economic partnership at a time when protectionism is growing around the world.

Technological Development

There are approximately 500 South Korean companies operating in India, which includes companies like Samsung, LG and Hyundai. These firms have become familiar names, especially in the middle-class households of

India, while making a remarkable contribution to India's economic growth. South Korean companies are already involved in many of India's flagship initiatives, which include Make in India, Skill India, Digital India, Start-up India, Building Industrial Corridors and Smart Cities.

Smart Cities Project

In particular, the Indian government's plan to build 100 smart cities and construct industrial corridors to link the major cities is an important area where South Korean companies can participate in infrastructural projects that will be mutually beneficial for both nations. There are vast business opportunities for both countries to expand cooperation in other unexplored areas such as shipbuilding, the aerospace industry, manufacturing of medical devices and food processing. Seoul's high-end technology can be effectively coupled with the high-skilled workforce of India. South Korea has also shown keen interest in building the Bandra, Dombivili and Kalyan smart cities.

Regional Challenges

India security strategy should be seen as part of a US-led multilateral coalition in which Japan and South Korea are key players and the North East Asian security issue should be seen from such a perspective. A new power configuration is emerging between countries with, China's rise in regional and global affairs. Past experiences of both India and the ROK vis-à-vis China are similar. The current misgivings about China have made India and the ROK "ideal partners in any strategy to check China's influence in Asia"

- China must not make the region more volatile by its aggressive posture and assertiveness. Both India and the ROK are seeking to face the China challenge.
- The China factor is driving the

countries in Asia to redefine their foreign policy priorities. A possible realignment of power relations in Asia can, therefore, be a possibility.

- The deepening of relationship between Pakistan and North Korea during the 1990s and their trade in missiles and nuclear weapons technology always had China's tacit support.
- The non - traditional security threats, nuclear proliferation and the North Korea - Pakistan nuclear links, securing sea lanes of communications, need for peace and stability are some of the factors that reinforce the convergence of strategic interests between India and the ROK.

Conclusion

South Korea can be an indispensable partner of India in its 'Act East Policy' in the Indo-Pacific region. In the context of growing Chinese assertiveness, India and South Korea share a common vision as well as similar concerns with respect to the emerging economic and security architecture and the regional order that is taking shape in the Indo-Pacific region. India-South Korea relations have come a long way since the establishment of their diplomatic relationship in 1973. Throughout the Cold War, the ideological differences largely deterred the two countries from realizing the full potential of the relationship. The growing economic interaction since India's economic liberalization pushed both to explore the possibility of cooperation in areas of mutual interest. Of course India's growing emphasis on its 'Look East Policy' and South Korea's 'New Asia Diplomatic Initiative' has helped elevate the relationship to one of 'strategic partnership.' In the coming years, the two can expand their sphere of cooperation in areas like intelligence sharing, infrastructure development projects (e.g., shipping).

At the multilateral level, they can even explore the possibility of cooperation with countries like Japan in sectors like maritime security, counter terrorism, drug trafficking, climate change, humanitarian assistance and disaster relief activities, etc.

Way Ahead

Despite the formal announcement of a strategic partnership a decade ago, Delhi and Seoul have struggled to impart some real content into it. India and Korea have an opportunity to change that. On his part, Moon has announced a 'New Southern Policy' that looks beyond Northeast Asia to focus on Southeast Asia, Australia and India. India's 'Act East policy' now has a much wider theatre — the Indo-Pacific.

Second is the urgent need to strengthen economic partnership. As a trade war unfolds between the world's major economies, Delhi and Seoul have an urgent need to liberalise their own bilateral trade relations. Amidst the unfolding technological disruption of the global economy, South Korea and India have a stake in binding the innovation ecosystems of the two countries.

Finally, the two sides also need to focus on expanding bilateral security and defence cooperation and working together with other countries to promote a stable Asian balance of power system. Delhi and Seoul should focus on building flexible middle power coalitions in Asia to limit the impact of the current volatility in the relations between US and China.

General Studies Paper- II

Topic: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.



4. VAN DHAN YOJANA TOWARDS TRIBALS EMPOWERMENT

Why in News?

To boost economic development of tribal communities, the Ministry of Tribal Affairs is planning to set up 3,000 'Van Dhan Kendras' for which 30,000 Self-Help Groups (SHGs) are likely to be roped in. The initial focus will be to set up these centres in aspirational districts. The scheme will eventually be implemented in all tribal areas at a later stage.

Introduction

Minor Forest Produce (MFP) is a major source of livelihood for tribals who belong to the poorest of the poor section of society. The importance of MFPs for this section of the society can be gauged from the fact that around 100 million forest dwellers depend on MFPs for food, shelter, medicines and income. It provides them critical subsistence during the lean seasons, particularly for primitive tribal groups such as hunter gatherers and the landless. Tribals derive 20-40% of their annual income from MFP. This activity has strong linkage to women's financial empowerment as most of the MFPs are collected and used /sold by women. MFP sector has the potential to create about 10 million workdays annually in the country.

The traditional forest was a mixed forest that yielded a range of non-timber forest products (NTFP). These included tree/ bush borne oilseeds, fruits, flowers, roots, shoots, leaves, bark and herbs. They provided food, medicine and a living ambience. Apart from subsistence needs of the community, NTFP helped them earn useful cash for other requirements of everyday use.

Ministry of Tribal Affairs has taken a number of initiatives for socio economic development of tribals like introduction Forest rights Act, Panchayats

(Extension to Scheduled Areas) (PESA) Act and has been implementing schemes for development of MFP by providing financial support to state tribal development co-operative corporations (TDCCs) and the tribal co-operative marketing development federation of India (TRIFED) for market development of MFPs. Recognizing the critical importance which MFP hold for tribals and its potential to create large scale employment opportunity thereby, helping in reducing poverty and increasing empowerment of tribals particularly women and poor people of the poorest and backward districts of the country. Government has introduced an ambitious scheme of "mechanism for marketing of minor forest produce through minimum support price (MSP) and development of value chain for MFP.

Van Dhan Vikas Yojana

It is an initiative of the Ministry of Tribal Affairs and TRIFED. It was launched on 14th April, 2018 and seeks to improve tribal incomes through value addition of tribal products. The Ministry of Tribal Affairs has approved establishment of the first multipurpose 'Van Dhan Vikas Kendra' on pilot basis in Bijapur district of Chhattisgarh state for providing skill upgradation and capacity building training and setting up of primary processing and value addition facility.

Key Highlights of Van Dhan Yojana

At unit level, aggregation of produce would be done by SHGs having about 30 members each forming Van Dhan Vikas 'Samuh'. The SHGs would also undertake primary value addition of the MFPs using equipment such as small cutting and sieving tools, decorticator, dryer, packaging tool etc. based on MFPs available in the area. A

typical Van Dhan Vikas Samuh would have the following facilities:

- Provision for required building/ infrastructure support to be established in one of the beneficiary's house/ part of house or government/ gram panchayat building.
- Equipment/ tool kit comprising of equipment such as small cutting and sieving tools, decorticator, dryer, packaging tool etc. based on MFPs available in the area.
- Fully equipped training facilities for a batch of 30 trainees with provision for raw material for training purpose and supply of trainee kits (comprising of bag, scribbling pad, pen, brochures, training manual, booklet etc.).
- Provisioning of working capital for the SHGs through tie up with financial institutions, banks, etc.
- A cluster of ten such SHGs within the same village shall form a Van Dhan Vikas Kendra. Subject to successful operations of the samuhs in a kendra, common infrastructure facilities (pucca Kendra) may be provided to the Kendra in the next phase in terms of building, warehouse, etc. for use of the samuh members.
- An illustrative list of major MFPs which may be covered under the initiative are tamarind, mahua flower, mahua seed, hill broom, chironjee, honey, sal seed, sal leaves, bamboo split, myrobalan, mango (amchur), aonla (churan/ candy), seed lac, tez patta, cardamom, black pepper, turmeric, dry ginger, cinnamon, coffee, tea, sea buckthorn tea, etc. Apart from these, any other MFP with potential for value addition may be included.

About 'Scheduled Tribes'

The term 'Scheduled Tribes' first appeared in the Constitution of India. Article 366 (25) defined scheduled tribes as "such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are deemed under Article 342 to be Scheduled tribes for the purposes of this constitution".

The Scheduled Tribes are notified in 30 States/UTs and the number of individual ethnic groups, etc. notified as Scheduled Tribes is 705. The tribal population of the country, as per 2011 census, is 10.43 crore, constituting 8.6% of the total population. 89.97% of them live in rural areas and 10.03% in urban areas. The decadal population growth of the tribal's from Census 2001 to 2011 has been 23.66% against the 17.69% of the entire population. More than two-third of the ST population is concentrated only in the seven states of the country, viz. Madhya Pradesh, Maharashtra, Orissa, Gujarat, Rajasthan, Jharkhand and Chhattisgarh. There is no ST population in 3 states (Delhi NCR, Punjab and Haryana) and 2 UTs (Puducherry and Chandigarh).

Implementation of the Scheme

The Van Dhan Vikas Kendras will be important milestone in economic development of tribals involved in collection of MFPs by helping them in optimum utilization of natural resources and provide sustainable MFP-based livelihood in MFP-rich districts.

TRIFED has assigned the work for establishment of this pilot vikas kendra in Bijapur District of Chattisgarh. The selection of the tribal beneficiaries and formation of the SHGs has been undertaken by TRIFED.

The Van Dhan Vikas Kendras will be an important milestone in economic development of tribals involved in collection of MFPs by helping them in optimum utilization of natural resources and provide sustainable MFP-based livelihood in MFP-rich districts.

Minor Forest Produce and Tribal Livelihoods

Minor Forest Produce (MFP) is a major source of livelihood for tribals living in forest areas. Tribals derive 20-40% of their annual income from MFP on which they spend major portion of their time. Minor Forest Produce (MFP) is more often than not determined by the traders instead of self-sustained process of demand and supply. Implementing a scheme to ensure that such forest dwellers are not deprived of their due. Under the scheme maximum selling price for MFP is being implemented in schedule V states initially. Web based portal has also been developed which indicate current price of MFPs on real time basis across different mandis of the states.

12 MFP products have been included in the programme namely Tendu Leave, Bamboo, Mahuwa Seeds, Sal Leaf, Sal Seed, Lac, Chironjee, Wild Honey, Myrobalan, Tamarind, Gums (Gum Karaya) and Karanji. The scheme also referred to the forests rights Act as landmark legislation to recognize the pre-existing rights of tribals and other traditional forest dwellers.

About TRIFED

Tribal Cooperative Marketing Development of India Ltd., (TRIFED) is an organization under the Ministry of Tribal Affairs. It is engaged in marketing development of tribal products including tribal art and craft under the brand name "Ribes India". The main mandate of TRIFED is capability enhancement of the tribals, promotion of tribal products and creation of marketing opportunities for the tribals with a view to ensuring them fair prices for their products and augmenting their income on sustainable basis. Towards the attainment of this mandate, TRIFED is engaged in the retail operations for marketing of unique and ethnic tribal handicrafts and natural products in high end markets through a chain of retail

Van Dhan Scheme
Empowering Tribal Communities Through Value Addition

Features of the Scheme:

- 10 SHGs* of 30 tribal gatherers is constituted
- To be trained and provided with working capital
- SHGs will market their products within and across states
- To form clusters to aggregate their stock and link with facility of primary processing in Van Dhan Vikas Kendras
- Involvement of big corporates under PPP** model

*Self Help Groups **Public Private Partnership

outlets. It also focuses on trainings for skill up-gradation and capacity building of tribal artisans and gatherers of minor forest produce. TRIFED, with its Head Office at New Delhi, has a network of 14 regional offices and a chain of retail outlets (expanding every year) across the country.

“Tribes India” showrooms offer a range of tribal products of different parts of the country, which include metal craft, tribal textiles, jewellery, tribal paintings, cane and bamboo, Pottery, gifts and novelties, organic and natural products sourced from tribals at their places of habitats from higher Himalayas (Bhutia tribes in the Uttrakhand, Bodh & Kinnaura tribes in Himachal Pradesh) in the North to the Ghats of Indian Ocean and Arabian Sea in South (Toda & Irula tribes in Nilgiri Hills) in the South and from North Eastern States (Tangkhu Naga, Bodo, Konyak & Dimasa tribes) to the desert of Rajasthan and Rann of Kutch (Bhil, Garasia, Rathwa, Gamit tribes) in the West. There is fabulous collection of tribal paintings mainly Saura from Orissa, Gond from Madhya Pradesh,

Warli from Maharashtra and Pithora from Gujarat.

The idea is to provide opportunities to the tribal artisans of the country to market their products on a sustained basis. TRIFED is planning to expand this network to other cities as well, so as to provide a larger market for tribal products.

Way Ahead

Van Dhan Yojana is holistic development model for tribal-forest areas. This revolves mainly around (a) reforming the trade to make it fair and equitable to the tribal gatherer; (b) promoting local-level primary value addition to the NTFP; (c) doing everything necessary to increase production of NTFP; and (d) the state facilitating technological upgradation of the entire NTFP chain from production to sale of processed produce at the best price through market intelligence. The focal point of such a model will be the Van Dhan Vikas Kendra, a common facility where NTFP gatherers can add value to NTFP.

The 30,000 Van Dhan SHGs across the country, federated through 3,000

Van Dhan Vikas Kendras. Primary level value addition, after training and provision of equipment to SHGs, can treble tribal incomes. By convergence with Jan Dhan, Van Dhan will leverage the funds necessary for the working capital requirements of raw material, transport and storage. Van Dhan is also open to partnership with corporates to develop infrastructure and marketing. It aims to treble the income of 50 lakh tribal families in the first two years. And, that’s just the start.

General Studies Paper- II

Topic: Development processes and the development industry- the role of NGOs, SHGs, various groups and associations, donors, charities, institutional and other stakeholders.

Topic: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.



5. INDIA IS STILL COUNTING ITS MANUAL SCAVENGERS

Why in News?

Many states claim that they have zero manual scavengers, which is entirely untrue. India still has 26 lakh dry latrines. In a bid to eliminate the need for manual scavenging, the Centre launched a challenge asking innovators, NGOs, research institutions, companies and cities to propose technology and business solutions to clean urban sewers and septic tanks without human entry.

