

PERFECT 7

WEEKLY

CURRENT AFFAIRS

December : 2019/ Issue- 3

INTERNATIONAL DAY OF PERSONS WITH DISABILITIES 2019

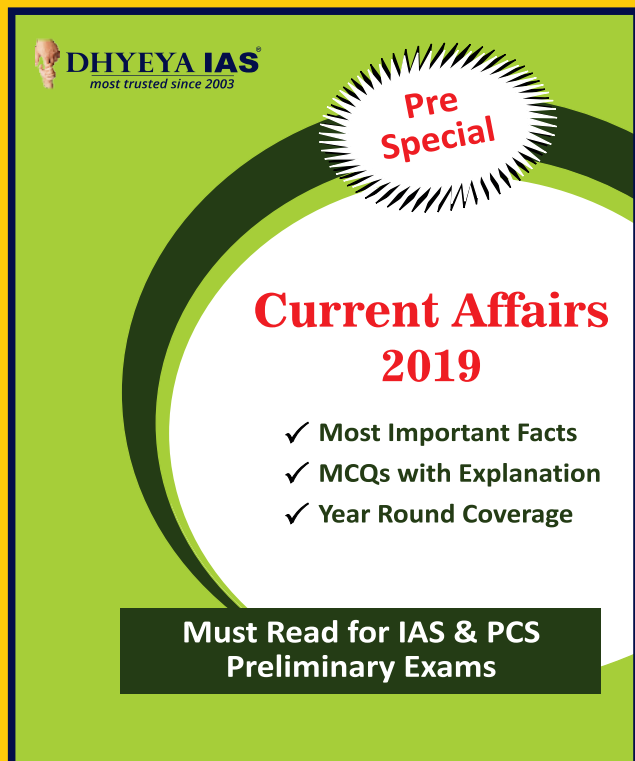
An Overview

- Mid-day Meal Scheme : An Analysis
- Extrajudicial Killings : Against the Due Process of Law
- Fratricides and Suicides in Armed Forces : A Growing Concern
- Evolution of the Indian Foreign Policy : A Critique
- Solar Energy in India : Prospects and Challenges
- World Soil Day 2019 : Stop Soil Erosion, Save Our Future

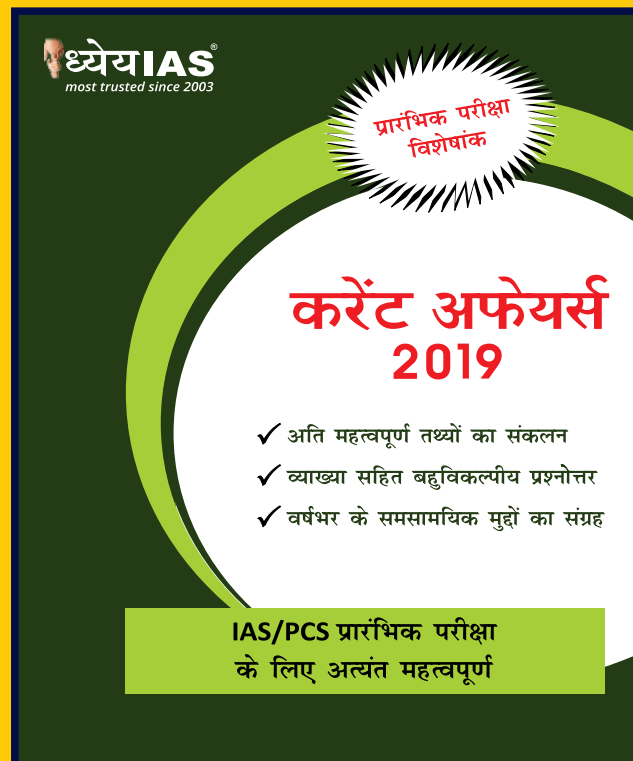


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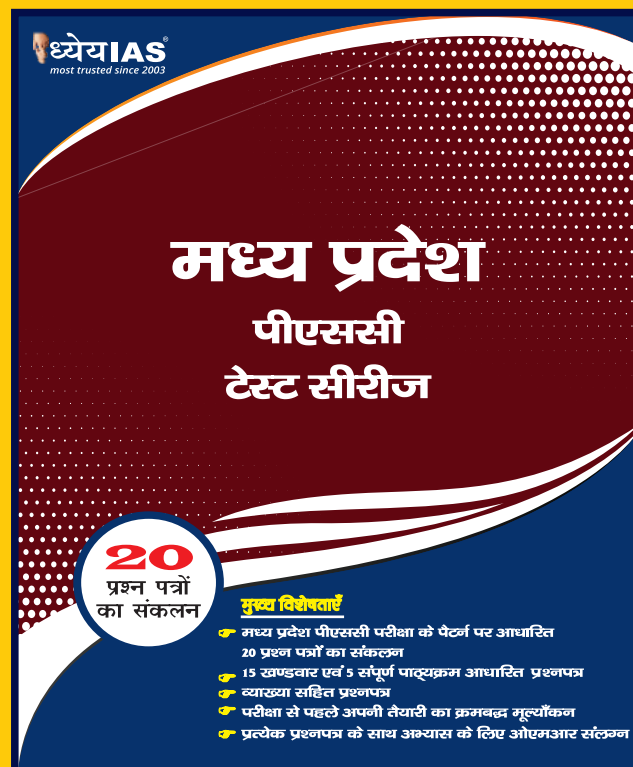
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DHYEYA IAS : AN INTRODUCTION



The guiding philosophy of the institute, throughout, has been creation of knowledge base. Dhyeya IAS inculcates human values and professional ethics in the students, which help them make decisions and create path that are good not only for them, but also for the society, for the nation, and for the world as whole. To fulfill its mission in new and powerful ways, each student is motivated to strive towards achieving excellence in every endeavor. It is done by making continuous improvements in curricula and pedagogical tools.

The rigorous syllabi not only instills in them, a passion for knowledge but also attempts to teach them how to apply that knowledge in real-life situations. The programmes lay emphasis on well-rounded personality development of the students and also in inculcating the values of honesty and integrity in them.

Vinay Kumar Singh
CEO and Founder
Dhyeya IAS



Dhyeya IAS is an institution that aims at the complete development of the student. Our faculty are hand-picked and highly qualified to ensure that the students are given every possible support in all their academic endeavors. It is a multi-disciplinary institution which ensures that the students have ready access to a wide range of academic material.

Our brand of education has broad horizons as we believe in exposure. Our students are encouraged to widen their knowledge base and study beyond the confinements of the syllabus. We aim to lend a gentle guiding hand to make our students recognize their inner potential and grow on their own accord into stalwarts of tomorrow's society.

Q H Khan
Managing Director
Dhyeya IAS

PERFECT 7 : AN INTRODUCTION



With immense pleasure and gratitude I want to inform you that the new version of 'Perfect-7', from the Dhyeya IAS, is coming with more information in a very attractive manner. Heartily congratulations to the editorial team. The 'Perfect-7' invites a wider readership in the Institute. The name and fame of an institute depends on the caliber and achievements of the students and teachers. The role of the teacher is to nurture the skills and talents of the students as a facilitator. This magazine is going to showcase the strength of our Institute. Let this be a forum to exhibit the potential of faculties, eminent writers, authors and students with their literary skills and innovative ideas.

Qurban Ali

Chief Editor

Dhyeya IAS

(Ex Editor- Rajya Sabha TV)



We have not only given the name 'Perfect 7' to our magazine, but also left no stone unturned to keep it 'near to perfect'. We all know that beginning of a task is most challenging as well as most important thing. So we met the same fate.

Publishing 'Perfect 7' provided us various challenges because from the beginning itself we kept our bar too high to ensure the quality. Right from the very first issue we had a daunting task to save aspirants from the 'overdose of information'. Focusing on civil services exams 'Perfect 7' embodies in itself rightful friend and guide in your preparation. This weapon is built to be precise yet comprehensive. It is not about bombardment of mindless facts rather an analysis of various facets of the issues, selected in a systematic manner. We adopted the 'Multi Filter' and 'Six Sigma' approach, in which a subject or an issue is selected after diligent discussion on various levels so that the questions in the examination could be covered with high probability.

Being a weekly magazine there is a constant challenge to provide qualitative study material in a time bound approach. It is our humble achievement that we feel proud to make delivered our promise of quality consistently without missing any issue since its inception.

The new 'avatar' of 'Perfect 7' is a result of your love and affection. We feel inspired to continue our efforts to deliver effective and valuable content in interesting manner. Our promise of quality has reached you in previous issues and more are yet to come.

Ashutosh Singh

Managing Editor

Dhyeya IAS

Send us your suggestions, comments, views and feedback for guiding us towards continuous improvement & enhancement of 'Perfect 7' on

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PREFACE

Dhyeya family feels honoured to present you 'Perfect 7' - a panacea for Current Affairs. 'Perfect7' is an outstanding compilation of current affairs topics as per the new pattern of Civil Service examination (CSE). It presents weekly analysis of information and issues (national and international) in the form of articles, news analysis, brain boosters, PIB highlights and graphical information, which helps to understand and retain the information comprehensively. Hence, 'Perfect 7' will build in-depth understanding of various issues in different facets.

'Perfect7' is our genuine effort to provide correct, concise and concrete information, which helps students to crack the civil service examination. This magazine is the result of the efforts of the eminent scholars and the experts from different fields.

'Perfect 7' is surely a force multiplier in your effort and plugs the loopholes in the preparation.

We believe in environment of continuous improvement and learning. Your constructive suggestions and comments are always welcome, which could guide us in further revision of this magazine.

Omveer Singh Chaudhary
Editor
Dhyeya IAS

Perfect 7

The Weekly Issue

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Founder & CEO

Vinay Kumar Singh

Managing Director

Q.H.Khan

Chief Editor

Qurban Ali

Managing Editor

Ashutosh Singh

Editors

Omveer Singh Chaudhary,
Rajat Jhingan, Jeet Singh, Avaneesh Pandey,

Editorial Support

Prof. R. Kumar

Lead Authors

Rama Shankar Nishad, Ajay Singh, Ahamad Ali,
Dharmendra Mishra

Authors

Sanjan Gotam, Ashraf Ali, Vivek Shukla,
Swati Yadav, Ranjeet Singh, Anshu Chaudhary,
Giriraj Singh, Saumya Upadhyay

Chief Reviewers

Prerit Kant, Anuj Patel, Rajhans Singh

Design & Development

Sanjeev Kumar Jha, Punish Jain

Promotion & Advertisement

Gufran Khan, Rahul Kumar

Layout & Graphics

Vipin Singh, Krishna Kumar,
Nikhil Kumar, Ramesh Kumar

Computer Operators

Krishna Kant Mandal

Articles Support

Mrityunjay Tripathi, Priya Singh,
Rajni Singh, Lokesh Shukla,
Preeti Mishra, Ravi Ranjan, Prabhat

Office Assistants

Hari Ram, Sandeep, Rajeev Kumar

Content Office

DHYEYA IAS
302, A-10/11, Bhandari House,
Near Chawla Restaurants,
Dr. Mukherjee Nagar, Delhi-110009



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Our other initiative



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News Paper



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Current Affairs Programmes hosted

by Mr. Qurban Ali

(Ex. Editor Rajya Sabha, TV) & by Team Dhyeya IAS
(Broadcasted on YouTube & Dhyeya-TV)

SEVEN IMPORTANT ISSUES

1. INTERNATIONAL DAY OF PERSONS WITH DISABILITIES 2019 : AN OVERVIEW

Why in News?