Introduction

A derogatory practice, manual scavenging is confined to people belonging to lower castes and as a

profession is inhuman with low pay and nearly nil safety measures provided. While the Prime Minister has declared the eradication of manual scavenging by 2019, the ground reality is starkly contrasting and fulfilment of the Prime Minister’s promise looks difficult. As per the 2011 Socio-Economic and Case Census, 1,82,505 rural households in India were dependent on manual scavenging for income. The biggest problem in addressing the issue of manual scavengers is the lack of Central and state governments to accept that the practice still exists and declare actual figures related to the number of manual scavengers.

- Manual scavenging is prohibited in India.
- Across India, there are over 12 lakh manual scavengers.
- Among them, more than 22,000 deaths are reported each year.
- Many suffer from jaundice, tuberculosis and acute liver malfunctions.

The centre launched a challenge asking innovators, companies and research institutions to propose technology to clean success without human entry. The challenge will be part of the Mahatma Gandhi International Sanitation Convention to be held on October 18th this year. The objectives

are to identify technological and business process innovations, endorse viable business models suitable for cities of different sizes and geographies and pilot test shortlisted technologies and solutions in select project cities and bridge the gap between innovators or manufacturers and beneficiaries such as urban local bodies and citizens.

However, while manual scavenging for many may have ended as a form of employment, the stigma and discrimination associated with it lingers on, making it difficult for former or liberated manual scavengers to secure alternate livelihoods and raising the fear that people could once again return to manual scavenging in the absence of other opportunities to support their families. Correctly identifying manual scavengers remains a key challenge. A comprehensive rehabilitation package has recently been put together that includes livelihoods and skill development, access to education for children of former manual scavengers and alternate livelihoods.

Manual Scavenging

Manual Scavenging, the manual cleaning, handling and carrying of human excreta, is a pervasive practice in India, despite its detrimental implications for health and human rights. Manual scavenging is performed exclusively by one sub-caste of Dalits, also known as “Untouchables,” for whom it is often the sole economic opportunity. Scavengers, the majority of whom are women, earn less than a dollar a day gathering excreta from dry latrines or open defecation fields, often with their bare hands and a broom and transporting the untreated waste to dumping sites. Despite being one of the most dehumanizing practices in the world, denounced by both Indian and international law, the practice is perpetuated and legitimated by the caste system which condemns scavengers to this decent-based occupation. Manual scavengers,

called by different names in different regions constitute the lowest sub-caste of Dalits, who are outside the Varna (caste) system. There are approximately 160 million Dalits in India.

The persistence of manual scavenging demonstrates that legislation and court orders are insufficient for ending this degrading and dangerous practice. The Indian State has written many constitutional and legal provisions into law protecting Dalit rights, including the Protection of Civil Rights Act of 1955, the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act of 1989 and the Protection of Human Rights Act of 1993. The 1955 Untouchability (Offences) Act outlawed discrimination on the basis of untouchability and the 1993 Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act required the demolition of dry latrines and banned manual scavenging. This act also provided institutional mechanisms and allocated resources for the rehabilitation of scavengers. However, gaps between legislation and enforcement, the absence of appropriate sanitation facilities and limited alternative economic opportunities for scavengers work together to perpetuate the manual scavenging practice. Ironically, the Gujarat state government is one of the largest promoters of scavenging, employing members of the sub-caste as sanitation workers, tasked with cleaning vaada (wall) latrines in villages to maintaining sewerage systems in urban areas. Clearly, the State alone is incapable of eradicating manual scavenging.

Legislation in Search of Dignity

Articles 14, Article 17, Article 21 and Article 23 of the constitution of India outlawed manual scavenging practice. In addition, a number of

national legislations and international laws prohibit the practice. In 1993, the government of India enacted the Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act which prohibited the employment of manual scavengers for manually cleaning dry latrines and also the construction of dry toilets, that is, toilets that do not operate with a flush. It provided for imprisonment of upto a year and a fine. In 2013, this was followed by the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013, which is wider in scope and importantly, acknowledged the urgency of rehabilitating manual scavengers.

Key Features of the Act

- Prohibits the construction or maintenance of insanitary toilets.
- Prohibits the engagement or employment of anyone as a manual scavenger.
- Violations could result in a years’ imprisonment or a fine of INR 50,000 or both.
- Prohibits a person from being engaged or employed for hazardous cleaning of a sewer or a septic tank.
- Offences under the Act are cognizable and non-bailable.
- Calls for a survey of manual scavengers in urban and rural areas within a time bound framework.

There remain several challenges in implementing the legislation to ensure that manual scavengers can work and live with dignity. These include:

- Time frame within which land is to be allotted as part of the rehabilitation package for former manual scavengers as provided for in the 2013 Act.
- Correct and timely identification of insanitary latrines and manual scavengers.

- Implementation of provision regarding prohibiting 'hazardous cleaning' of sewers and septic tanks.
- While the Act is encouraging in that it focuses on the responsibility of officials to ensure its implementation, it does not outline administrative measures beyond conduct rules that can be imposed if officials do not implement the Act.

Government Measures Against Manual Scavenging

The Ministry of Social Justice & Empowerment implements a "Self Employment Scheme for the Rehabilitation of Manual Scavengers" (SRMS). This provides the following:

- One-time cash assistance of Rs 40,000 each to the identified manual scavengers.
- Loan for undertaking livelihood projects upto Rs 15 lakh at concessional rate of interest.
- Credit linked capital subsidy upto Rs 3,25,000.
- Skill development training upto two years with stipend of Rs 3000 per month.

The only difference on the ground is that the government now gives compensation when a manual scavenger dies, but there is still little action to prevent such deaths in the first place.

There were many reasons why the programme proved to be ineffective:

- **Issue of Women:** Most of the provisions for the rehabilitation under the scheme were not gender sensitive and directed towards men, although around 95-98% of the individuals involved in manual scavenging are women.
- **Issue of Loan:** The key provision of the scheme was a loan provision with a subsidy. In our view giving loans to the vulnerable commu-

nities, which were compelled to take up manual scavenging, rooted in a caste system and face social, political and economic exclusion is not a sustainable solution.

- **Defaulters:** Most of the loans under the SRMS were issued through banks with 50% of a subsidy. However, most of the subsidy was spent on paying the chargeable interest to the bank and those not able to pay it become "defaulters".
- **Rural Areas:** According to the survey around 60% of those involved in manual scavenging are in rural areas (larger villages and settlements). However, the focus of the scheme was on urban areas.
- **Caste Aspect:** Government programmes have emphasised the financial aspect of rehabilitation and failed to address the caste-based oppression and related social conditions that have perpetuated this practice for centuries.
- **Corruption:** We found that in Madhya Pradesh district there were more than 165 women involved in manual scavenging but not a single name was included in the list of beneficiaries. Only districts with more than 302 women were included. Our survey indicates that only 10% of those involved in manual scavenging were actually included in the list. This resulted in many eligible individuals not reaching the benefits and those not eligible benefiting of the scheme.

Almost all or most of the subsidy portion of the loan went into corruption and there was lack of any monitoring of the system. Issues related to corruption have surfaced openly in many of the states.

Towards Comprehensive Rehabilitation

- **Socio-Economic Rehabilitation:** A viable and formidable rehabilitation scheme should be developed which

must include provision for social and economic rehabilitation of families liberated from scavenging. Providing adequate provision for compensation, education, accommodation and employment

- **Gender Aspect:** All rehabilitation schemes and programmes must be totally redesigned for the women that make up 98% of the workforce and are enslaved by this exploitative tradition.
- **Government Appointments:** In the appointment of workers, assistants and cooks in Anganwadi centres, only women from Dalit communities should be appointed. Among Dalits, the manual scavenging community should be preferred.
- **Dalit Muslim and Dalit Christian Manual Scavengers:** Non-scheduled castes such as Dalit Muslim and Dalit Christian communities engaged in manual scavenging should receive similar facilities and security to manual scavengers from scheduled castes.
- **Indian Railway:** The Indian Railway is the largest institution in the country that uses dry latrines. The Railway Ministry must immediately prohibit this practice and for the next three years present progress reports in every session of Parliament. This, so that the government of India can ensure total abolishment of scavenging in Indian Railway in stipulated time.
- **Priority to Manual Scavengers Community:** Inclusion of manual scavengers' families and those families who have left manual scavenging in the priority list of all government schemes and entitlement.
- **Survey in rural and Urban India through Community Participation:** Under the 2013 government conducted national survey but very less number of manual scavengers

are identified through the survey in rural and urban India through community participation.

Conclusion

Manual scavengers predominantly belong to untouchable castes and, therefore, are subjected to additional discrimination and social exclusion based on untouchability. Abolition of untouchability is a Constitutional mandate. Therefore, the onus of eradicating manual scavenging should rest on the state, on the Central and state governments equally. Despite the special laws, instructional mechanisms and inclusive policies meant for manual scavengers, they continue to be compelled by circumstances to perform dehumanising and degrading work. In the twenty-first century, this is a matter of shame to the much-touted 'shining India'.

Dry latrines, which are cleaned by manual scavengers, still exist in public establishments and private

houses in many parts of India, defying the mandatory provisions of law and morality. There are inherent lacunae under the Act of 1993, such as a narrow definition of manual scavengers, limiting provisions etc., which need to be amended to fulfill the Constitutional, democratic and human rights deficits faced by manual scavengers. While the schemes and policies of the state have had some impact, they have failed to liberate and rehabilitate all the manual scavengers. For this, the approach and behavior of all concerned stake-holders, especially agencies of the state and the dominant castes/classes, have to change in order to serve Constitutional and human rights values.

Way Ahead

Ensure discrimination - free, secure and alternate livelihoods by providing skill development and livelihoods training to women, linking them to government employment schemes and

entitlements as well as ensuring their land rights. Vocational training linked to employment for young people and support to liberated manual scavengers in building alternate livelihoods could go a long way in ensuring steady, stable livelihoods for the future. Create a favorable environment through community awareness and sensitization of local administration. Build the capacity of the community to promote rehabilitation efforts and self-reliance and also build leadership in the community with a particular focus on Dalit women.

General Studies Paper- II

Topic: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.



6. THE GROWING MENACE OF CHILD ABDUCTION IN INDIA

Why in News?

According to the 2017-18 report of the Ministry of Home Affairs (MHA), 54,723 children were kidnapped in 2016 but charge sheets were filed in only 40.4% of the cases. The conviction rate in child kidnapping and abduction cases in 2016 was a dismal 22.7%. As many as 41,893 such incidents were recorded in 2015 and 37,854 in 2014. It seems that the fear of prevailing in different parts of the country is not completely unfounded, as nearly 55,000 children were kidnapped in India in 2016 — a whopping 30% increase over the previous year.

Introduction

Trafficking in human beings, especially in women and children has become a matter of serious national and international concern. Women and children – boys and girls – have

been exposed to unprecedented vulnerabilities commercial exploitation of these vulnerabilities has become a massive organized crime and a multimillion dollar business. Nations are attempting to combat this trade in human misery through legislative, executive, judicial and social action. Trafficking of children is a worldwide phenomenon affecting large numbers of boys and girls everyday. Children and their families are often lured by the promise of better employment and a more prosperous life far from their homes. Others are kidnapped and sold.

Trafficking violates a child's right to grow up in a family environment and exposes him or her to a range of dangers, including violence and sexual abuse. In India too, over the last decade, the volume of human trafficking has increased though the exact numbers are not known, it is one of the most

lucrative criminal trades, next to arms and drug smuggling undertaken by highly organized criminals. Unless a public opinion is built laws are effectively designed and implemented, the situation is constantly monitored and the nexus of traffickers is exposed, children will continue to be trafficked. Coordinated efforts are required to stop and prevent child trafficking.

The lynching of scores of people across the country by mobs, which suspected them of being child-lifters, has centred attention on the issue of child abductions in India. While the mob lynchings may have been driven purely by rumours circulated through instant messaging services such as WhatsApp, the mob frenzy that claimed innocent lives may have partly risen from anxieties related to the growing incidence of child kidnapping and abduction in the country.

What is Child Trafficking?

Child trafficking is the term given to the movement of children into and within the country with the intent to exploit them. A child has been trafficked if he or she has been moved within a country, or across borders, whether by force or not, with the purpose of exploiting the child. Child trafficking and modern slavery are child abuse. Children are recruited, moved or transported and then exploited, forced to work or sold. A child is defined as any person under 18.

It is very difficult to know if a child has been trafficked, as there are many different ways it may happen.

The child may not realise that they have been trafficked. They may be too scared to tell anyone for fear of their traffickers, or they may think they will not be believed by adults in authority.

Magnitude of the Problem

In India, a large number of children are trafficked not only for the sex 'trade' but also for other forms of non-sex based exploitation that includes servitude of various kinds, as domestic labour, industrial labour, agricultural labour, begging, organ trade and false marriage. Trafficking in children is on rise and nearly 60% of the victims of trafficking are below 18 years of age.

More than 20 people have been lynched over the last two months on suspicion of child lifting. In an advisory,

the Ministry had urged the states and UTs to "keep a watch for early detection of rumours of child-lifting and initiate effective measures to counter them". Even though most of the lynchings in the recent past were fuelled by rumours of child lifting on social media, the statistics show that the fear of child kidnapping among people, especially those in the rural areas, is not completely unfounded. The Ministry of Home affairs had asked the states and Union territories (UTs) to check incidents of mob lynching fuelled by rumours of child-lifting on social media. The MHA report also revealed that 8,132 cases of were registered in the country in 2016. As many as 15,379 victims – 5,229 males and 10,150 females were trafficked and 23,117 victims – 10,347 males and 12,770 females were rescued. Of these victims, 22,932 belonged to India, 38 each were from Sri Lanka and Nepal and 36 were from Bangladesh.

The MHA report said 1,06,958 cases of crime against children were registered in the country in 2016 compared to 94,172 in 2015, an increase of 13.6%. Crimes were committed against 24 per one lakh children in 2016. A major increase in crime against children was noticed (in 2016) under human trafficking, kidnapping and abduction.

Combating of Trafficking

Prevention of human trafficking requires several types of interventions.

Prevention as a strategy to combat trafficking has to focus on areas of sensitization and awareness among the public, especially those vulnerable pockets of trafficking at source areas as well as convergence of a development services to forestall conditions responsible for it.

Role of State

- The government at local level and source areas should create compulsory high quality education, employment opportunities and income generation programme.
- The government should produce relevant Information, Education and Communication IEC materials; promote sensitization programmes for teachers in government schools, parents and community workers.
- The government should include gender centered education curricula in schools and introduce subjects of child sexual abuse and trafficking.
- The government of different nations must share the information with each other to evolve a programme that will help both the countries in preventing trafficking.

Role of NGOs

- The community should be sensitized about trafficking the community members should be motivated to keep a watch in the community for irregular movement of child victims to and from area their possible traffickers and hideouts.
- NGOs working in the rural areas should ensure that parents are aware of safe migration practices.

Role of Media

Media attention reaches several hundred thousand viewers and should therefore serve the following important functions:

- The media should transmit appropriate message to ensure

Supply Factors		Demand Factors
<ul style="list-style-type: none"> > Poverty > Female > Foeticide/Infanticide > Child marriage > Natural Disaster (floods, cyclones etc.) > Domestic violence > Unemployment > Lure of job/marriage with false promises > Domestic servitude > Traditional/Religious prostitution (Devdasi) > Lack of employment opportunities 	Trafficking	<ul style="list-style-type: none"> > Migration > Hope for jobs/marriage > Demand for cheap labour > Enhanced vulnerability > Growing market by sex traffickers > For 'experimental' and 'tender' sex > Sex tourism > Internet pornography

that the victims learn that they are not alone.

- Victims can be made aware of places and institutions where they can seek help.
- Create awareness that human trafficking is inappropriate and illegal and has negative consequences.
- Wide publicity should be given regarding the legal, penal provisions against trafficking and the modus operandi of the traffickers through radio, television etc.

Awareness and Advocacy

- Awareness and advocacy is required at the policy level i.e. bureaucrats, politicians and the elite of the society. Awareness at the local level, in the community through workshops, songs, drama, poems, meetings, leaflets and posters especially in the rural areas is also required.
- The role of gender in daily life and training programmes and activities for gender sensitization must be conducted by NGOs. The key to prevent trafficking in children and their exploitation in prostitution is awareness among the children, parents and school teachers.
- The government must launch media campaigns that promote children's right and elimination of exploitation and other forms of child labour.
- Police advocacy is an important intervention that has to be fine-tuned.

National Commission for the Protection of Child Rights

The National Commission for Protection of Child Rights (NCPCR) was established in March 2007 as a statutory body under the Commissions for Protection of Child Rights Act, 2005. It was set up to protect, promote and defend child rights in the country. The Commission consists of a chairperson and six members who are well versed in child welfare. National commission develops an electronic drop box, POCSO e-Box for registering complaints on Child Sexual Abuse.

India: Legislation

The first step to fulfil the rights of children can be found in the Constitution of India. The articles are divided into two categories: Fundamental Rights and Directive Principles of State Policy.

The Protection of Children from Sexual Offences Act

POCSO or The Protection of Children from Sexual Offences Act (POCSO Act) 2012 was established to protect the children against offences like sexual abuse, sexual harassment and pornography. It was formed to provide a child-friendly system for trial underneath which the perpetrators could be punished. The Act defines a child as any person below eighteen years of age. It also makes provisions for avoiding the re-victimisation of the child at the hands of the judicial system.

- Article 14- The State shall not deny to any person equality before the law or the equal protection of laws within the territory of India.
- Article 15- The State shall not discriminate against any citizen.. Nothing in this Article shall prevent the State from making any special provisions for women and children.
- Article 21- No person shall be deprived of his life or personal liberty except according to procedure established by law.
- Article 21 A- The State shall provide free and compulsory education to all children of the age of 6-14 years in such manner as the state may, by law, determine.
- Article 23- Traffic in human beings and beggary and other forms of forced labour are prohibited and any contravention of this provision shall be an offence punishable in accordance with the law.
- Article 24- No child below the age of 14 years shall be employed to work in any factory or mine or engaged in any other hazardous employment.

International Organization

UNICEF views vulnerable children as those who are abused, exploited and

neglected. Child protection is derived out of the duty to respond to the needs of vulnerable groups of children. UNICEF outlines the following groups as vulnerable: children subjected to violence, children in the midst of armed conflict, children associated with armed groups, children affected by HIV/AIDS, children without birth registration, children engaged in labour, child engaged in marriage, children in conflict with the law, children without parental care, children used for commercial sexual exploitation, female children subjected to genital mutilation/cutting and trafficked children.

Conclusion

All children deserve equality, despite their difference. They are entitled to all of these rights, no matter what race, colour, religion, language, ethnicity, gender or abilities define them. It is not hard to see how these factors and their interplay is a potent cocktail that has poisoned India's rural ecosystem to make high incidence of child trafficking a sad reality.

Through a joint effort of civil society and government in child education, health and nutrition, child protection, humanitarian response, lakhs of children have found hope. Relationships with government, national and international bodies make child rights NGOs a driving force in resolving such issues. Child trafficking is a major social menace and the best way to deal with it is through following the prevention is better than cure approach.

General Studies Paper- II

Topic: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.



7.WEAPONISATION OF INFORMATION

Why in News?

Recently, the Thomson Reuters Foundation released the results of a perception poll that declared India to be the most dangerous country in the world for women, ahead of Afghanistan, Syria, Somalia and Saudi Arabia. The poll, utterly bereft of nuance and riddled with bias, has set off a chain of reactions across the country and abroad. While the Union government has rejected it and its methodology, expressing umbrage at being pegged lower than Afghanistan, Syria and Somalia.

Introduction

Disinformation and misinformation seem to be everywhere. They are often spread by foreign actors who aim to stoke tensions in other countries as well in home country. Other state or non-state actors may already be starting to copy these tactics. The problem of disinformation is exacerbated by two deeper and longer-standing crises- a crisis of business model and a crisis of norms. Though issues of disinformation are not new, their appearance in new forms of weaponized information and social media call for new best practices within media organizations.

Indian Scenario

Once again India has been bashed about by international surveys creating a dismal image of the country. There was the United Nations's human rights report on Kashmir. Government described the report as "fallacious, tendentious, and motivated, overtly prejudicial and seeks to build a false narrative." The government is also considering its reply to the Thomson-Reuters survey maintaining that India is the most dangerous place for women. It's to be hoped they do better than the standard hyperbole. When

international human rights and other organisations criticise India, they are often told to mind their own business because India has comprehensive legislation covering the issues they highlight.

In the case of Thomson Reuters poll, it is utterly bereft of nuance and riddled with bias. It has set off a chain of reactions across the country and abroad. Many activists have welcomed the study, while the Union government has rejected it and its methodology, expressing umbrage at being pegged lower than Afghanistan, Syria and Somalia. Requests to the foundation for the data set and clarity on the experts involved were met with a stock statement. According to the statement, perception polls are

meant to complement official data, relying on the opinions of experts and the "methodology" of the survey. If the intention of the foundation was to complement official data, it has failed abysmally. The results tell us nothing specific about the ground realities in India or the other countries, except that some experts think that India, for instance, is the most dangerous country in terms of cultural traditions.

The specific question asked of experts under this heading is: "in your view, what is the most dangerous country in the world for women in terms of cultural, tribal and religious traditions or customary practices? This includes acid attacks, female genital mutilation, child marriage, forced marriage, stoning, physical abuse or



mutilation as a form of punishment/ retribution and female infanticide. Each of these words has different connotations. Cultural traditions are different from tribal ones and those are different from religious ones. Acid attacks that have been clubbed with these are not a “cultural tradition”. The clubbing of issues shows a marked lack of understanding and gives an inkling of a white saviour complex.

In the case of United Nations (UN) report on rights violation in Kashmir UN talked about alleged human rights violations in both "Indian-administered and Pakistan-administered Kashmir" and sought an international inquiry into these abuses. In a strong reaction, India rejected the report alleging human rights violations in Kashmir as "fallacious, tendentious and motivated". It violated the country's sovereignty and territorial integrity. The entire state of Jammu and Kashmir is an integral part of India. Pakistan is in illegal and forcible occupation of a part of the Indian state through aggression. The report is somewhat critical of Pakistan but positively savage on India, including describing areas as “Azad Kashmir” and “Gilgit-Baltistan” which is used by Pakistan but not India.

The report sought repeal of the Armed Forces (Jammu and Kashmir) Special Powers Act, 1990 (AFSPA) “urgently” and also “immediately remove the requirement for prior central government permission to prosecute security forces personnel accused of human rights violations in civilian courts.” “Impunity for human rights violations and lack of access to justice are key human rights challenges in the state of Jammu and Kashmir.

Implications

The results and the sensationalist reporting surrounding them, show how dangerous it is to make absolutist statements based solely on the result of a poorly-designed and inherently

biased perception poll. Such polls do not reflect the reality and they rarely help find solutions to complex issues. What they can do is spur governments and civil society into action by showcasing the urgency of a situation.

The Union government’s rejection of the study shows the opposite—Indians are scrambling to point out that it is ludicrous that India is considered more dangerous than countries ranked below it, with the acting chairperson of the National Commission for Women stating that “the countries that have been ranked after India have women who are not even allowed to speak in public”.

The United Nations (UN) report on Kashmir expressed concern over impunity for human rights violations and lack of access to justice. Human Rights Watch has repeatedly documented India’s failure to address longstanding grievances in Jammu and Kashmir and echoes office of the United Nations High Commissioner for Human Rights (OHCHR’s) call for the repeal of AFSPA. The report discusses the state government’s frequent use of communication blockades and suspension of mobile and internet services, as well as restrictions on freedom of expression, targeting of media and journalists. In 2016-17 widespread protests, long periods of curfew, frequent strikes and arson attacks on schools all had a cumulative impact on students and their right to education.

Other Side of the Story

The recent report on the situation of human rights in Kashmir is the first to be issued by a UN body about human rights on both sides of the Line of Control. Even so, the report, which deals with the period from July 2016 to April 2018, met with huge furore in India and the government lodged a strong protest, calling it “fallacious,

tendentious and motivated. Here are some arguments against such protests.

One of the biggest objections was on the methodology used in the preparation of the report through ‘remote monitoring’. Though remote monitoring is not the best of methods, it was not the first choice of the Office of the UN High Commissioner for Human Rights (OHCHR). Despite repeated requests, India did not give the OHCHR access to Kashmir. The UN office had to rely on publicly available information, including parliamentary questions, court orders, responses to RTI applications etc. Since it could not verify the information itself, the OHCHR also used a legally recognised standard of proof – that of ‘reasonable standard’. Consequently, findings were based on such information only if there were ‘reasonable grounds’ to believe them.

Many suggest that OHCHR overstepped its mandate by interfering in an internal matter; and by disrespecting the sovereignty and territorial integrity of India. More specifically, by taking note of territories like ‘Azad Jammu and Kashmir’ and ‘Gilgit-Baltistan’, commonly referred to as areas that are administered or occupied by Pakistan. These arguments have no basis in law. In any case, the high commissioner’s obligation to respect sovereignty or territorial integrity cannot be read as an excuse for the state to violate its international legal obligations. International human rights obligations actually limit the exercise of sovereignty. It would be futile to have international standards if states could simply say that these are inapplicable in its internal affairs.

India rubbished the report on the ground that Kashmir has free and fair elections and constitutional and legal safeguards. Given the history of allegedly rigged elections, multiple problematic periods of Governor’s rule and impunity in the face of human

rights violations, such a claim is not particularly convincing. It obviously requires some audacity to also contend that the judiciary is strong enough to protect people when the impunity is so high.

Investigations also do not result in prosecutions due to the requirement of sanction under the State Criminal Procedure Code and the Armed Forces Special Powers Act, 1990. Even the Central Ministry of Defence recently admitted to the dismal sanction rate.

As far as Thomson Reuter survey is concerned, it is a 'perception'-based survey. It is unclear where the respondents were drawn from, but with reference to other parameters such as rural or urban, age group, region and religion mix. The surveyors claim they spoke with 'experts', but then again it is unclear what the areas of their expertise were, which parts of the country were they have drawn from, which female demographic did they engage or work with. There is absolutely no clarity. But we must look at this survey from the perspective of women, even those anonymous

548 women who responded to the question and feel unsafe. To introspect on what went wrong on the front of women safety, despite various government initiatives and greater social awareness, we should first accept the existence of the problem to even address it effectively, instead of allowing it to become fodder for more pointless political mudslinging.

Way Forward

In both surveys, there is absolutely no clarity. Hence we are left to draw our own conclusions – right or wrong. The government of India also dismissed both surveys. But we should first accept the existence of the problem to even address it effectively, instead of allowing it to become fodder for more pointless political mudslinging.

Children and people are being raped and killed all around the world. We live in a hyper-masculine, patriarchal society where gender norms and gender roles abound and our bodies are sexualized before we know it. This happens across cultures, across nations, across borders. This is

a global, universal issue and countries must join hands in trying to find solutions.

India's government dismissed the first-ever United Nations report on human rights in Kashmir. India can – and should – do better in confronting its own human rights failures. It should seek a repeal of the Armed Forces Special Powers Act, as has been recommended by several international and Indian experts. It should order an investigation into alleged violations by the security forces and prosecute those found responsible, instead of rewarding abusive soldiers.

General Studies Paper- II

Topic: Structure, organization and functioning of the Executive and the Judiciary; Ministries and Departments of the Government: pressure groups and formal/informal associations and their role in the Polity.



SEVEN SUBJECTIVE QUESTIONS WITH MODEL ANSWERS

Millimeter Waves: Future of Wireless Communication

Q1. What do you understand by millimeter wave technology? What are the key benefits, applications and challenges in using millimeter wave technology? Discuss.