Every year since 1992, the International Day of Persons with Disabilities (IDPD) has been annually observed around the world on December 3. The theme for 2019's IDPD is 'Promoting the participation of persons with disabilities and their leadership: taking action on the 2030 Development Agenda'.

Introduction

As a UN recognised day, World Disability Day aims at increasing public awareness, understanding and accepting people with disability and celebrating their achievements and contributions. 2019's theme focuses on the empowerment of PwDs for inclusive, equitable and sustainable development as envisaged in the 2030 Agenda for Sustainable Development, which pledges to 'leave no one behind' and recognises disability as a cross-cutting issue as part of the implementation of the 17 Sustainable Development Goals (SDGs). Disability is referenced in various parts of the SDGs and specifically in parts related to education, growth and employment, inequality, accessibility of human settlements, as well as data collection and monitoring of the SDGs.

Today, the world population is over seven billion people and more than one billion or approximately 15 per cent of the world's population live with some form of disability; 80 per cent live in developing countries. Persons with disabilities, "the world's largest minority", have generally poorer

health, lower education achievements, fewer economic opportunities and higher rates of poverty than people without disabilities. This is largely due to the lack of services available to them (like information and communications technology (ICT), justice or transportation) and the many obstacles they face in their everyday lives.

These obstacles can take a variety of forms, including those relating to the physical environment, or those resulting from legislation or policy, or from societal attitudes or discrimination. Evidence and experience shows that when barriers to their inclusion are removed and persons with disabilities are empowered to participate fully in societal life, their entire community benefits. Barriers faced by persons with disabilities are, therefore, a detriment to society as a whole, and accessibility is necessary to achieve progress and development for all.

Persons with Disabilities in India : Key Stats

According to the Census of India 2011, there are 26.8 million people with disabilities (PwDs) in India who constitute 2.21 per cent of the total population. However, as per 76th round of National Sample Survey (NSS), overall percentage of persons with disability in the population was 2.2% - with 2.3% in rural and 2% in urban areas during July 2018 to December 2018 in the country. Further, among males, prevalence of disability was 2.4%, while it was 1.9% among females. The survey said among persons with disabilities of age

7 years and above, 52.2% were literate. Among persons with disabilities of age 15 years and above, 19.3% had highest educational level as secondary and above. Among persons with disabilities of age 3 to 35 years, 10.1% attended pre-school intervention programme. Percentage of persons with disabilities of age 3 to 35 years, who were ever enrolled in ordinary school, was 62.9%. Percentage of persons with disabilities living alone was 3.7%, while 62.1% had care giver. About 21.8% had received aid from government, and another 1.8% had received aid/help from organisations other than government. About 28.8% reported that they had a certificate of disability. Among persons with disabilities of age 15 years and above, Labour Force Participation Rate in usual status was 23.8%, the survey said adding that for these aged 15 years and above, it was 22.8%. "Among persons with disabilities of age 15 years and above, Unemployment Rate in usual status was 4.2%.

Challenges Faced by Disabled Person in India

Disability is not just defined by a person's inability to perform certain functions, but also by the degree to which social and structural barriers prevent the person's full participation in society. There are five broad challenges that we need to urgently address if we want to make India inclusive.

First, a lack of awareness. Negative views on disability are deeply rooted in tradition. Awareness is a huge

The Rights of Persons with Disabilities Act, 2016

The salient features of the Act are:

- Disability has been defined based on an evolving and dynamic concept.
- The types of disabilities have been increased from existing 7 to 21 and the Central Government will have the power to add more types of disabilities.
- Speech and language disability and specific learning disability have been added for the first time. Acid attack victims have been included. Dwarfism, muscular dystrophy have been indicated as separate class of specified disability. The new categories of disabilities also included three blood disorders, Thalassemia, Hemophilia and Sickle Cell disease.
- Additional benefits such as reservation in higher education, government jobs, reservation in allocation of land, poverty alleviation schemes etc. have been provided for persons with benchmark disabilities and those with high support needs.
- Every child with benchmark disability between the age group of 6 and 18 years shall have the right to free education.
- Reservation in vacancies in government establishments has been increased from 3% to 4% for certain persons or class of persons with benchmark disability.
- The new Act will bring our law in line with the United National Convention on the Rights of Persons with Disabilities (UNCRPD), to which India is a signatory.

challenge and changing mindsets—not only in society but among employers—is key. It is ironic to see disability events where panel discussions on it are held with no representation of persons with disabilities (PwDs). “Nothing about us without us”, the widely adopted motto of inclusion and self-representation by the disability rights movement, is still not understood by the majority. There needs to be a fundamental shift from the subsidies-and-charity approach to a coolabilities-and-rights approach. Coolability is a term that identifies the disabled by their strengths.

Second, the poor implementation of a basically sound law. India’s Rights of Persons with Disabilities Act, 2016, is a strong and progressive law. However, it merely lists disabilities (from 7 in the past to 21 now) instead of defining disability as an inability to perform certain functions (similar to the American Disabilities Act). We are still a long way in its implementation nationwide. For instance, the National Building Code was revised in 2016 to encompass accessibility, and detailed standards were laid down for new public buildings (not just government). However, states are yet to change their by-laws to incorporate them.

Third, insufficient data. Rights activists have only recently got

disability included in census data and hope that the 2021 population census will deliver better results. The number of PwDs was grossly underestimated in the 2011 census (they constituted 2.2% of the total population). Framing the right questionnaire is crucial to collecting credible data, and a detailed breakdown of the data is vital to policy formulation. Also, when it comes to implementing social programmes for PwDs, we need a more experimental approach, such as randomized control trials, which have been popularized of late by Nobel laureates Abhijit Banerjee, Esther Duflo, and Michael Kremer.

Fourth, the lack of accessibility. Living in a world not built for the disabled can be a source of huge frustration. Inaccessibility means no education, no employment, and a consequent deterioration in the quality of one’s life. In many ways, the software industry has shown some leadership, with devices like the iPhone having changed the lives of PwDs. The principles of “universal design” must be followed to make places accessible. Hence, physical accessibility in buildings, transportation and the like, as well as access to services is key for persons with disability.

Fifth, the absence of a holistic approach. Today, PwDs as well as the

organizations that work for them fail to speak in one voice. A middle-aged deaf person does not find common ground with an old person on a wheelchair or a young autistic person. We cannot have real progress unless we abandon our “scarcity mindset”. The success of one disability cannot come at the expense of another, and we need to take a horizontal approach. Also, we need to drive systemic thinking. Most change remains at the level of building a prototype or pilot programme, or at the level of building communities. However, real change must occur at the system level.

Government's Initiatives

‘Accessibility’ is one of the most important factors for making the disabled move about without depending on others. In order to enable persons with disabilities to gain universal access and independent living the government launched its ambitious “Accessible India Campaign” (Sugamya Bharat Abhiyan) which seeks to make at least 50 percent of all government buildings in the national capital and all state capitals “fully accessible” for the disabled by July next year. Similar deadlines were set to make airports and railway stations accessible to the disabled. 50 cities have been selected as part of this Campaign. The government of India has also enacted ‘Right to Persons with Disabilities Act, 2016’ for addressing their various concerns.

“Sugamaya Pustakalaya” an online platform that makes accessible content available to print-disabled people was launched in 2018. The library houses publications across diverse subjects and languages and multiple accessible formats. Books are available in Accessible formats for people with visual impairment and other print disabilities. Over 2 lakhs books in diverse languages. Integrating libraries across India and the Globe, including the largest international library, ‘Bookshare’.

A lot of emphasis was laid on education of the students suffering from disabilities. As many as 2,747 Students with Disabilities (SwD) were benefited upto 2017 under the Pre-Matric Scholarship scheme, which was launched during 2014-15. The scheme provides for financial assistance to the SwDs studying 9th and 10th classes. A total of 5,267 Students with Disabilities have benefited so far from the Post-Matric scholarship scheme, launched during 2014-15. Under the scheme financial assistance is provided to the SwDs for studying in class XI to Post Graduation.

Free Coaching for the economically disadvantaged students with disabilities to enable them to appear in competitive examinations for appropriate job in government, public and private sectors has also been envisaged.

Government is also providing incentives to private sector establishments to encourage employment of PwDs in the corporate sector. Under the scheme, payment of employer's contribution towards the Employees Provident Fund organization and the Employees State Insurance Corporation (ESIC) for the first three years, is made by the Central

Government in respect of persons with disability appointed in private sector.

Skilling India is one of the priority areas of the government, so also for persons with disabilities. As many as 62,232 Persons with Disabilities have been helped under the National Action Plan for Skill Development of PwDs scheme launched in 2015. Providing vocational training and creating employment opportunities are aimed at improving quality of life of the persons with disabilities. Assisting the needy disabled persons in procuring durable, sophisticated, modern and standard aids and appliances can reduce impact of disability and at the same time promote their rehabilitation and enhance their economic potential.

Way Forward

Inclusion and empowerment of people with visible and invisible disabilities must include policy action by the Ministry of Social Empowerment and Justice. The criteria and process for identifying people and certifying people with disability must find processes to recognise the disability of people with fluctuating disability such as that experienced by many with severe mental illness. It must also include active responses to include people with invisible disabilities from agencies

working in Inclusive sports, inclusive sanitation and inclusive community-based development are the catch-cries of organisations working in disability.

Therefore, what's needed is an end-to-end approach. This can be done by devising an "inclusion continuance" that would cover awareness, advocacy, early intervention, education, employment, lifestyle, and assisted living. Each of these needs to be connected, both online and offline. This is the biggest challenge. We need to work together to remove the social, institutional, and legal barriers that exist today. The journey to an inclusive world may seem like a pipe dream, but our victory, once achieved, will be sweetened by the difficulty we faced along the way.

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.

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2. MID-DAY MEAL SCHEME : AN ANALYSIS

Why in News?