Hints:

- A special type of electromagnetic wave technology is known as millimeter wave technology (MMW). It is a mature technology and recently has been widely adopted by several applications across the industrial sectors. In the wireless communication, the millimeter wave commonly occupies the frequency range between 30 to 300 GHz.
- Millimeter wave wireless technology presents the potential to offer bandwidth delivery comparable to that of fiber optics, but without the financial and logistic challenges of deploying fiber.
- Future communication networks require significantly increased bandwidths in order to cope up with the ever increasing number of wireless devices and high data throughput. Today's millimeter wave technology is mature enough to handle this requirement. Millimeter wave components are usually realized by frequency scaling the microwave components.
- MMW share the features of microwaves and far infrared waves since the wavelength ranges between these two waves, this means millimeter waves are longer than infrared waves or x-rays, for example, but shorter than radio waves or microwaves. Millimeter wave is an undeveloped band of spectrum that can be used in a broad range of products and services like high speed, point-to-point wireless local area networks (WLANs) and broadband access.
- The large bandwidth translates to better data transfer rates, attaining speeds of about 10Gbps or more compared to the 1Gbit/s limit when using the microwave frequencies. This makes high-quality video streaming, real-time gaming and other bandwidth intensive applications a reality.
- Millimeter waves require line of sight communication. One of the major disadvantages of the millimeter waves are distortion from atmosphere. This phenomenon can

be observed in digital video broadcasting (D2H services). During cloudy atmosphere, digital video broadcasting services will be distorted due to poor signal quality.

- Due to higher distortion from atmospheric conditions like fog and dust, it is not suitable for long distance communication. Millimeter wave architecture is complex, it required advanced technology infrastructure to develop a system.
- The millimeter waves, due to the short wavelength, have a short transmission range of about 10 meters for most low power applications. However, the range is extended by using high transmit power and antenna gains and receivers with high sensitivity. In addition, the short wavelengths of between 10 and 1 millimeter suffer high atmospheric attenuation; with fog, rain and moisture attenuating the waves the highest and shortening the transmission distances. All these factors reduce the possible range to about one kilometer.
- Millimeter wave technology is one of the fastest growing technologies in this decade. Higher demand for high speed data, ultra high definition multimedia, HD gaming, security and surveillance etc will drive millimeter wave technology to next level. It will continuously develop and offer wide spectrum of applications in the future.
- Regulations and lack of affordable components that could produce and receive millimeter waves were at one time a challenge that limited the use of the spectrum. However, designers and manufacturers have now made significant progress in developing affordable semiconductor devices for commercial high-speed communications and other millimeter wave applications.

National Testing Agency: An Overview

Q2. The National testing agency will now take care of conducting almost all the entrance exams such as JEE, CTET, CAT, UGC-NET and others. What are the challenges that the NTA needs to anticipate? Discuss.

Hints:

- The National Testing Agency (NTA) has started work with the promise of being leak-proof and its first test will be the National Eligibility Test (NET), a gateway to college lecturers' jobs, in December. The NTA system, which would also conduct the national-level NEET and JEE (Main), would be leak-proof and modern.

- The Central Board of Secondary Education, which was plagued by question paper leaks, had been handling both the exams. NEET would be conducted in February and May 2019. The NTA would also conduct National Eligibility cum Entrance Test Common Management Admission Test (CMAT) and Graduate Pharmacy Aptitude Test (GPAT).
- The NTA will bring qualitative difference in the examination process by its focus on research and scientific test design using services of experts, researchers, statisticians, psychometricians, test item writers and education specialists. The item writers would be trained to ensure that the quality of questions is as per the test design. The experts, statisticians and item writers/subject matter experts are already identified for being inducted into NTA. The new system will be student friendly, fair, transparent and flexible.
- National Testing Agency (NTA) was approved by the government in November 2017 as an autonomous and self-sustained premier testing organization to conduct entrance examinations for higher educational Institutions. The objectives are:
 - ◆ To conduct efficient, transparent and international standards tests in order to assess the competency of candidates for admission and recruitment purposes.
 - ◆ To undertake research on educational, professional and testing systems to identify and bridge the divide between prevailing academics and operational gaps in the systems.
 - ◆ To showcase the capacities of the educational and professional individuals and institutions by professional certification through testing and assessment.
 - ◆ To produce and disseminate information and research on education and professional development standards.
- One of the major threats that the NTA and indeed any agency or organization that is online, faces is blackhat hackers. This means that it will need to ensure that no one tries to access its systems and data via unauthorized means and for nefarious purposes.
- As with any new system that comes into play, the NTAs exam system will also face technological glitches at first. Some of the tests that it is in charge of are bound to be computer based tests and that means that any glitch could throw off the chances of a lot of students to take the exam that year and get into their preferred colleges.
- Ultimately, any process of reform at the level of entrance examinations can be meaningful only if the school education system is revamped and learning outcomes are improved.

India and South Korea: Deepening Ties

Q3. India is becoming a crucial economic partner for South Korea. Examine how the equation between the two countries has shaped up so far.

Hints:

- That South Korean President Moon Jae-in undertook a four-day visit to India last week, when there is hectic diplomacy over the Korean peninsula, speaks of his commitment to improving bilateral ties. India and South Korea have set a target of increasing bilateral trade to \$50 billion by 2030 from \$20 billion and speedily conclude negotiations to upgrade the bilateral Comprehensive Economic Partnership Agreement (CEPA).
- At a time when major powers along with middle powers in the Indo-Pacific region are pursuing the 'Free and Open Indo-Pacific' policy, Moon had enunciated his 'New Southern Policy' last year to further strengthen bilateral relations with countries in South and Southeast Asia in general and India in particular. The 'New Southern Policy' was rolled out against the backdrop of South Korea's diplomatic row with China over deployment of the U.S. Terminal High Altitude Area Defence (THAAD) anti-missile system in South Korea, which led to retaliatory measures from Beijing.
- In recent years, relations between New Delhi and Seoul have made great progress and become multidimensional, stimulated by a substantial convergence of strategic interests and high-level government exchanges. The India-South Korea axis can be very valuable at a time when the world is passing through a phase of uncertainty; this vital bilateral partnership can significantly contribute to peace, security and stability in the Indo-Pacific region, especially through strengthened economic partnership and deepen security relations.
- South Korea's open market policies finds a clear resonance with India's economic liberalization and the 'Act East Policy' certainly complements the 'New Southern Policy' and adds new substance and impetus to bilateral cooperation between two nations in all areas of engagement. A lot of complementarities exist at various levels between two countries; for example, South Korea's technological advancement and manufacturing capabilities can be helpful in India's economic growth and human resource development. Seoul's successful development story of the last few decades can complement Modi's vision of making a 'New India' by 2022.
- The deeper economic partnership between New Delhi and Seoul can also be understood from the newly inaugurated Samsung Electronics cellphone manufacturing unit in Noida, Uttar Pradesh. Built at a

cost of 49.15 billion rupees (\$720 million) under the Make in India initiative, the factory can produce 120 million smartphones every year and will also create thousands of new jobs in India.

- On the economic front, relations have room for further growth. India's total exports to South Korea stand at \$4.95 billion which is just 1.03 percent of South Korea's total imports. India's imports from South Korea are \$15.1 billion, 3.3 percent of India's total imports. The South Korean economy is largely based on an export-led model and is heavily dependent on the United States, China and Japan as its export markets.
- India security strategy should be seen as part of a US-led multilateral coalition in which Japan and South Korea are key players and the North East Asian security issue should be seen from such a perspective.
- Despite the formal announcement of a strategic partnership a decade ago, Delhi and Seoul have struggled to impart some real content into it. India and Korea have an opportunity to change that. On his part, Moon has announced a 'New Southern Policy' that looks beyond Northeast Asia to focus on Southeast Asia, Australia and India. India's Act East policy now has a much wider theatre — the Indo-Pacific.

Van Dhan Yojana Towards Tribals Empowerment

Q4. The Van Dhan Vikas Kendras will be important milestone in economic development of tribals involved in collection of minor forest produces by helping them in optimum utilization of natural resources and provide sustainable livelihood. Critically analyse in the light of recently launched Van Dhan Scheme.

Hints:

- To boost economic development of tribal communities, the Ministry of Tribal Affairs is planning to set up 3,000 'Van Dhan Kendras' for which 30,000 Self-Help Groups (SHGs) are likely to be roped in. The initial focus will be to set up these centres in aspirational districts. The scheme will eventually be implemented in all tribal areas at a later stage.
- Minor forest produce (MFP) is a major source of livelihood for tribals who belong to the poorest of the poor section of society. The importance of MFPs for this section of the society can be gauged from the fact that around 100 million forest dwellers depend on MFPs for food, shelter, medicines and income. It provides them critical subsistence during the lean seasons, particularly for primitive tribal groups such as hunter gatherers and the landless. MFP sector has the potential to create about 10 million workdays annually in the country.

- The Van Dhan Scheme is an initiative of the Ministry of Tribal Affairs and TRIFED. It was launched on 14th April, 2018 and seeks to improve tribal incomes through value addition of tribal products. The Ministry of Tribal affairs has approved establishment of the first multipurpose "Van Dhan Vikas Kendra" on pilot basis in Bijapur District of Chhattisgarh for providing skill upgradation and capacity building training and setting up of primary processing and value addition facility.
- At unit level, aggregation of produce would be done by SHGs having about 30 members each forming Van Dhan Vikas 'Samuh'. The SHGs would also undertake primary value addition of the MFPs using equipment such as small cutting and sieving tools, decorticator, dryer, packaging tool etc. based on MFPs available in the area.
- A cluster of ten such SHGs within the same village shall form a Van Dhan Vikas Kendra. Subject to successful operations of the samuhs in a Kendra, common infrastructure facilities (pucca Kendra) may be provided to the Kendra in the next phase in terms of building, warehouse, etc. for use of the samuh members.
- Van dhan Yojana is holistic development model for tribal-forest areas. This revolves mainly around (a) reforming the trade to make it fair and equitable to the tribal gatherer; (b) promoting local-level primary value addition to the NTFP; (c) doing everything necessary to increase production of NTFP; and (d) the state facilitating technological upgradation of the entire NTFP chain from production to sale of processed produce at the best price through market intelligence.
- By convergence with Jan Dhan, Van Dhan will leverage the funds necessary for the working capital requirements of raw material, transport and storage. Van Dhan is also open to partnerships with corporates to develop infrastructure and marketing.

India is Still Counting its Manual Scavengers

Q5. Despite the most stringent penal provisions in the law against manual scavenging, it continues in parts of India. Is it due to the lack of laws, lack of alternatives or lack of will? Examine.

Hints:

- The strict enforcement of the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013, in the wake of the death of 100 people (year) engaged in the activity in the recent years, points to the malaise. Evidently, the vigorous national campaign for the rehabilitation of those engaged to manually clean insanitary latrines and urban structures into which human excreta flows without sewerage, has been

unable to break governmental indifference and social prejudice.

- Manual scavenging persists mainly because of the continued presence of insanitary latrines, of which there are about 2.6 million that require cleaning by hand. In spite of a legal obligation to do so, state governments are not keen to demolish and rebuild old facilities lacking sanitation, or conduct a full census of both the latrines and the people engaged in clearing such waste. The lack of official wills, the authorities decided to set up toilets only after a series of High Court orders. Furthermore, a long-pending demand of the conservancy workers for rehabilitation is stuck at the state government level.
- The Central government, which directly runs the self-employment scheme for the rehabilitation of these workers, has reduced funds. High allocation in the past has not meant substantial or effective utilisation.
- A determined approach to end the scourge requires a campaign against social prejudice that impedes solutions in two ways. Many communities still regard the inclusion of a sanitary toilet as ritual and physical pollution of the house and even the less conservative are ready to accept only large, expensive and unscientific structures much bigger than those recommended by the WHO.
- More pernicious is the entrenched belief in the caste system that assumes dalits will readily perform the stigmatised task of emptying latrines. Clearly, the law on punishment exists only on paper. Change now depends on the willingness of the courts to fix responsibility on state governments and order an accurate survey of the practice especially in those states that claim to have no insanitary latrines or manual scavenging. Raising the confidence level among those engaged in manual cleaning is vital; even official data show their reluctance to take up self-employment.
- Empowerment holds the key to change, but that would depend on breaking caste barriers through education and economic uplift. Compensation sanctioned for the families of those who died in the course of the humiliating and hazardous work should be paid immediately; only a fraction of those with verified claims have received it. The issue of manual scavenging should not only be addressed as a social issue but also as an environmental issue as it is closely related to sanitation. Hence a comprehensive approach is essential.

The Growing Menace of Child Abduction in India

- Q6. Child abductions, which accounted for a small share of abductions earlier, now account for the bulk of all abductions in the India. Discuss the causes and remedial measures to prevent child abduction.**

Hints:

- It seems that the fear of prevailing in different parts of the country is not completely unfounded, as nearly 55,000 children were kidnapped in India in 2016 — a whopping 30% increase over the previous year. According to the 2017-18 report of the Ministry of Home Affairs (MHA), 54,723 children were kidnapped in 2016 but charge sheets were filed in only 40.4% of the cases. The conviction rate in child kidnapping and abduction cases in 2016 was a dismal 22.7%. As many as 41,893 such incidents were recorded in 2015 and 37,854 in 2014. The figures for 2017 are yet to be published.
- Over the last five years for which data is available—2012 to 2016—the rate of child abductions more than doubled to reach 119 per million child population (population under 18 years of age). The overall rate of kidnapping also went up during this period, but the rate of child kidnapping grew at a faster pace.
- The share of child kidnapping in overall kidnappings rose from 23% in 2006 to 40% in 2012 and then climbed further to 60% in 2016. The rise in child abductions appears to be a countrywide phenomenon, with all states witnessing an increase in such crimes. The states that fare the worst in terms of the rate of child abductions include Maharashtra, Tripura and Assam which have witnessed lynchings related to child-lifting rumours as well as Delhi and Goa.
- The combination of rising child abductions and falling convictions in such cases may partly be driving by the mob frenzy around this issue. To be sure, low rates of conviction and high rates of pendency also apply to several other categories of crime and arise from deep-rooted problems in India's criminal justice system. But the problems in the criminal justice system only serve to heighten the frenzy of the mob, which has little regard for the rule of law.
- While economic deprivation is an important reason behind child trafficking, but there are several catalysts that make it one of the most profitable crime businesses in the world. Over 40% of India's population is economically deprived, without access to basic opportunities. Influenced by society to have children despite the lack of resources, they then find that there's more money in selling their children off rather than taking care of them. With a high amount of illegal investment in child trafficking, one of the most powerful ways to combat child trafficking is to donate so that you can contribute to increasing awareness and infrastructure for rescue missions and relief programs.
- Prevention of human trafficking requires several types of interventions. Prevention as a strategy to combat trafficking has to focus on areas of sensitization and awareness among the public, especially those

vulnerable pockets of trafficking at source areas as well as convergence of a development services to forestall conditions responsible for it. Trafficking violates a child's right to grow up in a family environment and exposes him or her to a range of dangers, including violence and sexual abuse. Coordinated efforts are required to stop and prevent child trafficking.