A video revealed the discrepancies in implementation of mid-day meal recently, showing how one litre of milk was mixed in a bucketful of water so that it would suffice for the more than 80 children present that day in a school in rural Uttar Pradesh (U.P.). This was somewhat similar to the one reported from U.P. a couple of months ago. In an earlier incident, a video showed plain chapatis being served with salt.

Introduction

The National Programme of Nutritional Support to Primary Education (NP-NSPE) was launched as a centrally-sponsored scheme on 15th August 1995, in 2,408 blocks in the country as a dry ration scheme with a view to increase enrolment, retention and attendance and simultaneously improving the nutritional levels among primary school students. Under this scheme, food grains at the rate of 3 kgs/month/

student was provided to all the children of Classes I-V in all government, local body and government-aided schools in all the States and Union Territories (UTs) subject to a minimum of 80% attendance of such children. Around 1997- 1998, NP-NSPE or the 'Mid-day Meal' (MDM) scheme was extended to all the blocks of the country.

The landmark judgment by the Hon. Supreme Court of India dated 28th November, 2001 mandated the

provision of a cooked mid-day meal to every child in every government and government-assisted primary schools with a minimum content of 300 calories and 8-12 grams of protein per day for a minimum of 200 days. The Government of India had the responsibility of providing free supply of food grains at 100 grams per student per school day and subsidised transportation cost of foodgrains upto a maximum of Rs. 50 per quintal. There was no provision for cooking cost and many states including the likes of Karnataka, Tamil Nadu, Gujarat etc. provided for the same from their own budgets.

The following years showed significant improvements- inclusion of children studying in Education Guarantee Scheme (EGS) and Alternative and Innovative Education (AIE) centres under the purview of the 'Mid-day Meal Scheme (2002)'. Central Assistance for cooking cost, transport subsidy, etc. has been revised subsequently. Two decades have passed since the mid-day meal became a part of the daily routine in government schools nationwide. In this long passage of time, procedures have stabilised but accidents continue to occur. Funds from the Centre flow smoothly though procurement of food items faces hurdles of different kinds.

Achievements of the Mid-day Meal Scheme

The MDM Scheme shall be evaluated in terms of its achievements in alleviating classroom hunger, micronutrient supplementation of the primary school children, the intra-household flypaper effect which ensures that the nutritional benefits accruing to students on account of the MDM scheme 'sticks' to the children and is not neutralised by an intra-household reallocation of resources and the possible spill-over effects to younger siblings on account of sharing of dry-rations which were made available to the households as part of the initial MDM scheme.

Eliminating Classroom Hunger

Hunger reduces children's ability to concentrate and retain what they have learnt at school and greater exposure to diseases is directly related to hunger. Many Indian school children reach school on an empty stomach in the morning due to poor economic and social backgrounds. In the absence of mid-day meal, children often find it hard to concentrate after a few hours and leave school post-noon.

It was in this light that the People's Union for Civil Liberties (PUCL) filed a public interest litigation by highlighting the paradox of widespread prevalence of chronic hunger and malnutrition when there was an excess of food supplies in the godowns of the Food Corporation of India which eventually stimulated the Hon. Supreme Court of India to promulgate an order which directed all state governments to provide cooked midday meals.

MDM scheme has substantial effect in reducing hunger at school and protein-energy malnutrition of the participant school children. The contribution of mid-day meals to food security and child nutrition is particularly crucial in tribal areas, where hunger is endemic and hence parental appreciation of mid-day meals was highest among tribal communities.

Nutritional Supplementation

MDM scheme is viewed as 'a nutritionist's dream' which helps to increase the regular daily intake of calories and proteins as well as integration with nutrient supplementation schemes which aim at improving intake of iron, iodine and other micronutrients which are quintessential to swift and steady growth of children. A combination of mass deworming with Vitamin A and iron supplementation can significantly increase children's nutrition

MDM scheme provides an excellent platform for integration with complementary inputs like these owing

to its extensive coverage and social intervention. Recognising the synergy between health and nutrition, school health programmes - deworming, nutrient supplementation, etc. should be integrated with the MDM scheme in more states, following Andhra Pradesh, Madhya Pradesh, Tamil Nadu, etc. to boost service delivery.

Spill-over Effects

Spill-over benefits accrued to non-targeted members of a family on when dry rations at the rate of 3 kgs per child/month were distributed in the early years of the MDM scheme. This was well above 1.67 kgs per child/month provided to the targeted child only under the cooked meals scheme and provided additional incentives to poor parents to enroll students in a government primary school to receive the benefits on a regular basis. Providing nutrition bars and/or fortified biscuits in addition to regular mid-day meals would usher in spill-over effects.

Challenges and Concerns

An evaluation of the ambitious MDM scheme of the Government of India requires a detailed analysis of the ground realities and the various loopholes to be plugged if nutritious food, and not just something which has been cooked, is to reach the plate of poor primary students. The main concerns regarding the MDM scheme can be highlighted as:

Poor Implementation of the Scheme

Lack of proper storage facility for the food supplies required for the preparation of mid-day meals, poor implementation by the school authorities, negligence of private sector and non-government organisation (NGO) units in preparation of mid-day meals and substandard nutritive quality of the cooked mid-day meal have been major regarding the implementation of the scheme. This has led to some tragic incident like 'Bihar Tragedy'

where 23 primary school children in the Gandamal school (Saran district, Bihar) died after consuming an adulterated mid-day meal served at the school premises on 16 July 2013.

The dietary balance was also poorly maintained in many schools across the country even in Delhi where samples regularly failed quality tests and laggard states like Bihar have often failed to ensure that the due share of recommended dietary allowances (RDA) for primary school children are met by the MDM scheme.

Mid-day Meal as a Credence Good

Food-products/ mid-day meals are also classified as credence goods, where quality of food in terms of nutrition and safety is not known to consumers and often to producers, even long after the consumption of the product. Thus, in the presence of imperfect and asymmetric information, market institutions are likely to not deliver efficient outcomes in the case of credence goods such as mid-day meal.

Thus, nutritional deficiencies in mid-day meal and carcinogenic effects of mild contaminations or adulteration of food grains and/or cooking oil would show up in the young population with a lag of at least a few years. Hence, the poor implementation of the MDM scheme in the so-called BIMARU states with poor emphasis on quality and safety standards run the risk of stunted, underweight and wasted children as against its primary aim of improving their nutritional levels.

Inefficient Utilisation and Poor Infrastructure

The annual statement of allocation and offtake of foodgrains under the MDM scheme throws light on consistent underutilisation of foodgrains with almost 4-5 lakh tonnes of rice and wheat being wasted every year.

Mid-day meals are loosely supervised and formal monitoring

arrangements are sparse. While official guidelines call for different committees and officers to monitor the scheme periodically, checks are sporadic. This is in addition to the existence of poor drinking water facilities, lack of proper storage facilities and delays in the payment of cooks/helpers, inadequate availability of fuelwood and lunch plates.

Also, a cause of concern is the purchase of vegetables, cooking oil and other inputs by the school authorities. Lack of quality safeguards and tardy response to the 'Right to Food' concept has resulted in a meager allocation of funds per child and a correspondingly low quality of food inputs. Presence of toxins and hazardous chemicals like uric acid were observed in various samples of mid-day meals prepared in a sample school.

Corrupt Private Practices

Although the prospect of fortified wheat biscuits sound promising as a supplement to the MDM scheme, private entities have begun to prey on the MDM "market". Corrupt private sector practices may also take the form of centralised kitchens for mid-day meals for a large number of schools being contracted by a lone private entity, leading to monopoly and corrupt practices. Such dangers of invasion of private interests into school-feeding programmes and in the wake of such incidents, the MDM guidelines cautions schools against granting contracts to NGOs and other private entities.

What Needs to be Done?

With adequate resources and quality safeguards, mid-day meals can play a major role in improving school attendance, eliminating classroom hunger and fostering social equity. A few policy recommendations in the form of remedial measures to enhance the efficiency of the MDM scheme in improving nutritional levels may be summarised below:

Financial allocations for the MDM schemes need to be increased to help them achieve the full potential. Shree string programmes like those in Rajasthan and Chattisgarh lose out on the vital opportunity of improving nutritional security at a very low cost due to misappropriation of finances, errors in estimation of beneficiaries etc.

A complete overhaul of mid-day infrastructure is necessary to improve public confidence in the same as well as to ensure access to safe and nutritious food to primary school children. Construction of kitchen sheds, appointment of cooks and/or helpers, provision for drinking water facilities, etc. need to be done on a swift basis to ensure good hygiene.

Varied and more nutritious lunch menu (fruits, milk, eggs, nutrition bars, etc.) needs to be introduced across all states and the MDM guidelines with recipes prepared by the chefs of Hotel Oberoi, New Delhi are a welcome step in this regard. This would improve the participation of targeted recipients and ensure that the meal equivalent of recommended dietary allowances is provided with enough calorific value. There is also an increased need to integrate health intervention programmes in schools such as deworming, Vitamin A, iron and iodine supplementation to boost health outcomes.

The monitoring and evaluation mechanisms need to be strengthened with mandatory tasting of cooked meals, regular lab testing of samples and regular meetings so as to ensure quality standards of the cooked mid-day meals. Regular monitoring of the offtake and utilisation of foodgrains from FCI, cash payments for the same and purchase of other inputs are essential.

Policy options such as interregional trade and research in productivity-enhancement techniques, emergency food reserves and improved regional

cooperation via Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), South Asian Free Trade Area (SAFTA), etc. may be considered. Better understanding of fair practices and efficient delivery systems can help in improving the profile of school-feeding programmes in South Asia with a combined effort to rehabilitate children in war-stricken areas with the World Food Programme.

Conclusion

Ever since it was made compulsory under a Supreme Court order, the MDM scheme has received considerable appreciation. It is the world's biggest scheme of its kind.

Its role in materialising the 'Right to Food' has been significant owing to its ability to diminish classroom hunger, reduce gender disparities and improve educational attainment.

However despite of these benefits the scheme is perceived as charity, not a civic responsibility. With the growing shift of the better-off parents to private schools, government schools are viewed as places for the poor. Therefore, the mid-day meal is associated — both in public perception and state policies — with poverty. Like other schemes that serve the poor, this scheme is also covered by norms that insist on the cheapest. So the need of the hour is to plug the loopholes of the scheme and provide a transparent

and robust regulatory mechanism so that scheme could serve its envisaged purpose.

General Studies Paper- II

Topic: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

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

Topic: Issues relating to poverty and hunger.



3. EXTRAJUDICIAL KILLINGS : AGAINST THE DUE PROCESS OF LAW

Why in News?

Chief Justice of India, S A Bobde, in a recent speech held that "Justice is never ought to be instant. Justice must never ever take the form of revenge. Justice will lose its character when it becomes revenge. There is a need in the judiciary to invoke self-correcting measures but whether or not they should be publicised is a matter of debate." His statement came a day after all four accused in the rape and murder of a young Hyderabad veterinarian were shot dead in a pre-dawn encounter.