Weaponisation of Information

Q7. Once again India has been bashed about by international surveys creating a dismal image of the country. While India was right to dismiss these polls, India should be acknowledging the absolute seriousness of these issues and applying its mind to find solutions. Discuss it in the light of Thomson Reuter's survey on women position in India and UN's report on violation of human rights in Jammu and Kashmir.

Hints:

- On 26th June 2018, the Thomson Reuters Foundation released the results of a perception poll that declared India to be the most dangerous country in the world for women, ahead of Afghanistan, Syria, Somalia and Saudi Arabia.
 - On 15th June 2018, the United Nations released first-ever report on alleged human rights violation in Kashmir and Pakistan-occupied Kashmir and demanded an international probe into it, evoking a sharp reaction from India which termed the document as fallacious and motivated.
 - Once again India has been bashed about by international surveys creating a dismal image of the country. There was the United Nations's Human Rights report on Kashmir. Government described the report as "fallacious, tendentious, and motivated, overtly prejudicial and seeks to build a false narrative." The government is also considering its reply to the Thomson-Reuters survey maintaining that India is the most dangerous place for women. It's to be hoped they do better than the standard hyperbole. When international human rights and other organisations
- criticise India, they are often told to mind their own business because India has comprehensive legislation covering the issues they highlight.
 - The results and the sensationalist reporting surrounding them, show how dangerous it is to make absolutist statements based solely on the result of a poorly-designed and inherently biased perception poll. Such polls do not reflect the reality and they rarely help find solutions to complex issues. What they can do is spur governments and civil society into action by showcasing the urgency of a situation.
 - The Union government's rejection of the study shows the opposite—Indians are scrambling to point out that it is ludicrous that India is considered more dangerous than countries ranked below it, with the acting chairperson of the National Commission for Women stating that "the countries that have been ranked after India have women who are not even allowed to speak in public".
 - In both surveys, there is absolutely no clarity. Hence we are left to draw our own conclusions – right or wrong. The government of India also dismissed both surveys. But we should first accept the existence of the problem to even address it effectively, instead of allowing it to become fodder for more pointless political mudslinging.
 - Children and people are being raped and killed all around the world. We live in a hyper-masculine, patriarchal society where gender norms and gender roles abound and our bodies are sexualized before we know it. This happens across cultures, across nations, across borders. This is a global, universal issue and countries must join hands in trying to find solutions.
 - India's government dismissed the first-ever United Nations report on human rights in Kashmir as "fallacious, tendentious, and motivated. India can – and should – do better in confronting its own human rights failures. It should seek a repeal of the Armed Forces Special Powers Act, as has been recommended by several international and Indian experts. It should order an investigation into alleged violations by the security forces and prosecute those found responsible, instead of rewarding abusive soldiers.



SEVEN IMPORTANT NATIONAL & INTERNATIONAL NEWS

NATIONAL

1. Constitutionality of Section 497 of IPC

The Central government contended that adultery should remain an offence and opposed a petition before the Supreme Court that sought to make men and women equally liable under Section 497 of the Indian Penal Code. A Constitution bench of the Supreme Court is re-examining the constitutionality of Section 497 of IPC that incorporates provisions for the adultery law. The bench will also adjudicate whether the exemption granted to women from being punished for adultery required to be

changed. Adultery is not considered a criminal offence towards women in India and has been in limelight for being discriminatory towards men.

Section 497

Whoever has sexual intercourse with a person who is and whom he knows or has reason to believe to be the wife of another man, without the consent or connivance of that man, such sexual intercourse not amounting to the offence of rape, is guilty of the offence of adultery. The offence of adultery

entails punishment of up to five years or with fine or with both. However, in such cases, the wife shall not be punishable as an abettor.

However, it must be mentioned that only sexual intercourse with a married woman would amount to adultery. Sexual relations with a widow, sex worker or an unmarried woman does not attract this section. This has been confirmed by the Delhi High Court in the case of BrijLal Bishnoi v/s State (1996).

2. India: World's 6th Largest Economy

India has become the world's sixth-biggest economy, pushing France into seventh place, according to updated World Bank figures for 2017. India's gross domestic product (GDP) amounted to \$2.597 trillion at the

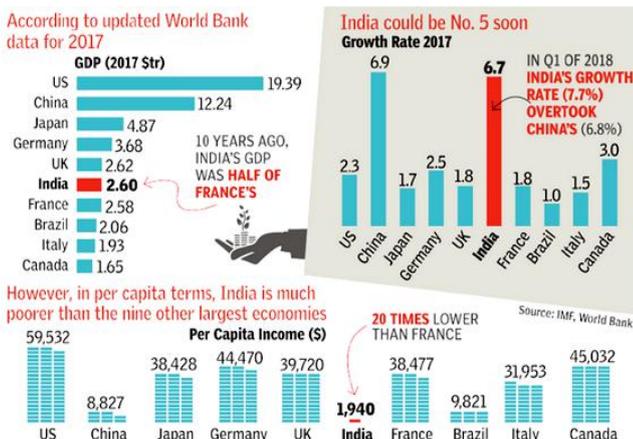
end of last year, against \$2.582 trillion for France. India, with a population of around 1.34 billion, is poised to become the world's most populous nation, whereas the French population stands at 67 million. This means that

India's per capita GDP continues to amount to just a fraction of that of France which is still roughly 20 times higher.

Manufacturing and consumer spending were the main drivers of the Indian economy last year, after a slowdown blamed on the demonetisation as well as a chaotic implementation of a new harmonised goods and service tax regime. India has doubled its GDP within a decade and is expected to power ahead as a key economic engine in Asia, even as China slows down.

India's economy rebounded strongly from July 2017, after several quarters of slowdown blamed on economic policies pursued by present government.

According to the International Monetary Fund, India is projected to generate growth of 7.4% this year and 7.8% in 2019, boosted by household spending and a tax reform. This compares to the world's expected average growth of 3.9%.



3. New Model for School Fees

The National Commission for Protection of Child Rights (NCPCR) has prepared guidelines for regulating admission fee levied by private unaided schools. The Commission has also recommended setting up a district-level body which will consult parents and teachers while determining school fee on a case-by-case basis. As per the procedure laid down by the NCPCR, every school will have to submit its fee proposal online by October 31 for the next academic session. The draft regulations will also suggest a formula for determining fees,

based on a school's location, costs incurred, revenue earned, student strength and other parameters.

If a school violates the norms provided in the uniform fee framework, it will be fined 1% of the revenue it generates in the first instance, which will increase to 2% and 5% for a second and third violation. For any subsequent violation, NCPCR has proposed that the school be put in a "no admission category" and barred from admitting new students.

The regulation of education-related matters is the domain of the Ministry of Human Rights and Development, but NCPCR has stepped in to draft the proposed fee regulations for unaided schools, citing Section 13 of the Commission for Protection of Child Rights (CPCR) Act, 2005 and Section 32 of Right to Education (RTE) Act, which gives NCPCR the authority to review safeguards under the law to protect of child rights and recommend measures. ■

4. Eat Right Movement

Food Safety and Standards Authority of India (FSSAI) unveiled the 'Eat Right Movement', built on two broad pillars of 'Eat Healthy' and 'Eat Safe'. The programme aims to engage and enable citizens to improve their health and well-being by making the right food choices. "Eat Healthy" is about making healthy food choices. "Eat Safe" is about ensuring food safety from procurement to consumption

and disposal of food. The objective of the movement to cut down salt, sugar and oil consumption by 30% in three years. The movement can grow organically as a self-perpetuating movement, co-owned and co-led by various partners using the broad framework and resources put together by professionals and experts in the field of food and nutrition.

About FSSAI

It has been established under Food Safety and Standards Act, 2006 which consolidates various acts and orders that have hitherto handled food related issues in various Ministries and Departments. Ministry of Health & Family Welfare, is the administrative Ministry for the implementation of FSSAI. ■

5. Nilgiri Tahr

A new study has predicted that most of the existing habitats of the Nilgiri Tahr in the Western Ghats will become unsuitable as global warming intensifies. The Nilgiri Tahr is an endangered, hoofed mammal or ungulate endemic to the Western Ghats. In fact, it is the only mountain ungulate in India amongst 12 other species of ungulates. Even under moderate scenarios of future climate change, tahrs could lose approximately 60% of their habitats from the 2030s. Historically, the Nilgiri Tahr was found

everywhere in the Western Ghats but currently only 3,000 exist and their habitat is restricted to one-tenth of their original range. Currently, they are found only in the Southern Western Ghats in an altitude range of 1,100 metres to 2,600 metres.

Scientists tried to predict how climate change can affect tahr habitat in the Ghats by mapping tahr distribution (using existing information and field surveys) and then using climatic factors of these locations to see where tahrs would be able

to survive, given current and future climate change scenarios. They found that tahr strongholds such as Chinnar, Eravikulam and Parambikulam in Kerala will still be stable habitats under different climate change scenarios.

However, other regions, including parts of Tamil Nadu's Kalakkad Mundanthurai Tiger Reserve and the wildlife sanctuaries of Peppara, Neyyar, Schenduruny and Srivilliputhur, could experience severe habitat loss in future. ■

6. Target Olympic Podium Scheme

In a departure from the norm, the Mission Olympic Cell included the entire Indian hockey team in the Target Olympic Podium (TOP) scheme, rewarding the players for their silver medal-winning performance at the Champions Trophy. Athletes from different sports have been included in Target Olympic Podium (TOP) Scheme individually but it is first instance that an entire team has been made beneficiary of the financial assistance scheme.

About Mission Olympic Cell

It functions under the Sport Authority of India and has been exclusively created to deal with the training, equipment and exposure part of the athletes' preparation.

About TOPS

It was launched by Ministry of Sports within the ambit of National Sports Development Fund (NSDF). It aims at identifying and supporting potential

medal prospects for upcoming olympic games. It will provide selected sportspersons customized training at institutes having world class facilities and also other necessary support is being provided to the elite athletes. It will also provide a benchmark for selection of athletes on par with international standards. ■

7. Net Neutrality in India

The Telecom Commission approved net neutrality rules which bar service providers from discriminating against internet content and services by blocking, throttling or granting them higher speed access. Some mission critical applications or services like remote surgery and autonomous cars will however be kept out of the purview of net neutrality framework. The decision ensures that internet for Indians will continue to remain non-

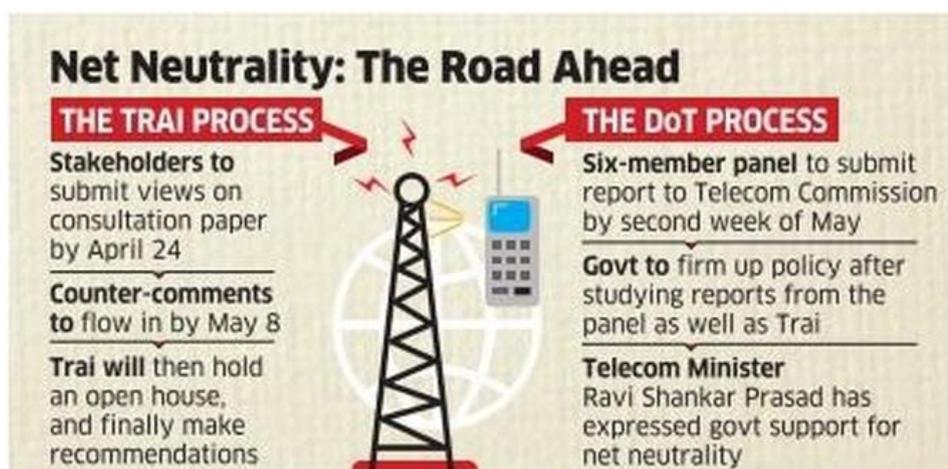
discriminatory and unrestricted. India's stand on net neutrality also came at a time when the US had repealed its free internet rules and chose to allow internet providers to charge more for certain content or giving preferential treatment to certain websites through commercial agreements.

It's a huge win for those who favour free and fair internet access in the country. It also prevents programs like

Facebook's Free Basics, which granted free access to mobile sites on the zero-rated platform that were allowed in by the company. The government's decision is being seen as progressive as it will not allow any mobile operator, internet service provider or online/social media giant to create monopolies on the internet by getting specialized treatment by paying for it. The rules of equal access will be maintained and no company can buy special treatment for itself or its services.

What is Net Neutrality?

Net neutrality is the principle that individuals should be free to access all content and applications equally, regardless of the source, without Internet Service Providers discriminating against specific online services or websites. ■



INTERNATIONAL

1. World's Largest Super Radio Telescope

A scientific mega-project to unlock cosmic conundrums from dark energy to detecting extraterrestrial life was given a boost, when the 64-dish MeerKAT radio telescope was inaugurated in the remote South African town of Carnarvon. It will be integrated into a multi-nation Square Kilometre Array (SKA).

When fully operational, the SKA telescope will be 50 times more powerful than any other telescope in

the world. Expected to be fully up and running by 2030, the SKA will comprise a forest of 3,000 dishes spread over an area of a square kilometre (0.4 square miles) across remote terrain in several African countries and Australia to allow astronomers to peer deeper into space with unparalleled detail. The SKA will explore exploding stars, black holes and traces of the universe origins some 14 billion years ago.

The telescope is being built by an

international consortium, including Australia, Britain, Canada, China, India, Italy, New Zealand, Sweden and the Netherlands. Other African countries involved are Botswana, Ghana, Kenya, Madagascar, Mauritius, Mozambique, Namibia and Zambia.

It will enable astronomers to monitor the sky in unprecedented detail and survey the entire sky much faster than any system currently in existence. ■

2. Failure to Educate Girls Could Cost World \$30 Trillion

According to the World Bank, failing to let girls finish their education could cost the world as much as \$30 trillion in lost earnings and productivity, yet more than 130 million girls are out of school globally. Women who have completed secondary education are more likely to work and earn on average nearly twice as much as those with no schooling.

- About 132 million girls worldwide aged 6 to 17 do not attend school, while fewer than two-thirds of

those in low-income nations finish primary school and only a third finish lower secondary school.

- If every girl in the world finished 12 years of quality education, lifetime earnings for women could increase by \$15 trillion to \$30 trillion.
- Other positive impacts of completing secondary school education for girls include a reduction in child marriage, lower fertility rates.

Significance

The benefits of educating girls are considerably higher at secondary school level in comparison to primary education. Women who have completed secondary education are at lesser risk of suffering violence at the hands of their partners and have children who are less likely to be malnourished and themselves are more likely to go to school. ■

3. First-ever 3D Colour X-ray

New Zealand scientists have performed the first-ever 3D, colour X-ray on a human, using a technique that promises to improve the field of medical diagnostics. The new device, based on the traditional black-and-white X-ray, incorporates particle-tracking technology developed for CERN's Large Hadron Collider, which in 2012 discovered the elusive Higgs Boson particle. This colour X-ray imaging technique could produce clearer and more accurate pictures

and help doctors give their patients more accurate diagnoses.

The CERN technology, dubbed Medipix, works like a camera detecting and counting individual sub-atomic particles as they collide with pixels while its shutter is open. This allows for high-resolution, high-contrast pictures. The machine's small pixels and accurate energy resolution meant that this new imaging tool is able to get images that no other imaging tool can achieve.

About CERN

Founded in 1954, it was one of Europe's first joint ventures and now has 22 member states. At CERN, the European Organization for Nuclear Research, physicists and engineers are probing the fundamental structure of the universe. The process gives the physicists clues about how the particles interact and provides insights into the fundamental laws of nature. ■

4. The European Bank for Reconstruction and Development

India has joined the European Bank for Reconstruction and Development

(EBRD) as the 69th shareholder, paving the way for more joint investment with

Indian companies across the EBRD's regions. India took a shareholding in

the EBRD but will not be a recipient of EBRD financing. But it may benefit indirectly through EBRD projects or if Indian companies invest alongside the bank. The advantage of membership is that Indian companies and the Indian government immediately get free access to all of EBRD's knowledge - political, commercial, market and economic knowledge.

About EBRD

The European Bank for Reconstruction and Development (EBRD) was established to help build a new, post-Cold War era in Central and Eastern Europe. It has since played a historic role and gained unique expertise in fostering change in the region - and beyond. The EBRD is owned by 65

countries and two intergovernmental institutions: the European Union and the European Investment Bank (EIB). Investing primarily in private sector clients whose needs cannot be fully met by the market, the EBRD promotes entrepreneurship and fosters transition towards open and democratic market economies. ■

5. Global Status of Commercialized GM Crops

According to the ISAAA report titled Global Status of Commercialized Biotech/GM Crops: 2017, total area under transgenic crops went up by 3 per cent globally in 2017 to nearly 190 million hectares (mha) from around 185 mha in the previous year. This increase is due primarily to greater profitability stemming from higher commodity prices, increased global and domestic market demand and available seed technologies.

Key Highlights

The country with the highest area under transgenic crops, at 75 mh, is the United States. It includes soyabean, maize (corn), cotton, alfalfa, canola, sugar-beet, potato, apples, squash and papaya.

The report has estimated the highest share in the world's total 189.8 mh GM crop area for 2017 to be of soyabean (94.1 mh), followed by maize

(59.7 mh), cotton (24.1 mh), canola (10.2 mh), alfalfa (1.2 mh) and sugar-beet (0.50 mh).

Unlike other big growers, India's entire GM crop area is under a single crop — cotton — incorporating genes from the *Bacillus thuringiensis* or Bt soil bacterium coding for resistance against heliothis bollworm insect pests. ■

6. Global Innovation Index- 2018

Global Innovation Index (GII) is jointly released by Cornell University, INSEAD and World Intellectual Property Organisation (WIPO). GI ranked 126 economies based on 80 indicators. This year's edition, is dedicated to the theme of 'Energizing the World with Innovation'. It analyses the energy innovation landscape of the next decade and identifies possible breakthroughs in fields

such as energy production, storage, distribution and consumption.

Key Highlights

- The Global Innovation Index (GII) has ranked India as the 57th most innovative nation in the world.
- India is a top performer in the lower middle income group, where it is ranked at fifth position. It is the most innovative country in its region of Central and Southern Asia.

- Since 2011, Switzerland has been ranked at the top every year.
- Four of the top five innovation clusters are in Asia, based on patents and publishing. San Francisco is the only innovation cluster outside Asia among the top five.
- On a new indicator – mobile-app creation – Cyprus, Finland and Lithuania emerged as global leaders in development of mobile apps relative to GDP. ■

7. Asia Pacific Region of World Customs Organisation

India has become the vice-chair (regional head) of the Asia Pacific Region of World Customs Organisation (WCO) for a period of two years, from July, 2018 to June, 2020. The WCO has divided its membership into six regions. Each of the six regions is represented by a regionally elected vice-chairperson to the WCO Council. Being the vice chair of AP Region of WCO will enable India to take on leadership role. India

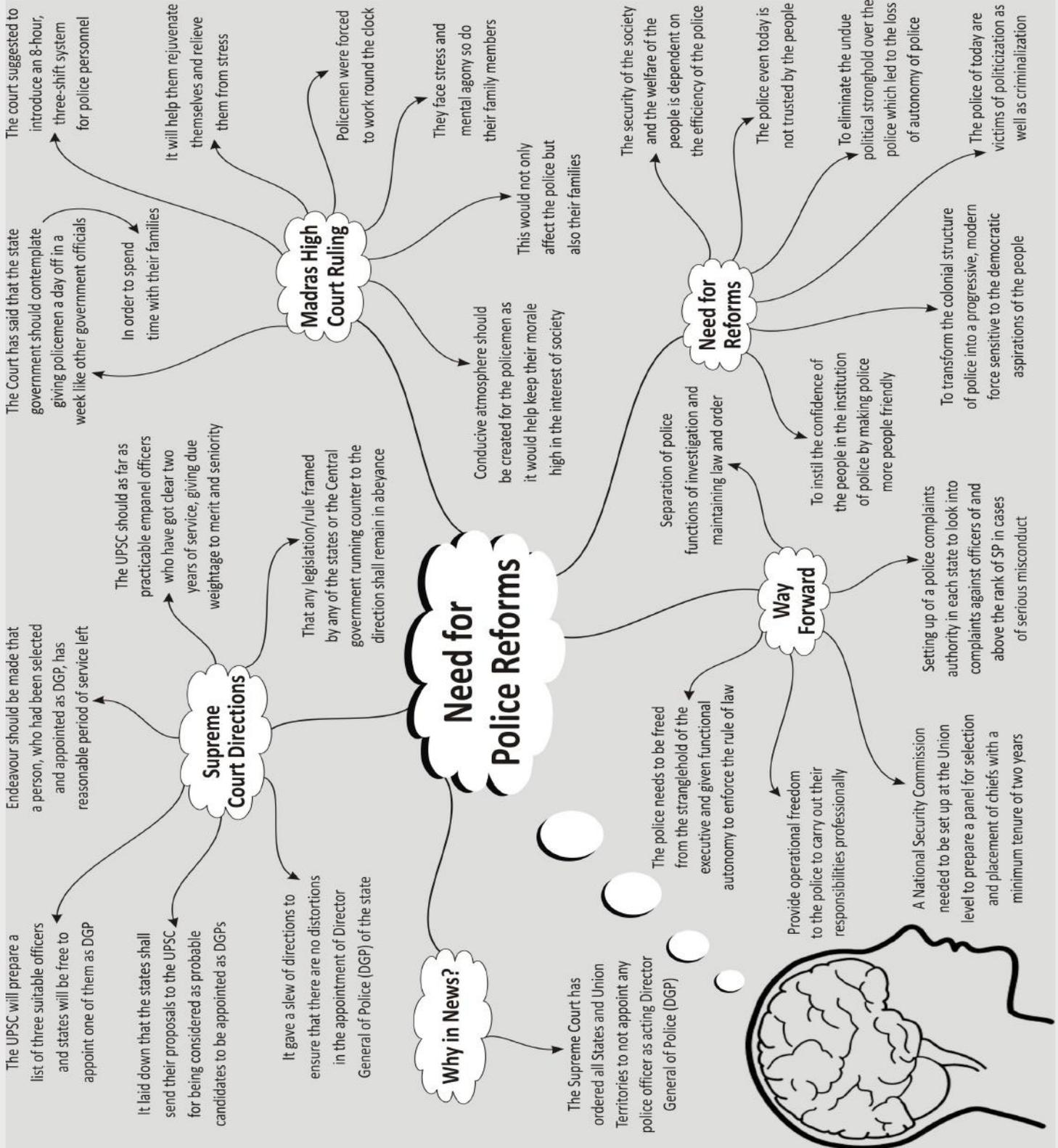
is a wealth of experience in promoting security and facilitation of cross border trade.