Introduction

The four accused in the case of rape and murder of a woman veterinarian have been killed in an exchange of fire with the Hyderabad Police. According to initial reports, the police were trying to reconstruct the crime scene when the accused tried to escape with the police officers' gun. Police opened fire after due warnings and all four died on the spot. However several questions were raised on the police version of the story. Telangana government has

constituted a Special Investigation Team (SIT) to probe the incident.

In a similar kind of incident, a commission headed by Justice V.K. Agarwal, a retired judge of the Madhya Pradesh High Court, has established after Seven-and-a-half years, "killing of 17 unarmed villagers, including six minors, by security forces at Sarkeguda village in Chhattisgarh, cannot be justified. CRPF and police version of events was false. The official police enquiry into the deaths was manipulated, and that 15 of the villagers were killed at close quarters while fleeing in a 'totally disproportionate and unwarranted use of force. Thus this is a clear case of extrajudicial killing."

Extrajudicial killings are not new to India. They have been used in the past by the police and security forces in varying contexts — to quell insurgencies such as in the states of Bengal in the 1960s, and in Punjab in the 1980s. Currently, the guise for many of these killings relates to national security offences including terrorism, and in areas of active conflict, such as in Kashmir, states in the North East of

India as well as areas of central India affected by the Maoist insurgency.

Such killings are also a regular feature in "ordinary" circumstances, for example in those states that do not have active conflicts and in the course of regular law enforcement operations. As a result, such killings have not escaped the notice of international rights experts at the United Nations. There are many moral, legal and institutional repercussions of extra judicial killing. Let us take an insight into this matter.

Undermining Rule of Law

Allegations have been raised that legislations like Uttar Pradesh Control of Organised Crime Act, 2017 (UP COCA, 2017), Maharashtra Control of Organised Crime Act (MCOCA), etc. do not promote the rule of law, but are itself a kind of violence, though a legitimate one with due authority of law. Such laws are basically examples of "rule by law" as law itself negates human rights and permits deviations from due processes.

Rule of law is the fundamental principle of governance of any civilised liberal democracy. It is the anti-thesis of arbitrariness. The fundamental premise of the rule of law is that every human being, including the worst criminal, is entitled to basic human rights and due process. Encounters generally take place with the prior consent or in full knowledge of the top authority. What an irony that when after a long wait, the trial in cases of fake encounter takes place, the main culprits easily get discharged, and, in some cases, the Central Bureau of Investigation (CBI) even refuses to file an appeal against such discharge, and subsequently many prosecution witnesses turn hostile.

The rule of law has rightly been argued to be part of the basic structure of the Indian Constitution. It is an unqualified human good. The World Justice Project Rule of Law Index 2019 measures rule of law adherence in 126 countries and jurisdictions worldwide. India's rank in 2019 was a dismal 62. Norway topped the list. Nepal is ahead of us on this. Police encounters, which have become a common phenomenon, do contribute to our low rank on 'rule of law' index.

Admiration by Popular Culture

Another particularly troubling aspect is the way these crimes are valorized in popular culture and by the media. Police with such serious allegations against them are termed "encounter specialists", and many have been awarded medals as well as financial rewards. So rather than prosecution and punishment, there appears institutional and popular support for these killings.

Amid this jubilation, it is worth remembering that when cops resort to custodial killings bypassing the due process of law, it indicates a complete breakdown of the criminal justice system. The extrajudicial killings, if at all

happened in Hyderabad case (although the matter is still under investigation), will be an example of state meting out vigilante justice through cops who acted as the cat's paw.

Making Innocent Vulnerable

It raises some very disturbing possibilities. If the state is allowed to sanction mob justice bypassing the due process, then tomorrow it may turn against the innocent and upend the principle of presumptive innocence. The due process of law is meant not only to punish the guilty but also to protect the innocent. The retributive bloodlust undermines the focal point of punitive justice, takes away the sole safeguard and makes the innocent vulnerable to state's machinations.

In the Hyderabad case, the core argument at the heart of the development — that the accused criminals who had brutally raped, murdered and then burnt the corpse of the unfortunate victim deserved their fate — suffers from an inherent flaw in logic. How may we be sure that the cops had nabbed the criminals who actually committed the crime? Many innocents are routinely picked up and later released during trial.

The other case which is related to the murder of a school boy in Ryan international school is worth remembering. In that case the bus conductor who was booked with crime charge is ultimately found innocent by investigations conducted by CBI. On the one hand we have no faith in the system, on the other hand we are convinced that the police, who are at the heart of the apparently rotten system, picked up the right men and punished them. This is a dangerous assumption.

Moreover, we must also consider the fact that one act of extrajudicial killing has absolved the police of their many acts of negligence that had contributed to the crime. There is also no guarantee that extrajudicial killing

will deter acts of sexual violence. All that the questionable act did was to legitimize breaking of law and undermine constitutional safeguards. We must be careful here.

Eroding Citizen's Faith in State's Institutions

While taking a moral position on custodial killings, we should equally note the collective collapse of citizen's faith in India's criminal justice system and due process of law. Presently, Indian criminal justice system increasingly reflects the idea of 'power' rather than 'justice'. Since the promise of criminal law as an instrument of safety is matched only by its power to destroy, guarantees of due process were accordingly incorporated in the criminal procedure so that every accused person gets a fair trial. What prompted such jubilation among public on the perpetrators getting killed without trial?

A peculiar example can be given by the statement of Nirbhaya's Mother (Delhi 2012 case). She was quoted, that "at least one daughter has been served justice. I thank the police. I have been shouting for 7 years, punish the culprits even if it needs to be done by breaking laws and then see how the society changes for good. I am still taking rounds of the court." It may be argued that the pain of a mother who has lost her child to a brutal crime should not be used to justify extrajudicial killing.

To call it 'bloodlust' is to undermine the popular sentiment that arises from a deep frustration over a situation where delay in justice routinely leads to denial of justice. Criminals mostly go unpunished if they have power and influence and even if they are caught, the moth-eaten system fails to deliver justice. In cases of sexual violence against women, a rape survivor needs the resolve of an activist, navigating the hostility of the system.

A 2017 Human Rights Watch report on India's rape victims, titled 'Everyone

Blames Me', noted that "women and girls who survive rape and other sexual violence often suffer humiliation at police stations and hospitals. Police are frequently unwilling to register their complaints, victims and witnesses receive little protection, and medical professionals still compel degrading "two-finger" tests. These obstacles to justice and dignity are compounded by inadequate health care, counseling, and legal support for victims during criminal trials of the accused."

When a state routinely fails its citizens and its institutions are unable to perform the roles assigned to it, there develops a sense of collective frustration that seeks a release. The extrajudicial killings have provided that release.

Daksh, an organisation that does data-driven research into India's governance institutions, has found that average pendency of any case in India's high courts is about three years and one month. If we add the subordinate courts, the average time jumps to nearly six years. It means that litigants who are forced to appeal to at least one higher court is likely to spend more than 10 years in court and this average time increases by three more years if the case goes to Supreme Court.

According to Death Penalty in India report published in January 2018, "there were 371 prisoners on the death row in India by end December 2017 with the oldest case from 1991. Only four death-row prisoners were executed in the last 13 years. One had raped a minor and three were convicted of terrorism."

Finally, justice is not just elusive, it is also frightfully expensive. The study by Daksh, mentioned earlier, finds that on average, each litigant spent Rs 519 per day to attend court. Even a conservative estimate of the total amount of money spent by litigants just to attend court hearings puts the figure at Rs 30,000 crore per year.

Supreme Court Guidelines

The Supreme Court bench of chief justice R.M. Lodha and Justice Rohinton F. Nariman in 2014 outlined a 16-point guideline to follow in cases of death or grievous injury in police encounters.

The guidelines, in brief, are as follows:

- Tip-offs about criminal activities must be recorded either in writing or electronic form.
- If pursuant to a tip-off the police use firearms and this results in the death of a person, then an FIR initiating proper criminal investigation must be registered.
- The investigation into such death will be done by an independent CID team which has to fulfil eight minimum investigation requirements.
- A mandatory magisterial enquiry into all cases of encounter deaths.
- The NHRC or State commission must be immediately informed of the encounter death.
- Medical aid to injured victim/criminal and a magistrate should record his statement.
- Ensure forwarding FIR and police diary entries to court without delay.
- Expeditious and proper trial.
- Informing next of kin of the dead alleged criminal.
- Bi-annual statements of all encounter killings to be sent to the NHRC and state commissions by a set date in a set format.
- Disciplinary action against and suspension of a police officer if found guilty of wrongful encounter.
- Compensation scheme under the CrPC to be followed for awarding it to the kin of the dead victim.
- Police officers must surrender their weapons for investigation, subject to rights under Article 20 of the Constitution.
- Intimate family of the accused police officer and offer services of lawyer/counsellor.
- No out of turn gallantry awards for the officers involved in encounter killings.
- The family of the victim can complain to the Sessions judge if it feels that these guidelines have not been followed. The judge will take cognizance.

Similar Guidelines has been issued by National Human Rights Commissions in March 1997 where the commission held that the only two circumstances in which such killing would not constitute an offence were (i) "if death is caused in the exercise of the right of private defence", and (ii) under Section 46 of the CrPC, which "authorises the police to use force, extending upto the causing of death, as may be necessary to arrest the person accused of an offence punishable with death or imprisonment for life".

Supreme Court Observations

A high-profile case filed in 2012 before the Supreme Court of India related to allegations of 1,528 extrajudicial killings in the state of Manipur, which is conflict-affected. The Supreme Court issued a landmark decision in 2016, in which it stated in unequivocal terms the illegality of such actions and the lack of "absolute immunity" in such cases. The court ordered setting up of a special investigation, demanded the head of the CBI appear before it, and recommended the active involvement of the National Human Rights Commission.

In pronouncing the verdict, Justice Madan B. Lokur observed: "Scrutiny by the courts in such cases leads to complaints by the state of its

having to fight militants, insurgents and terrorists with one hand tied behind its back. This is not a valid criticism since, and this is important, in such cases it is not the encounter or the operation that is under scrutiny but the smoking gun that is under scrutiny. There is a qualitative difference between use of force in an operation and use of such deadly force that is akin to using a sledgehammer to kill a fly; one is an act of self-defence while the other is an act of retaliation."

Importantly, the above observations were about terrorists, not ordinary criminals. We must recall what the Supreme Court said in the Salwa Judum case (2011): "The primordial value is that it is the responsibility of every organ of the State to function

within the four corners of constitutional responsibility. That is the ultimate rule of law.”

Despite this highest judicial involvement, there has been slow progress, with a small number of charge-sheets filed. What further complicates cases in conflict areas is the special legislation known as the Armed Forces (Special Powers) Act, 1958 (AFSPA), which requires sanction for prosecution and in effect grants immunity to members of the security forces in designated “disturbed areas”. A petition by certain members of the armed forces arguing for the dismissal of cases filed has been rejected by the Supreme Court.

Way Forward

Unless it is for self-defence, all extra-judicial killings are otherwise

unacceptable in a civilised society where there is rule of law. ‘The rule by gun’ should not be preferred to ‘the rule of law’. Ultimately, to curb this rampant criminal practice there needs to be a concerted effort on multiple fronts – the legal, institutional as well as societal.

The chronic diseases afflicting Indian's criminal justice system must be addressed at once by reforming the judicial administrative machinery. Delivery of justice should be made swifter, time bound and affordable. Police should be sensitized and there should be proper medico-legal care for survivors of sexual assault. Until these rudimentary steps are taken, the society will demand quick retribution driven by a fear that justice may remain forever elusive in the labyrinthine corridors of law. So the need of the

hour is to rebuild the lost trust in the justice delivery mechanism in the country and fast-track the process.

General Studies Paper- II

Topic: Important aspects of governance, transparency and accountability, e-governance-applications, models, successes, limitations and potential; citizens charters, transparency & accountability and institutional and other measures.

Topic: Role of civil services in a democracy.

General Studies Paper- III

Topic: Various Security forces and agencies and their mandate.

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4. FRATRICIDES AND SUICIDES IN ARMED FORCES : A GROWING CONCERN

Why in News?

In a suspected case of fratricide, an Indo-Tibetan Police Force (ITBP) jawan allegedly opened fire at his colleagues in Chhattisgarh's insurgency-hit Narayanpur district. According to a senior police official five personnel were killed and two others were injured in the incident. In a similar kind of incident, two Central Reserve Police Force (CRPF) personnel, including an officer, were killed and two injured in Jharkhand.

Data regarding suicides is also a cause for worry. More soldiers of India's defence forces have been killed by themselves than by an enemy. A total of 437 armed force personnel have committed suicide in the last four years against 237 killed during combat operations which include cross border firing and even aircraft crash.

Introduction

Over 100 personnel of the 15-lakh strong armed forces continue to commit suicide every year despite the so-called measures being undertaken by the defence establishment to reduce stress and strain among soldiers, airmen and sailors deployed far away from their families.

Replying to a question in Rajya Sabha, the Minister of State for Defence Subhash Bhamre said the highest proportion of suicide falls in the Army. In last four years, 340 armymen, 18 personnel from the Navy and 79 defence personnel from the Indian Armed Forces (IAF) have committed suicide. The Minister also pointed out that 104 personnel (80 soldiers, 16 airmen, and eight sailors) are “suspected” to have committed suicide in 2018. The toll in 2016 stood at 129, while it was 101 in

2017. Number of suicides continues unabated in the armed forces despite successive government claiming to have taken several measures to reduce the stress level among soldiers.

A study titled "Attrition in Central Armed Police Forces (CAPFs)" sought to understand how the security personnel perceived their own job environment. It found that a majority of them were unhappy with the remuneration, the posting policies and the grievance redressal mechanisms. The study also pointed to the absence of proper health management and medical facilities, as also the absence of proper housing facilities for the personnel.

Main Causes of Stress in Soldiers

It has to be remembered that welfare, motivation and stress-intensity in a soldier's life are closely interlinked and

mutually inter-dependent. A soldier whose professional, social, financial and domestic needs are met adequately remains motivated to give his best to the nation and stress-intensity in such a soldier remains within the optimum limits depending upon his personality traits.

An analysis of factors related to operational as well as domestic environment suggests that the cumulative effect of the professional and domestic pressures induces varying levels of stress in army personnel. The operational environment has been covered with relation to facets of job satisfaction, living conditions including recreational facilities, service conditions including pay and allowances, food, leave, promotion, postings and tenures in operational and high altitude/difficult areas, and aspect of inter-personal communication among peers, colleagues and subordinates. As far as the domestic aspect is concerned, the factors that play a significant role domestic worries including housing, education of wards, marital discords, medical problems of family members, financial problems and inability to resolve disputes during leave. The causes of stress are enumerated in the succeeding paragraphs.

Responsiveness of Civil Administration: The biggest problem is the soldier's helplessness in resolving property disputes back home which makes a soldier feel tense and helpless. There are several instances of neighbours or even brothers taking advantage of the soldier's long absence from home to encroach on his property. The parliamentary standing committee on defence pointed out that the inability of the soldiers to solve their family problems due to operational requirements and other constraints within which they have to work results in enhanced levels of negative stress which leads to behavioural problems including suicides and fratricides.

This problem had been identified several years ago, but little has been

done except for every defence minister writing routine letters to chief ministers requesting the sympathetic disposal of land disputes involving soldiers.

Inter-personal Relationship: Another major reason for stress in the armed forces relates to conflict in inter-personal relationships. The armed forces have a culture of their own, where sense of belonging and responsibility are cultivated in an individual. Admittedly, the existing mechanism in this regard needs to be strengthened because of current environment of stress and strain. This assumes greater significance as the soldiers now being inducted in the armed forces have better educational and awareness levels.

There is definitely a need to change the mind set of senior officers in the armed forces. The appropriate improvements in the existing system are the need of hour to ensure better interaction between armed forces personnel at various levels. Soldiers have to be encouraged to share their problems with their seniors and their genuine grievances redressed.

Shortage of Officers: Shortage of officers is giving rise to greater stress among junior and middle level officers owing to the need to perform multiple functions and inadequate time for intimate administration of personnel under command. This shortage coupled with stressful conditions in inhospitable climate, terrain and environment, particularly in counter-insurgency operational areas, impinge upon performance of both officers and soldiers.

Non-availability of Quicker Appellate Mechanism: Another reason for increased stress in the armed forces relates to the lack of a prompt appellate mechanism to deal with service-related problems and disputes etc. Keeping in view the fact that a large number of cases relating to service matters of a personnel from armed forces are pending for a long time in

various courts of law, there is definitely an urgent need to make earnest efforts for establishing armed forces tribunals at the remaining places.

Tenure Policy: Tenures of armed forces personnel in counter-insurgency and high altitude areas need to be further streamlined so as to contain stress levels specific to personnel posted in such environments.

Psychological Effects of Low Intensity Conflict Operations (LICO): A number of studies have been carried out on psychological effects of low intensity conflict operations on officers and soldiers. Such operations are characterised by limitations of armaments, tactics and levels of force applied. The troops trained in conventional warfare experience significant stress in LICO environment. In such operations the security forces end up fighting an elusive enemy (in the absence of reliable intelligence) and have to face the active resentment of the local population. Ambiguity of aim, lack of visible success and high casualty rates tend to erode morale among security forces.

Social Apathy: Social apathy has also been identified as a major reason for troop frustration. A soldier believes that he is facing all sorts of difficulties to serve his nation and countrymen. His sense of honour and duty motivate him to face any challenges. But when people do not even bother to give him a seat in the train, he starts questioning his commitment towards his profession and the nation. Some of the cases of suicide are directly linked to this apathy.

Humiliation: Most cases of fragging (killing of superiors) occur because of humiliating taunts by seniors on mundane matters. Due to shortages of officers, the commanding officer is unable to devote the time to his troops for counselling. The commanding officer's inability to spare time for his troops demoralises a soldier and junior leaders tend to over-step their powers.

This triggers emotions of revenge in the already aggressive soldier and generally results in fratricidal killings. In case an affected soldier is under depression, he tends to commit a suicide.

Denial of Leave at the Required

Time: The existing leave policy is being constantly monitored to ensure that everyone gets his due without compromising operational requirements. Leave under normal circumstances is generally not denied. The Ministry of Defence mentioned that the operational and functional requirements have to be kept in view while granting leave and this aspect cannot be compromised. And therein lies the catch. Under this clause, a soldier at times fails to get leave when he actually needs it. This is a major cause of stress in army.

Denial of leave even in times of extreme need ostensibly on the grounds of exigencies of service, operational requirements and shortage of manpower in field units does not stand the test of logic. It becomes a sensitive issue if the affected soldier is not able to attend social obligations in his home-town/village; and this becomes a cause of stress. The aforementioned case of Chhattisgarh is a stark example of this.

Government Initiatives

Several steps have been taken by the armed forces as well as government to create healthy environment for their officers and other ranks and to improve their morale. It includes provision for better quality of facilities such as clothing, food, travel facilities, schooling and recreation. It also provides accommodation for married couples to stay together and schooling for children. The government has liberalised the leave policy and has established grievance redressal mechanisms. There is also a periodic "welfare meeting" for personnel.

Training by psychological counselors along with conduct of yoga

and meditation has been used as a tool for stress management. Mental health awareness is being given to personnel at the very beginning of their service, during their pre-induction training. Institutionalization of projects 'MILAP' and 'SAHYOG' was brought in by the Army in Northern and Eastern Command to reduce stress among troops. Simultaneously, 'Mansik Sahayata Helpline' has been established by the Army and Air Force to take professional counselling and mental health awareness during pre-induction training. Besides, mental health centres have been established in Mumbai, Visakhapatnam, Kochi, Port Blair, Goa and Karwar along with setting up of Military Psychiatry Treatment Centre at INHS Asvini.

Also, Central government has taken major step to implement the scheme 'One Rank, One Pension'. It has been a long-lasting demand of millions of ex-servicemen of India. Ex-servicemen who draw pensions will be benefited from the 'One Rank, One Pension' scheme, particularly those who retired before 2006. The scheme will benefit all three services that include Air Force, Navy and Army.

Way Forward

With global commitments and combat duty in sub-conventional warfare (generic term encompassing all armed conflicts that are above the level of peaceful co-existence amongst states and below the threshold of war including militancy, insurgency, proxy war and terrorism, etc.) our security forces personnel face life threatening challenges on daily basis. The battlefield environment is now dominated by sub-conventional warfare and our uniformed personnel are combating an enemy that is hidden and undefined. To tackle the situations in this new type of warfare, there is a need to understand the nuances of sub-conventional warfare, its effects on thinking and behaviour of security

forces personnel who have been traditionally trained in conventional warfare and its impact on their morale. It is essential to understand stress caused in sub-conventional operations environment, its relationship with performance and devise measures to manage stress among security forces personnel. Finally, there is a need to come out with a human resource development methodology for building human resource capacity for coping stress in sub-conventional warfare.