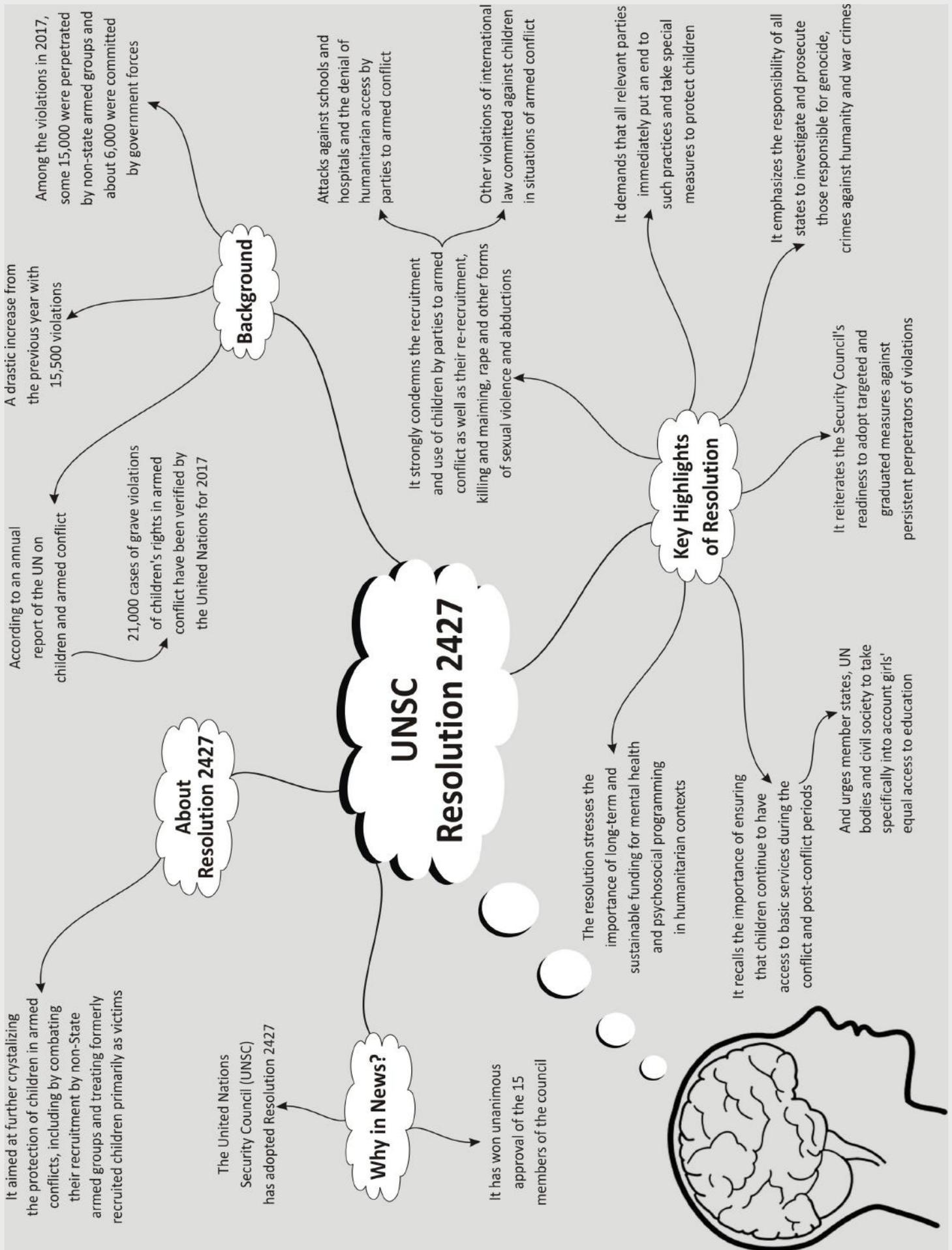
About WCO

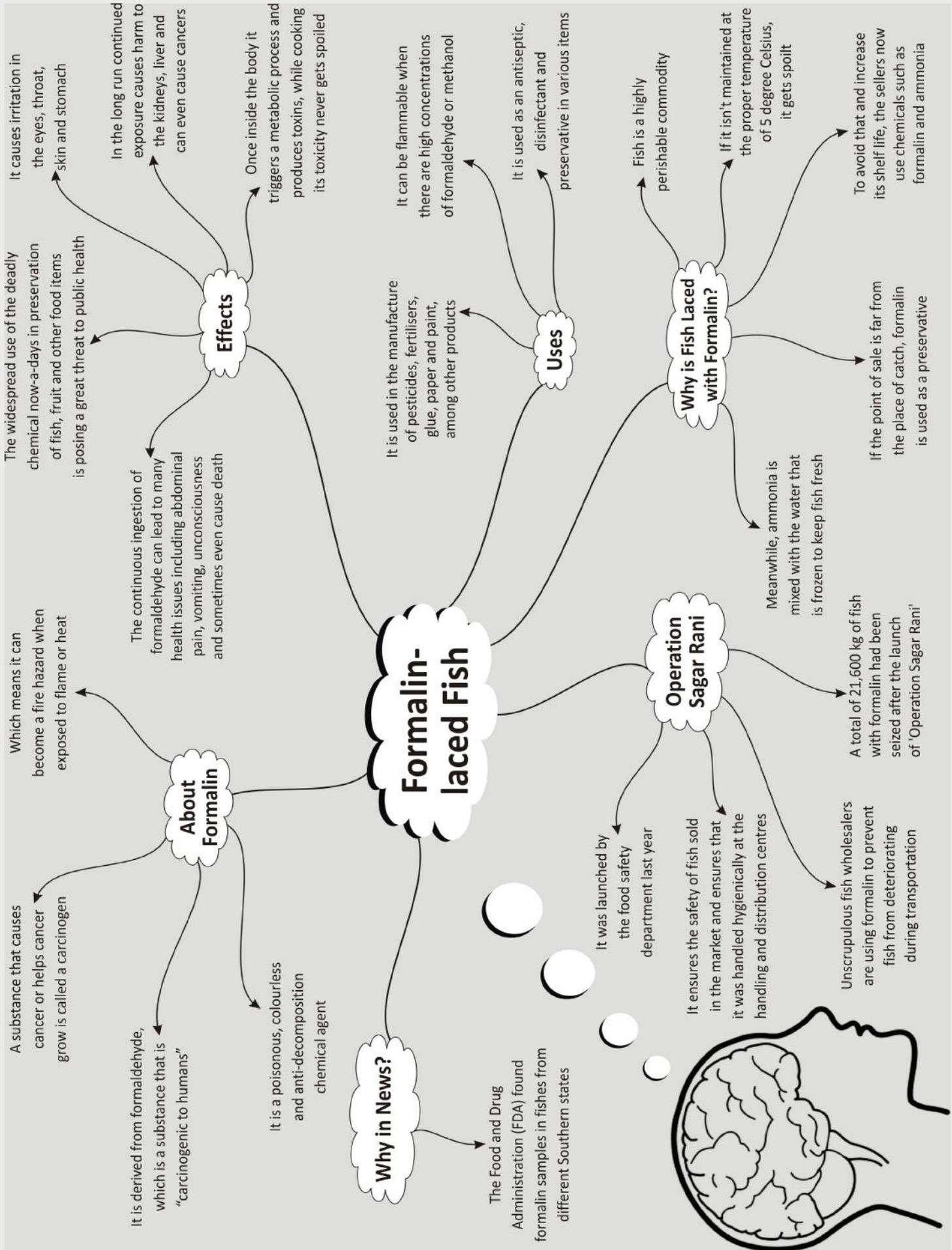
WCO represents 182 customs administrations across the globe that collectively process approximately 98% of world trade. As the global centre of Customs expertise, the WCO is the only international organization

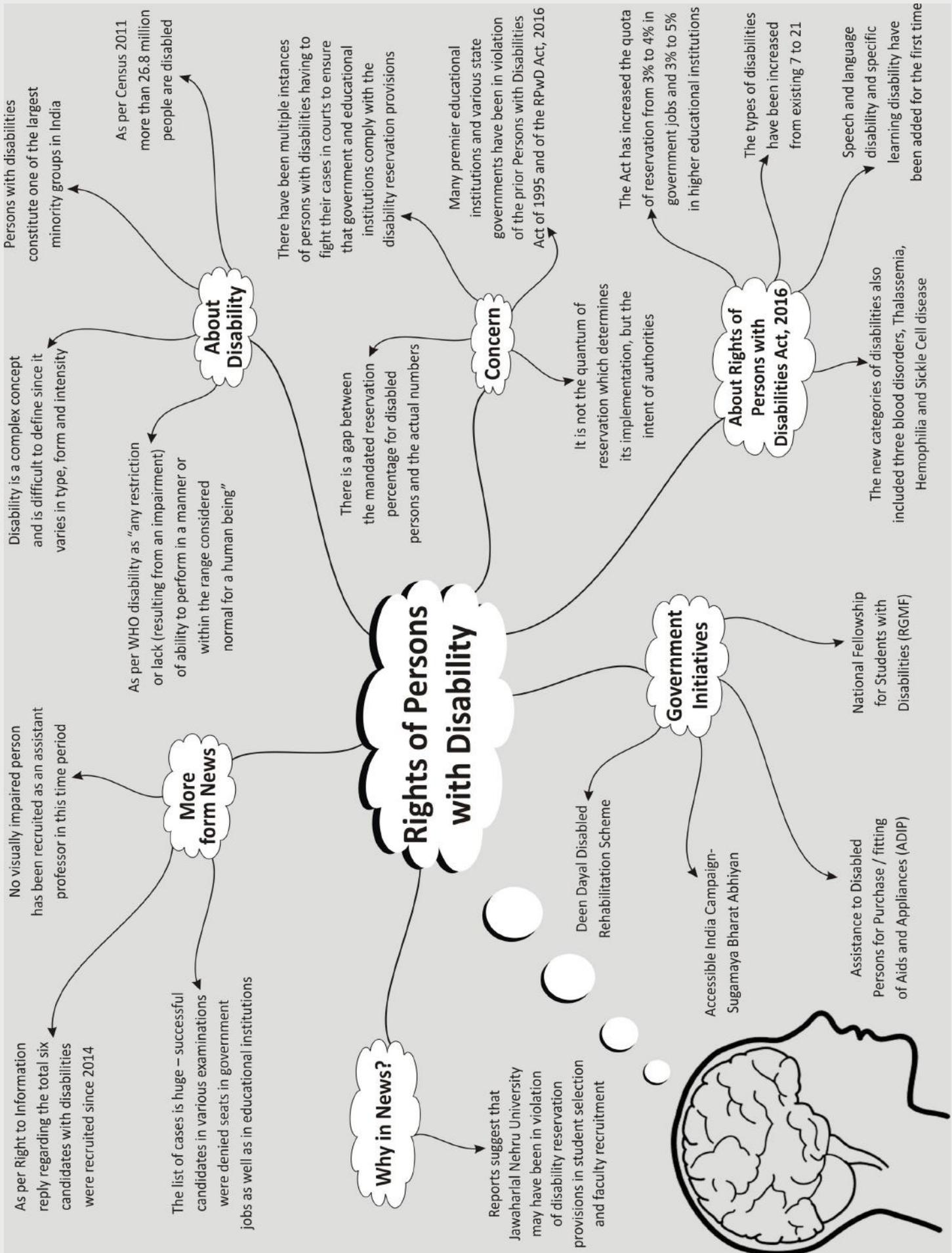
with competence in Customs matters and can rightly call itself the voice of the international Customs community. WCO has also been responsible for administering the World Trade Organization's Agreements on Customs Valuation, which provide a system for placing values on imported goods, and the Rules of Origin, which are used to determine the origin of a given commodity. ■