To sum up, we can pretend that Indian armed forces are a disciplined force and that it has a glorious record of service to the "Nation", never mind if this service involves ignoble wars waged on our own people and bestial behavior against civilians in war zones which has become pandemic. However, when one realizes that the very same force is being stressed out or that suicides continue to occur then it makes it all the more necessary for us to take stock of this aspect of our reality. To divert attention by pretending that suicides are a result of personal problems of the soldier and/or to insist on discipline by punishing the subordinate i.e. fear of retribution at the hands of officer, for every infraction may be well suited to Colonial Raj, but it scarcely behoves a Constitutional Republic.

General Studies Paper- II

Topic: Important aspects of governance, transparency and accountability, e-governance-applications, models, successes, limitations and potential; citizens charters, transparency & accountability and institutional and other measures.

General Studies Paper- III

Topic: Security challenges and their management in border areas; -linkages of organized crime with terrorism.



5. EVOLUTION OF THE INDIAN FOREIGN POLICY : A CRITIQUE

Context

External Affairs Minister S. Jaishankar delivered the fourth Ramnath Goenka Lecture in New Delhi last month on the theme of "Beyond the Delhi Dogma: Indian foreign policy in a changing world" organised by the Indian Express media group. His speech provided "an unsentimental audit of Indian foreign policy." In more ways than one, Jaishankar's speech has now become the central document through which Indian foreign policy will be assessed in the coming years.

Introduction

The world is not just different; the very structure of the international order is undergoing a profound transformation. American nationalism, the rise of China, the saga of Brexit and the rebalancing of the global economy are often cited as the more dramatic examples of change. In fact, the phenomenon is far more pervasive than just these illustrations. We have seen the return of old empires like Russia, Iran or Turkey. The Middle East is in ferment, even by its exceptionally volatile standards. The centrality of Association of South East Asian Nations (ASEAN) to Asia is not what it is used to be. Demographic and economic trends in Africa are giving that continent a greater salience. South America is again a battleground for ideas. But we are also talking beyond geographies and orthodox politics. What defines power and determines national standing is also no longer the same. Technology, connectivity and trade are at the heart of new contestations. In a more constrained and interdependent world, competition has to be pursued perforce more intelligently. The global commons is also more in disputation as multilateralism weakens. Even climate change is a factor, contributing

to geopolitics amongst others by the opening of an Arctic passage. In short, change is upon us as never before.

The issues and relationships are different, so too is the argumentation. So, the first caution is to avoid obsessing about consistency, because it makes little sense in such changing circumstances. There is certainly a place for constants, but not to the extent of elevating them to immutable concepts. On the contrary, it is only by recognizing change that we are in a position to exploit opportunities. The purposeful pursuit of national interest in shifting global dynamics may not be easy; but it must be done. And the real obstacle to the rise of India is not anymore the barriers of the world, but the dogmas of Delhi.

An Unsentimental Audit of Indian Foreign Policy

Seven decades of foreign policy certainly offer a lot of lessons, especially if we contemplate a challenging road ahead. They span a broad spectrum, both in time and in outcomes. A dispassionate assessment of our performance would note that while we ourselves have done well in many respects, many competitors have done much better. Overcoming many challenges, India consolidated its national unity and integrity. That was not a given, noting that some other diverse societies like USSR and Yugoslavia did not make it in the same period. A modern economy with industrial capacities was developed over time, even as our reliance on nature was mitigated in agriculture. Defence preparedness was improved and one of the key accomplishments of diplomacy was to enable access to multiple sources of equipment and technology. However, the fact remains that even after seven decades of independence, many of

our borders remain unsettled. In the economic sphere, we may look good when benchmarked against our own past. It seems a little different when compared to China or South East Asia. So, what really matters is to develop a sharp awareness about our own performance. And the lessons of that exercise can be captured in five given baskets of issues:

Need for More Realistic Approach

The first relates to the need for greater realism in policy. International relations are very much a test of will. Swami Vivekananda perceptively described the world as a gymnasium where nations come to make themselves strong. Particularly in the phase of optimistic non-alignment, perhaps even later, our focus on diplomatic visibility sometimes led to overlooking the harsher realities of hard security. The early misreading of Pakistan's intentions can perhaps be explained away by lack of experience. But the reluctance to attach overriding priority to securing borders even a decade later is much more difficult to justify. It was not just that the challenges of 1962 were unanticipated. It was more that a diplomacy focused on world politics did not give it the primacy it deserved. Somewhere, there was an implicit but deeply entrenched belief that India's high standing in world affairs was protection enough against global turbulence and competitive politics. It was, therefore, at some cost that we discovered that outcomes can be decided as much on the field as at conferences. This is a relevant takeaway even now, despite having entered a more constrained world.

Having so strongly built up an image of a reluctant power, we also ended up influenced by our own

narrative. Due to that, we rarely prepared for security situations with the sense of mission that many of our competitors displayed. Discomfort with hard power was reflected in lack of adequate consultation with the military, most notably during the 1962 conflict. Similarly, in 1972 at Shimla, India chose to bet on an optimistic outlook on Pakistan. At the end of the day, it resulted in both a revanchist Pakistan and a continuing problem in Jammu & Kashmir. That it has taken us so long to link talks with Pakistan to cessation of terrorism speaks for itself. Without overstating the argument, a case can certainly be made for a more grounded Indian approach to international relations.

The Case of Economic Diplomacy

The economic counterpart of these concerns constitutes a second basket. If one considers all the major growth stories since 1945, a common feature was the extraordinary focus that they put on leveraging the global environment. China did that with great effect, initially with the USSR and then with the US and the West. The Asian 'tiger economies' practiced it as well, using Japan, the US and now China successively to build themselves. That is how India too approached its various relationships over the last seven decades, but not always with the same single-mindedness. Nevertheless, much of India's industrialisation and capacities in other domains were direct achievements of collaborations enabled by diplomacy. Steel, nuclear industry, higher education and computing are some examples. This held true even more for the post-1991 reform period and the shift eastwards of India's economic centre of gravity. The interconnection between diplomacy, strategy and economic capabilities is, however, not self-evident. As in security, it is important to distinguish between cause and

effect. The economy drives diplomacy; not the other way around. Few would argue that the reforms of the 1990s and greater openness have served us well. But as we then extrapolated it onto free trade agreements (FTAs) with South-East and East Asia, the proposition has become more challengeable. Blame it on structural rigidities, limited competitiveness, inadequate exploitation of opportunities or just plain unfair practices: the growing deficit numbers are a stark reality. More importantly, their negative impact on industry at home is impossible to deny. And China, of course, poses a special trade challenge even without an FTA.

In this background, the recent debate about the Regional Comprehensive Economic Partnership (RCEP) offers lessons in foreign policy as much as in the trade domain. On the one hand, we should not go back to the old dogmas of economic autarky and import substitution. But at the same time, embracing the new dogma of globalisation without a cost-benefit analysis is equally dangerous. We took a call that no agreement at this time is better than a bad agreement.

Nurturing Our Independence

Any quest to maximise options and expand space naturally requires engaging multiple players. Conceptually, this third basket is a given in Indian foreign policy since there is a basic consensus about nurturing our independence. While it has served us very well in the first decade of a bipolar world, we also discovered the associated danger of being left short on all accounts. As India saw in 1962, the best of both worlds is easier imagined than realised. In the periods thereafter, the distance from one pole was also not automatically compensated by the other. Sometimes, global circumstances required us – as in 1971 – to lean on one side, just as China itself did in 1950 and 1971. As a

general rule, extracting more from the international system depends on the bigger picture and a zero-sum game cannot be an assumption.

In the contemporary period hedging is a delicate exercise, whether it is the non-alignment and strategic autonomy of earlier periods, or multiple engagements of the future. But there is no getting away from it in a multi-polar world. This is a game best played on the front-foot, appreciating that progress on any one front strengthens one's hand on all others. In that sense, it is having many balls up in the air at the same time and displaying the confidence and dexterity to drop none. To the uninitiated or the anachronistic, the pursuit of apparently contradictory approaches and objectives may seem baffling. How do we reconcile a 'Howdy Modi', a 'Mamallapuram' and a 'Vladivostok'? Or the 'RIC' (Russia-India-China) with 'JAI' (Japan-America-India)? Or the 'Quad' with the 'SCO' (Shanghai Cooperation Organization)? An Iran with the Saudis or Israel with Palestine? The answer is in a willingness to look beyond dogma and enter the real world of convergences. Think of it, not just as arithmetic but as calculus. This new game is a challenge for practitioners and analysts alike, but one that must be mastered to forge ahead.

The Act of Risk-taking

Risk-taking is an inherent aspect of diplomacy and most policy judgments revolve around its mechanics. It is also a natural accompaniment to hedging. When we look at this fourth basket, it is evident that a low-risk foreign policy is only likely to produce limited rewards. On occasions when India departed from this mode, some risks paid off while others did not. We laid out our broad approach as early as 1946 and developed that framework as time went on. Although India came under pressure in 1962 and 1971, it limited

the compromises that it had to make and sought to revert to the earlier posture as and when it could. Over the course of its rise, it introduced new concepts and terms to deal with emerging issues, without necessarily abandoning the earlier ones. The cumulative impression was thus of a steady and middle of the road approach that gathered greater substance as India's influence grew.

But having noted that, ascending up the global ladder did require taking big calls, whether conventional, nuclear, political or economic. Not all risks are necessarily dramatic; many just require the confident calculations and determined follow up of day-to-day management but their aggregate impact can result in a quantum jump in global positioning. To a certain degree, we see that happening today.

Reading the Global Tea Leaves Right

The fifth basket is in a return to the diplomatic primer: reading the global tea leaves right. The foreign policy of all nations is set against the backdrop of global contradictions. They reflect an assessment of opportunities and compulsions, and of risks and rewards. Even if we are to get our immediate situation right, a misreading of the larger landscape can prove costly. In our own case, going to the United Nations on Jammu & Kashmir clearly misread the intent of the Anglo-American alliance then and of the seriousness of the Cold War. Years later, our early awareness about growing Sino-Soviet differences did not mature on our expected timelines. In the 1960s, 1980s and again after 2001, we grossly underestimated the relevance of Pakistan to American and Chinese global strategy. This is not to suggest that India has not had its successes. Indo-Soviet and later Indo-Russian relations are a direct product of our global strategising. After 1991,

so too has been the adjustment in our policy towards the United States. Both the Indo-Soviet Treaty and the India-US Nuclear Deal were outcomes of a larger reading of world. That is the case with correctives introduced in respect of the US in 1973 and China in 1976 to overcome the polarisation that had been created by the 1971 situation. Identifying the opportunities thrown up by the structure of world politics can also help mitigate risks. We saw that, for example, in respect to France after the 1998 nuclear tests.

Today, an appreciation of world politics must include a proper understanding of Sino-US contradictions, of growing multipolarity, of weaker multilateralism, of larger economic and political rebalancing, of greater space for regional powers, and of the world of convergences. Each of them is a factor in driving the policy initiatives of the present era. Whether it is our outreach to the Gulf, the advocacy of Indo-Pacific or more vigorous engagement of Europe, they represent a facet of a larger repositioning.

The Contemporary Contours

If the landscape looks very different today, so do India's partners. The relevance of the US or China is far more than anytime earlier. The Russian relationship has defied odds by remaining incredibly steady. Japan has become an important factor in our calculations. The rediscovery of Europe is again underway, with France now a critical strategic partner. The Gulf has been bridged in an extraordinarily effective manner. ASEAN has grown closer, and Australia's relevance is more apparent. Africa is the focus of development assistance and opening of new Embassies. Our outreach has extended from South America and the Caribbean to the South Pacific and Baltics. Closer home, there is an unprecedented investment in the

neighborhood whose consequences are becoming apparent.

We see that today, for example, in a better appreciation of our maritime geography and the Security and Growth for All in the Region (SAGAR) doctrine. When confronted by security challenges, this India has also responded with a new grit. Its enthusiasm for shaping global conversations on climate change, terrorism, connectivity and maritime security is already having an impact. The humanitarian assistance and disaster relief operations undertaken in Yemen, Nepal, Iraq, Sri Lanka, Maldives, Fiji and Mozambique are statements of capability as much as of responsibility. Its election winning record in international organisations is another important statement. Expanded offers of development assistance have been accompanied by an improved record of project execution. The neighbourhood and Africa will surely testify to this change. India's branding has become much stronger, including the 'International Day of Yoga', the 'International Solar Alliance' or most recently, the 'Coalition for Disaster Resilient Infrastructure'. Put together, the scale and intensity of our global engagement would be difficult to recognize for someone dealing with it even a few years ago.

Way Forward

The balance sheet for India's foreign policy after seven decades presents a mixed picture. National development is at the heart of any assessment, and it is difficult to quarrel with the view that there has been significant progress, but not enough. The comparison with what China achieved in the same period is sobering. Reading the global tea leaves right and then leveraging the international situation could have gone better.

We are now at the cusp of change. With more confidence, the pursuit of seemingly divergent goals and

the straddling of contradictions are being attempted. Taking off from non-alignment, we could perhaps speak today of multi-alignment. It appears more energetic, more participative as compared to an earlier posture of abstention or non-involvement it certainly sounds very much more vigorous. Taking risks is inherent to the realisation of ambitions. A nation that has the aspiration to become a leading power someday cannot

continue with unsettled borders, an unintegrated region and under-exploited opportunities. Above all, it cannot be dogmatic in approaching a visibly changing global order. Napoleon once said that history is a version of past events that people have decided to agree upon. The world that awaits us not only calls for fresh thinking, but eventually, a new consensus at home as well. Putting dogmas behind us is a starting point for that journey.

General Studies Paper- II

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

Topic: Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.



6. SOLAR ENERGY IN INDIA : PROSPECTS AND CHALLENGES

Why in News?

As of October 2019, the government of India has installed a total 31,696 Mega Watt (MW) of grid connected solar power generation capacity in the country till October 2019. The government has a target to install 1,00,000 MW grid connected solar power capacity by December 2022.

Introduction

Solar energy is genesis for all forms of energy. India is endowed with vast solar energy potential. About 5,000 trillion kWh per year energy is incident over India's land area with most parts receiving 4-7 kWh per sq. m per day. Hence both technology routes for conversion of solar radiation into heat and electricity, namely, solar thermal and solar photovoltaics, can effectively be harnessed providing huge scalability for solar energy in India. Solar energy also provides the ability to generate power on a distributed basis and enables rapid capacity addition with short lead times. Off-grid decentralized and low-temperature applications will be advantageous from a rural electrification perspective and meeting other energy needs for power and heating and cooling in both rural and urban areas. From an energy security perspective, solar is the most secure of all sources, since it is abundantly

available. Theoretically, a small fraction of the total incident solar energy (if captured effectively) can meet the entire country's power requirements. It is also clear that given the large proportion of poor and energy unserved population in the country, every effort needs to be made to exploit the relatively abundant sources of energy available to the country. While, today, domestic coal based power generation is the cheapest electricity source, future scenarios suggest that this could well change.

Unfortunately, our traditional sources of energy generation are already nearing their saturation levels. India must also honour its global commitments on curbing greenhouse gas (GHG) emissions, as per the Paris Agreement, implying we need to move away from a fossil fuel driven growth path.

India's Solar Potential

India has a huge potential for harnessing renewable energy, especially solar, since almost the entire country is blessed with abundant sunlight throughout the year. India lying in tropical belt has an advantage of receiving peak solar radiation for 300 days, amounting 2300-3,000 hours of sunshine equivalent to above 5,000 trillion kWh. India's current installed

solar power capacity, according to Central electricity authority, is 26025.97 MW which is 34% of total renewable energy sources i.e, 75055.92 MW till February 2019.

Country's per capita consumption of electricity stands at a meagre 1,100 kWh/year which is much lower compared to other large economies like the US and China. Demand for power is set to rise further with increasing rates of urbanization and industrial growth. Plugging this demand-supply gap by augmenting capacity in the power sector is a key priority for the policy makers.

Further, India has been trying to rejig its energy mix in favour of green energy sources. At present, India has an installed power generation capacity of 357,875MW, of which around 22%, or 80,000MW, is generated through clean energy projects. India has become one of the top renewable energy producers globally, with ambitious capacity expansion plans to achieve 175GW by 2022 and 500GW by 2030, as part of its climate commitments. As far as solar energy is concerned India has achieved its solar power target four-years ahead of its schedule, i.e, 2022, as a part of its climate change mitigation strategy and set a new target of achieving 100 GW of solar power by 2022.

Fast Tracking Growth of Solar Industry

The government of India has shown its keenness to fast track growth of solar industry. However, there is room for more strategic interventions to fully realise India's solar potential and plenty of groundwork is needed to help us move closer to the ambitious target of 100 GW solar power capacity by 2022. Here are five areas that need more attention and focus, to take the Indian solar power industry to the next level.

Technology

While solar is becoming an important contributor to energy needs in India, there is still a huge gap to be filled. Rooftop solar solutions, for example, can add large capacities but certainly need a push from respective state governments. Newer advancements in the field like floating solar (solar panels mounted on structures that float on water bodies), and BIPV (wherein the conventional materials used for facades and roofs of buildings are replaced by photovoltaics systems) can play a vital role in increasing capacity. Considering the huge potential in the sector, both the government and private entities must emphasise and support R&D and adoption of latest technology and innovations in this area. This will not only help shape the future course but also yield benefits in the form of reduced costs - in turn facilitating adoption.

Policy Push

Due to technology evolution and government policy, solar power tariffs have decreased over the past few years making solar energy more accessible to the common man. However, tariff margins discovered in reverse auctions have been pushed lower in recent years leading to a squeeze in profit margins.

Considering that tariffs are now significantly lower than other sources

of energy. We need to move towards healthier tariffs to help private players work with sustainable business models, and attract a higher capital inflow. This will eventually lead to augmented supply and further lowering of prices for the common people. Respective state governments should also accentuate the rate of solar power generation with regular capacity addition.

Discom Health

Despite the government's initiatives to reinvigorate power distributing companies, the health of state discoms has not improved much over the years. These distribution companies form a crucial link in the cycle of energy generation and have an impact on the overall process. Hence, maintaining discoms in good shape forms an extremely important link on the road to 2022. The healthier the distribution companies, the more power they can purchase and supply. Steps should be taken to strengthen the discoms such that they are able to support higher tariffs, honour Renewable Purchase Obligations (RPOs) and settle power providers' dues on time. The government should also bring in policies to operationalise ancillary and capacity markets to extract the total value of renewable energy technologies.

Financial Reforms

Reforms in banking systems will go a long way in assisting the renewable energy sector. As of now, sectoral categorisation of banks sees renewables as part of the power sector, due to which, for most banks, the loan limit is majorly consumed by thermal plants and only a small fraction of the fund remains available for the renewables sector. Reality is that the renewables sector has clocked exponential growth and contributed handsome revenues to the exchequer. Considering the above, renewables should be categorised as a separate sector. This will help

widen access to funds and simplify the process of loan procurement for companies. The government can also consider according priority sector status to renewables, given its strategic importance.

Deeper and diverse bond markets will help in securing affordable finance for clean energy projects in the future. The government should continue its mission of cleansing the banking system and help them regularise bad loans while also reviewing lending norms so they are less stringent. A healthy banking system will be able to provide more funds at a competitive cost to propel the renewables sector.

Enabling Ease of Doing Business

The government's pursuit of reforms has created a more conducive environment for investments in India, reflected in our steady rise in Ease of Doing Business rankings over the past couple of years (now 63rd). However, faster processing of approvals for project implementation across the value chain, especially conversion approvals of land in different states would be of great help to the renewables sector.

It has been seen that lack of proper power evacuation infrastructure has resulted in investor disinterest in the past. Considering this, the government should work on building more robust transmission systems. This will not only increase investor faith in the overall process but will also ensure no MW loss/leakage during power distribution.

Growth Contributing Factors

A total of 80.46 GW of renewable energy capacity has been installed in India as on June 30, 2019 which includes 29.55 GW from Solar and 36.37 GW from Wind power. Further, the solar power capacity addition was 5,525.98 MW in 2016-17, 9,362.63 MW in 2017-18 and 6,529.20 MW in 2018-19. So far, total of 42 solar power parks with an aggregate capacity of around 23.40 GW have been approved by the

government to facilitate achievement of 100 GW target by March, 2022. The growth of the sector can be accredited to the following:

Role of Government

The specialised bodies formed by the Government of India like the Ministry of New and Renewable Energy (MNRE) and subsequently the Solar Energy Corporation of India (SECI) have played a pivotal role in helping India become one of the fastest adopter of solar energy. The journey of the country to become the 5th largest solar installer in the world has been made possible by setting of aggressive targets and implementation of policies through streamlined efforts. When the National Solar Mission was launched in 2010, the cost of solar power was INR 17 per unit in comparison to a latest bid of INR 2.44 per unit. This has been made possible by competitive tariff-based bidding that SECI, State and Central Government have undertaken through tenders.

Incentives and Policies

The subsidies and incentives provided by the Government and Jawaharlal Nehru National Solar Mission (JNNSM) since 2010 have been instrumental in adoption of solar energy. While Government subsidies up to 30% for all rooftop solar projects initially played a major role to develop the rooftop solar market, now it has been restricted to only to non-profit and government buildings.

Most of these subsidies since 2017 have been reduced or discontinued since Government has applied the right mechanism by withdrawing subsidies when the cost of solar projects have seen consistent decline with improved performance and the industry eventually has become self-sustaining.