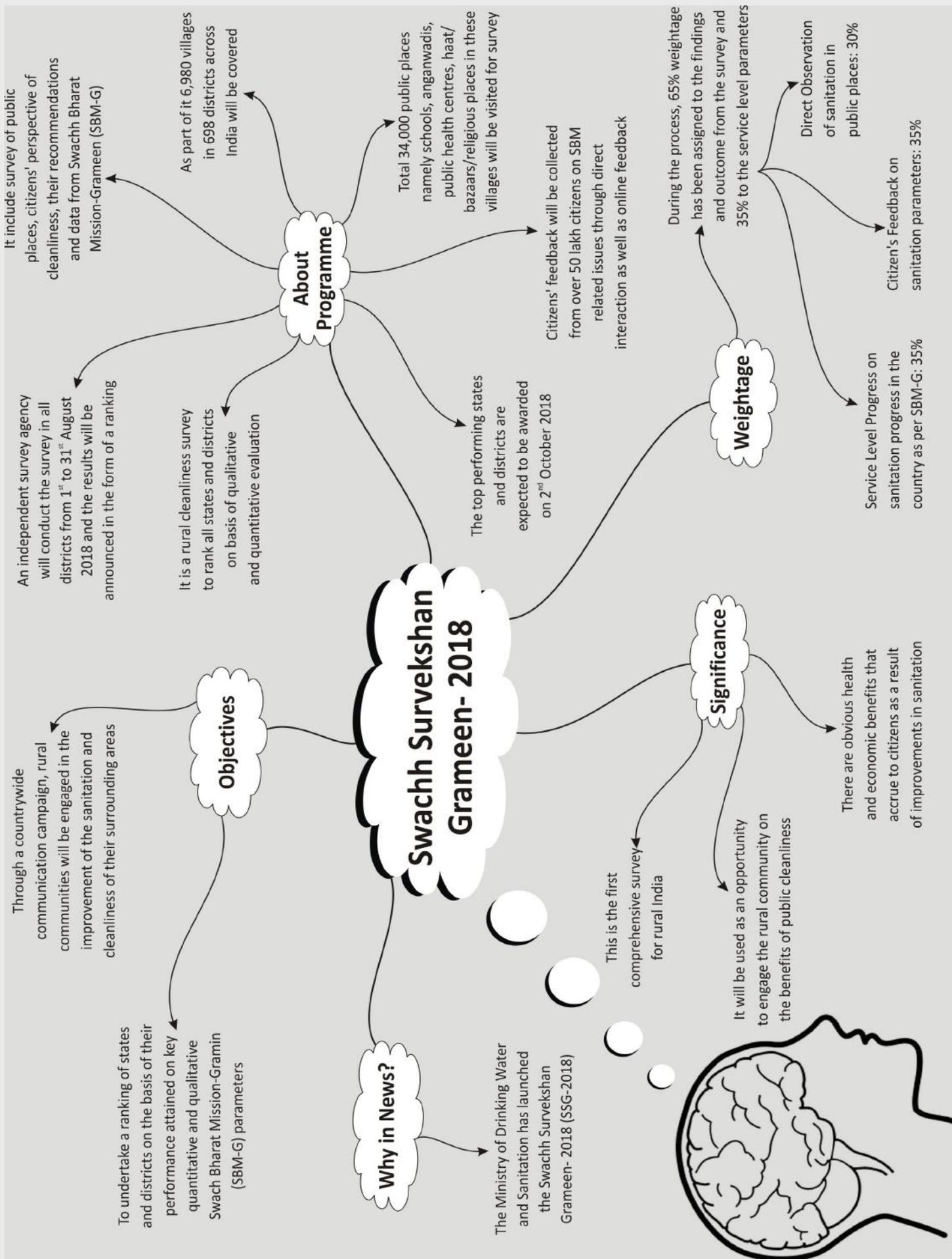
SEVEN BRAIN BOOSTERS

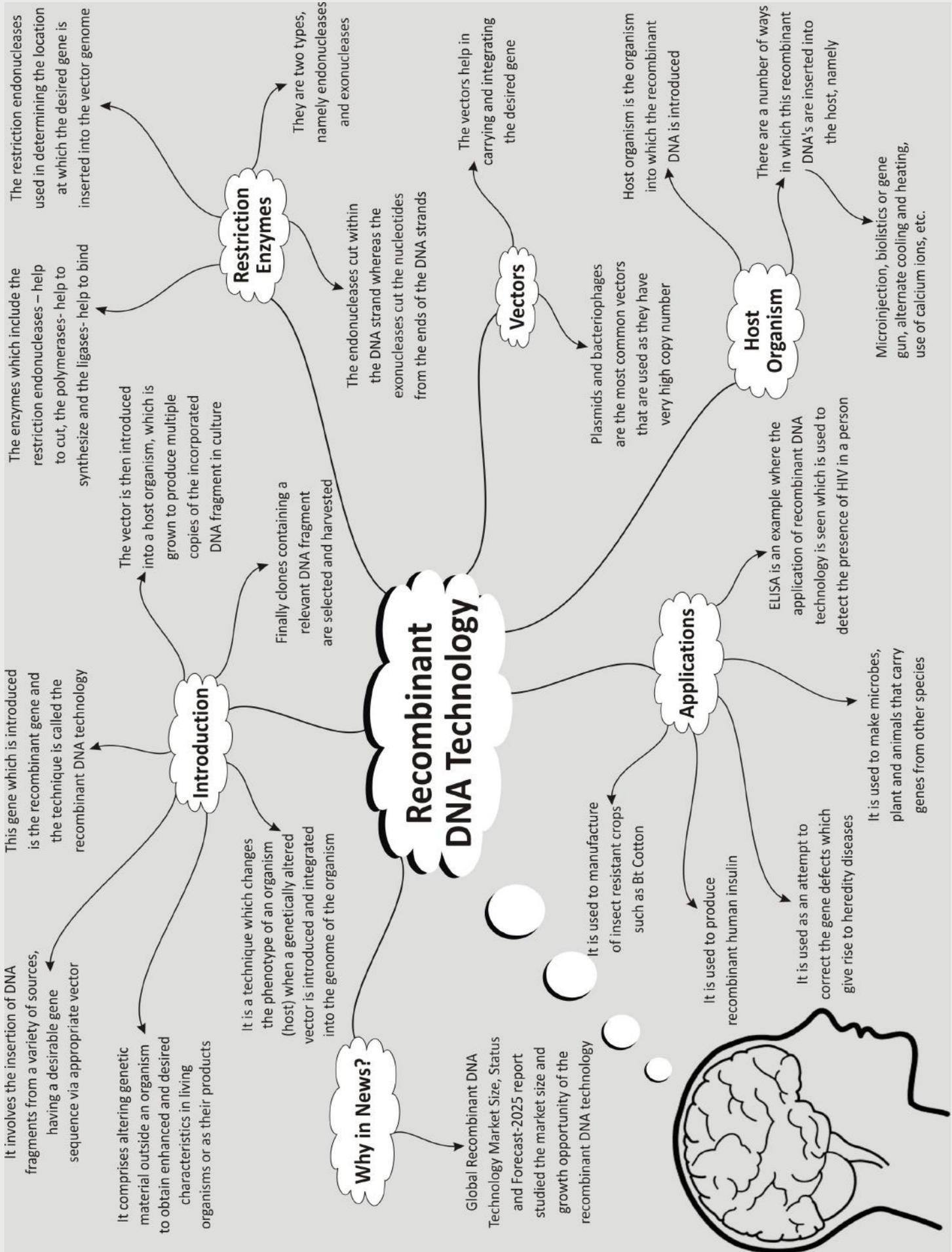


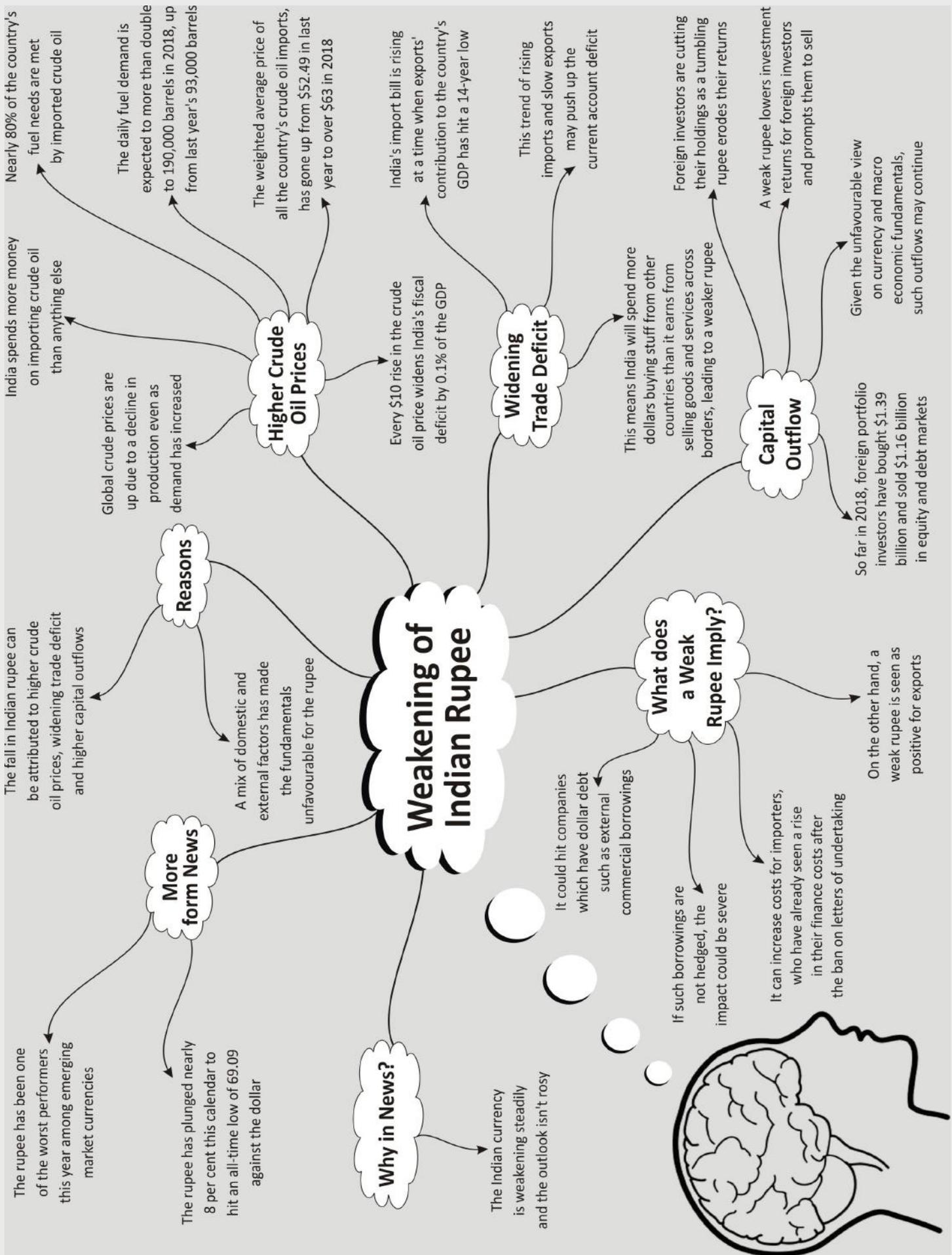












SEVEN MCQ'S WITH EXPLANATORY ANSWERS (Based on Brain Boosters)

Need for Police Reforms

Q1. Recently Supreme Court issued the directions on police reforms. Consider the following statements in this regard:

1. The states shall send their proposals to the Ministry of Home Affairs for being considered as probable candidates to be appointed as DGPs.
2. All states and Union territories can appoint any senior most police officer as Director General of Police (DGP).

Which of the statements given above is/are correct?

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

Answer: (d)

Explanation: Both statements are not correct. The Supreme Court gave a slew of directions to ensure that there are no distortions in the appointment of Director General of Police (DGP) of the state. It said that all states and Union territories to not appoint any police officer as acting Director General of Police (DGP). It also laid down that the states shall send their proposals to the UPSC three months prior to the retirement of the incumbent DGP, for being considered as probable candidates to be appointed as DGPs. The UPSC, in turn, will prepare a list of three most suitable officers and the states will be free to appoint one of them as police chief.

UNSC Resolution 2427

Q2. The United Nations Security Council (UNSC) has adopted Resolution 2427. Consider the following statements in this regard:

1. It aimed at providing legal framework for protection of children and their rights in armed conflicts.
2. The resolution stresses the importance of long-term and sustainable funding for mental health and psychosocial programming in humanitarian contexts.

Which of the statements given above is/are correct?

- a) 1 only b) 2 only

- c) Both 1 and 2 d) Neither 1 nor 2

Answer: (c)

Both statements are correct. The UN Security Council has adopted a resolution aimed at a framework for mainstreaming protection, rights, well-being and empowerment of children throughout the conflict cycle. It strongly condemns the recruitment and use of children by parties to armed conflict as well as their re-recruitment, killing and maiming, rape and other forms of sexual violence and abductions.

It stressed the importance of long-term and sustainable funding for mental health and psychosocial programming in humanitarian contexts and ensuring all affected children receive timely and sufficient support and encouraging donors to integrate mental health and psychosocial services in all humanitarian responses.

Formalin-laced Fish

Q3. The Food and Drug Administration (FDA) found formalin samples in fishes from different southern states. Consider the following statements in this regard:

1. It is a poisonous, colourless and anti-decomposition chemical agent which is used as preservative to keep fish fresh.
2. It is derived from formaldehyde, which is a substance that is carcinogenic to humans.

Which of the statements given above is/are correct?

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

Answer: (c)

Explanation: Both statements are correct. The Food and Drug Administration (FDA) found formalin samples in fishes from different southern states. It is a poisonous, colourless and anti-decomposition chemical agent which is used as preservative to keep fish fresh. Fish is a highly perishable commodity, if it isn't maintained at the proper temperature of 5 degree Celsius, it gets spoilt. To avoid that and increase its shelf life, the sellers now use chemicals such as formalin and ammonia. It is derived from formaldehyde, which is a substance that is carcinogenic to humans.

Rights of Persons with Disability

Q4. With reference to the discriminatory practices on reservation for the disabled, consider the following statements in this respect:

1. The Rights of Persons with Disabilities Act has increased the quota of reservation from 3% to 5% in government jobs and 3% to 6% in higher educational institutions.
2. There is a gap between the mandated reservation percentage for disabled persons and the actual numbers.

Which of the statements given above is/are correct?

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

Answer: (b)

Explanation: Statement 1 is not correct. On paper, the Rights of Persons with Disabilities (RPwD) Act appears commendable as it has increased the quota of reservation for persons with benchmark disabilities from 3% to 4% in government jobs and from 3% to 5% in higher educational institutions.

Statement 2 is correct. There is a gap between the mandated reservation percentage for disabled persons and the actual numbers. Since the Act came into force, there have been multiple instances of persons with disabilities having to fight their cases in courts to ensure that government and educational institutions comply with the disability reservation provisions.

Swachh Survekshan Grameen- 2018

Q5. Consider the following statements in respect of 'Swachh Survekshan Grameen- 2018':

1. It was launched by the Ministry of Rural Development.
2. It is a rural cleanliness survey to rank all states and districts on basis of qualitative and quantitative Swachh Bharat Mission-Gramin (SBM-G) parameters.

Which of the statements given above is/are correct?

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

Answer: (b)

Explanation: Statement 1 is not correct. The Ministry of Drinking Water and Sanitation launched the Swachh Survekshan Grameen-2018 (SSG-2018).

Statement 2 is correct. The objective of SSG-2018 is to undertake a ranking of states and districts on the basis of their performance attained on key quantitative and

qualitative SBM-G parameters. In the process, through a countrywide communication campaign, rural communities will be engaged in the improvement of the sanitation and cleanliness of their surrounding areas.

Recombinant DNA Technology

Q6. Recombinant DNA Technology allows genes to be transferred:

1. Across different species to plants.
2. From animals to plants.
3. From microorganisms to higher organisms.

Select the correct answer using the codes given below.

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

Answer: (d)

Explanation: All statements are correct. A faster way of producing new varieties is to transfer the genes for the desired characteristic into an organism artificially. This is genetic engineering. The gene may have come from the same species, but genetic engineering also allows the genes from an unrelated organism to be transferred – something that's not possible with selective breeding. Researchers have learned how to move genetic material in the form of DNA from one plant or animal to another. They can also take DNA from an animal and place it in a plant and vice versa.

Weakening of Indian Rupee

Q7. The Indian currency is weakening steadily and the outlook isn't rosy. Consider the following statements in this regard:

1. The fall in Indian rupee can be attributed to higher crude oil prices, widening trade deficit and higher capital outflows.
2. A weak rupee is seen as positive for imports and negative for exports.

Which of the statements given above is/are correct?

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

Answer: (a)

Explanation: Statement 1 is correct. The fall in Indian rupee can be attributed to higher crude oil prices, widening trade deficit and higher capital outflows.

Statement 2 is not correct. A common belief while the rupee depreciates against the dollar is that it would help our exports. Undervalued or depreciated currency acts as a direct subsidy for exports while acting as a punitive tax on imports. China used the undervaluation of currency as an effective international trade tool for decades.



SEVEN IMPORTANT FACTS FOR PRELIMS

1. Which country recently announced to launch 300 low-orbit satellites to provide worldwide communication services?

–China

2. Which city hosted Donald Trump and Vladimir Putin's first-ever one-on-one talks?

–Helsinki (Finland)

3. Which country has topped the global ranking of nations' soft power?

–The United Kingdom

4. Who has been selected for this year's 'Sangita Kalanidhi' award?

–Aruna Sairam

5. Which state has launched the 'Paudhagiri' campaign?

–Haryana

6. Which country has become the regional head of Asia Pacific Region of World Customs Organisation (WCO)?

–India

7. Who won the Golden Ball Award in the 2018 FIFA World Cup?

–Luka Modric (Croatia)



SEVEN PERFECT QUOTES

(IMPORTANT FOR ESSAY AND ANSWER WRITING)

"Life loses half its interest if there is no struggle-if there are no risks to be taken."

-Subhas Chandra Bose

"The more often a stupidity is repeated, the more it gets the appearance of wisdom."

-Voltaire

"The art of a people is a true mirror to their minds."

-Jawaharlal Nehru

"Happiest are the people who give most happiness to others"

-Denis Diderot

"Every new experience brings its own maturity and a greater clarity of vision."

-Indira Gandhi

"Truth is ever to be found in the simplicity and not in the multiplicity and confusion of things."

-Isaac Newton

"We need not seek a cause or a motive or a purpose for that which is, in its nature,
eternally self-existent and free."

-Sarvepalli Radhakrishnan

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SEVEN PRACTICE QUESTIONS FOR MAIN EXAM

Answer each of the following questions in 200 words:

- Q1. The closeness of judiciary with executive is against the philosophy of separation of powers and it is the greatest danger to democracy. Comment.
- Q2. Electric vehicles have the potential to fuel India's growth. The potential benefits on various fronts from fiscal to health and employment, could be game-changing. Discuss.
- Q3. Nearly half of the population in India lives in places that are likely to become moderate or severe climate hot spots by 2050. Structured courses on climate change in formal education are missing, except in some colleges. Discuss the need to invest more on climate change education.
- Q4. Trade negotiations are replete with strong arm tactics and bullying and that is the reason why they lack credibility and legitimacy. Discuss how call for reforms at WTO might not change the game.
- Q5. Sharia courts are an alternative dispute redressal mechanism that responds to the decline of the civil justice system and addresses the needs of the poor. Critically analyse.
- Q6. Discuss how Trump's foreign policy and systematic dismantling of established norms in foreign policy is impacting India?
- Q7. Discuss the contribution of Nelson Mandela in ending apartheid.



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AN INTRODUCTION

Dhyeya IAS, a decade old institution, was founded by Mr. Vinay Singh and Mr. Q. H. Khan. Ever since its emergence it has unparalleled track record of success. Today, it stands tall among the reputed institutes providing coaching for Civil Services Examination (CSE). The institute has been very successful in making potential aspirants realize their dreams which is evident from the success stories of the previous years.

Quite a large number of students desirous of building a career for themselves are absolutely less equipped for the fairly tough competitive tests they have to appear in. Several others, who have a brilliant academic career, do not know that competitive exams are vastly different from academic examination and call for a systematic and scientifically planned guidance by a team of experts. Here one single move may invariably put one ahead of many others who lag behind. Dhyeya IAS is manned with qualified & experienced faculties besides especially designed study material that helps the students in achieving the desired goal.

Civil Services Exam requires knowledge base of specified subjects. These subjects though taught in schools and colleges are not necessarily oriented towards the exam approach. Coaching classes at Dhyeya IAS are different from classes conducted in schools and colleges with respect to their orientation. Classes are targeted towards the particular exam. Classroom guidance at Dhyeya IAS is about improving the individuals capacity to focus, learn and innovate as we are comfortably aware of the fact that you can't teach a person anything, you can only help him find it within himself.

DSDL Prepare yourself from distance

Distance Learning Programme, DSDL, primarily caters the need of those who are unable to come to metros for economic or family reason but have ardent desire to become a civil servant. Simultaneously, it also suits to the need of working professionals, who are unable to join regular classes due to increase in work load or places of their posting. The principal characteristic of our distance learning is that the student does not need to be present in a classroom in order to participate in the instruction. It aims to create and provide access to learning when the source of information and the learners are separated by time and distance. Realizing the difficulties faced by aspirants of distant areas, especially working candidates, in making use of the Institute's classroom guidance programme, distance learning system is being provided in General Studies. The distance learning material is comprehensive, concise and exam-oriented in nature. Its aim is to make available almost all the relevant material on a subject at one place. Materials on all topics of General Studies have been prepared in such a way that, not even a single point will be missing. In other words, you will get all points, which are otherwise to be taken from 6 -10 books available in the market/library. That means, DSDL study material is undoubtedly the most comprehensive and that will definitely give you added advantage in your Preliminary as well as Main Examination. These materials are not available in any book store or library. These materials have been prepared exclusively for the use of our students. We believe in our quality and commitment towards making these notes indispensable for any student preparing for Civil Services Examination. We adhere all pillars of Distance education.