Land Certainty

Historically land acquisition has always been a problem in India and is

a major reason for cost escalation in infrastructure projects. Since the cost of land constitutes about 7% of a large scale solar project, in 2016, the MNRE Solar Park Policy introduced guidelines that would lead state governments to identify suitable large tracts of land with appropriate insolation levels, and prioritise the use of government waste/non-agricultural land in order to speed up acquisition process for setting up solar parks.

Low cost of Labour

India has the lowest cost of labour allowing solar industry to employ large number of people resulting in speedy project completion at the lowest cost. For example, the cost of labour in Middle East is 5 times higher than that in India. The solar industry has utilised the availability of affordable labour to not only offer lowest cost of power to consumers but also creating ample jobs in the process.

Price Sensitivity

The price sensitivity has helped the Indian solar market in two ways - the first being availability of key components like solar panels, inverters, junction boxes, etc. at much competitive prices than other countries; sometimes even from the same international vendors. This helped India achieve lower solar tariffs as compared to other countries. The second way the price sensitivity has helped, is that once solar tariffs dropped below grid electricity tariffs, there has been super quick adoption, which has furthered the economies of scale, diving prices of components even lower.

Government's Initiatives

- ◆ Several schemes such as Pradhan Mantri Kisan Urja Surakshaevam Utthan Mahabhiyan Yojana (PM-KUSUM), SRISTI (catalyzing adoption of rooftop solar solution) CPSU (Government Producers)

Scheme - Phase II and Solar Rooftop Phase II program aimed at the improvement of the generation as well as the adoption of solar energy in the country have been introduced.

- ◆ Capacity of the scheme for "Development of Solar Parks and Ultra Mega Solar Power Projects has been enhanced from 20 GW to 40 GW.
- ◆ Amendments in building by-laws for mandatory provision of rooftop solar for new construction or higher floor area ratio and making rooftop solar as a part of housing loan by banks.
- ◆ Central financial assistance for setting up rooftop solar PV, up to 30 per cent of the benchmark cost in residential, institutional and social sectors in general category states and tip to 70 per cent of the benchmark cost in special category states.
- ◆ Surya Mitra programme has been launched for creation of a qualified technical workforce and over 11 thousand persons have been trained under the programme.

Way Forward

Achieving the ambitious target of 100 GW solar power capacity by 2022 needs a collaborative effort from all the stakeholders, including the central and state governments' financiers, discoms and private players. The government has a key role to play — not only by providing the required policy support but also acting as a central coordinator—guiding and synchronising efforts from various stakeholders, to catalyze the solar industry's growth.

General Studies Paper- III

Topic: Infrastructure: Energy, Ports, Roads, Airports, Railways etc.



7. WORLD SOIL DAY 2019 : STOP SOIL EROSION, SAVE OUR FUTURE

Why in News?

World Soil Day is observed annually on 5th December to focus attention on the importance of healthy soil and advocating for the sustainable management of soil resources. For the year 2019, the theme for World Soil Day is “Stop soil erosion, Save our future”. It aims at raising awareness on the importance of sustaining healthy ecosystems and human well-being.

Introduction

Soil is more than just dirt—the state of our soils impacts everything from human health to climate change. Today, scientists, research organizations, and individuals across the globe recognize how healthy soils are vital for the future of the food system and a sustainable planet.

According to the UN Food and Agriculture Organization (FAO), land and soils constitute the foundation for sustainable agricultural development, essential ecosystem functions, and food security. They are keys to sustaining life on Earth. According to the FAO, the world’s topsoil could be completely eroded within the next 60 years if current soil degradation rates continue.

While farmers’ rights, compensation for farm produce, burning of crop residue and farm loan waiver have several times claimed limelight in the ongoing agrarian crisis, but a crucial reason for this mess is brushed aside: soil pollution. It is vital to tackle soil pollution to reduce the risk of food security and human health. By preventing soil pollution, we can also address soil degradation, adapt to climate change and stem rural migration. Addressing soil pollution is also directly linked to the achievement

of many Sustainable Development Goals (SDGs).

Understanding Soil Quality

The most widely recognised function of soil is its ability to support food production and healthy soils are key to the overall food sustainability. In fact, 95 per cent of the food is directly or indirectly produced in soils and nearly 80 per cent of the average calorie consumption per person comes from crops directly grown in the soil.

Soil quality is the capacity of a specific kind of soil to function, within natural or managed ecosystem boundaries, to sustain plant and animal productivity, maintain or enhance water and air quality, and support human health and habitation.

People have different ideas of what a quality soil is. For people active in production agriculture – it may mean highly productive land, sustaining or enhancing productivity, maximizing profits, or maintaining the soil resource for future generations; For consumers, it may mean plentiful, healthful, and inexpensive food; for naturalists, it may mean soil in harmony with the landscape and its surroundings; for the environmentalist, it may mean soil functioning at its potential in an ecosystem with respect to maintenance or enhancement of biodiversity, water quality, nutrient cycling, and biomass production.

Soil quality is how well soil does what we want it to do. Understanding soil quality means assessing and managing soil so that it functions optimally now and is not degraded for future use. It is not an end in itself, the ultimate purpose of researching and assessing soil quality is not to achieve high aggregate stability, biological

activity, or some other soil property. The purpose is to protect and improve long-term productivity, water quality, and habitats of all organisms including people.

Soil Health Card (SHC), a Government of India’s scheme, meant to give each farmer soil nutrient status of his/her holding and advice him/her on the dosage of fertilizers and also the needed soil amendments, that s/he should apply to maintain soil health in the long run, is a commendable step in this direction.

Factors Responsible for Degrading Soil Quality

Soil pollution and soil erosion are the two major termites responsible for hollowing the quality of soil. The Indian Council for Agricultural Research (ICAR) and the National Academy of Agricultural Sciences estimate that 71 per cent of the country’s cultivated fields and croplands are moving towards conditions that would no longer support farming. Burning crop residue, reduced manuring, intensive cropping and excessive application of agrochemicals have resulted in the decline of soil fertility in many areas. Excessive tillage and unsustainable agricultural practices also contribute to declining organic matter in the soil and this leads to erosion.

Considering the case of soil pollution, it refers to anything that causes contamination of soil and degrades the soil quality. It occurs when the pollutants causing the pollution reduce the quality of the soil and convert the soil inhabitable for microorganisms and macro organisms living in the soil.

Soil contamination or soil pollution can occur either because

of human activities or because of natural processes. However, mostly it is due to human activities. The soil contamination can occur due to the presence of chemicals such as pesticides, herbicides, ammonia, petroleum hydrocarbons, lead, nitrate, mercury, naphthalene, etc. in an excess amount.

Looking into the Details of Major Factor

Pesticides

Pesticides are synthetic toxic chemicals that definitely kill different types of pests and insects causing damage to the agriculture but it has many ecological repercussions.

They are generally insoluble in water and non-biodegradable. Therefore, these chemicals will not gradually decompose and keep on accumulating in the soil. Excessive use of chemicals such as Aldrin and Dieldrin are the primary cause of soil degradation.

Chlorinated Organic Toxins

The harmful effect of DDT and other chemicals led to the introduction of less persistent organic and more-biodegradable substance such as carbamates and organophosphates. However, these chemicals act as harmful toxins for nerves, hence they are more dangerous to humans. It led to pesticides related the death of field workers in some agricultural fields.

Herbicides

Slowly, the industries began production of herbicides like sodium ortho arsenite (Na_3AsO_3), sodium chlorate (NaClO_3), etc. Herbicides can decompose in a span of few months. However, even they affect the environment and are not environmental friendly. Even though they are not as harmful as organo-chlorides but most of the herbicides are toxic. They are known to cause birth defects.

Inorganic Fertilizers

Excessive use of inorganic nitrogen fertilizers leads to acidification of soil and contaminate the agricultural soil. It is known as agrochemical pollution.

Industrial Pollution

The incorrect way of chemical waste disposal from different types of industries can cause contamination of soil. Human activities like this have led to acidification of soil and contamination due to the disposal of industrial waste, heavy metals, toxic chemicals, dumping oil and fuel, etc.

Inferior Irrigation Practices

Poor irrigation methods increase the soil salinity. Moreover, excess watering, improper maintenance of canals and irrigation channels, lack of crop rotation and intensive farming gradually decreases the quality of soil over time and cause degradation of land.

Solid Waste

Disposal of plastics, cans, and other solid waste falls into the category of soil pollution. Disposal of electrical goods such as batteries causes an adverse effect on the soil due to the presence of harmful chemicals. For instance, lithium present in batteries can cause leaching of soil.

Urban Activities

Lack of proper waste disposal, regular constructions can cause excessive damage to the soil due to lack of proper drainage and surface run-off. These waste disposed of by humans contain chemical waste from residential areas. Moreover leaking of sewerage system can also affect soil quality and cause soil pollution by changing the chemical composition of the soil.

Apart from that nuclear testing, remnants of war, etc. are also some lesser known polluters of soil.

Implication of Degrading Soil Quality

Food safety is threatened by soil pollution, which can not only affect the nervous system but also induce kidney, liver and bone damage, says a report published by the Food and Agricultural Organisation (FAO) of the United Nations.

The report, which is a synthesis of existing scientific research on soil pollution, identifies six soil-related human health risks and three of them are linked to soil pollution. These are soil contaminated with dangerous elements (for example, arsenic, lead and cadmium), organic chemicals like PCBs (polychlorinated biphenyls) and PAHs (polycyclic aromatic hydrocarbons) or pharmaceuticals such as antibiotics or endocrine disruptors.

The report quotes several studies to prove that heavy metals mostly enter the food chain through absorption by plant roots. It goes on to add that, for humans, food is the main source of cadmium, which is one of the most toxic elements for humans as it can “penetrate through the placenta during pregnancy, damaging membranes and DNA and disrupting the endocrine systems, and can induce kidney, liver and bone damage”. Researches have shown that lead affects several organs, causing biochemical imbalance in the liver, kidneys, spleen and lungs, and causing neurotoxicity, mainly in infants and children.

The World Health Organization's International Programme on Chemical Safety had identified 10 chemicals or group of chemicals which pose major health risks and these include soil pollutants like cadmium, lead, mercury, dioxin and dioxin-like substances and highly hazardous pesticides. Since more and more people are becoming aware about the importance of vegetables and fruits in human diet, the report says that the monitoring

of heavy metals in food crops must be carried out frequently.

Increased soil contamination is threatening global food security. According to FAO, about 33 per cent of all soils are degraded - and soils continue to deteriorate at an alarming rate. Soil acts as a filter for contaminants. But when its buffering capacity is exceeded, contaminants can enter the environment and the food chain. This undermines food security by making crops risky and unsafe for consumption.

Thousands of chemicals, which are commercially produced on a large scale, plastic and electronic waste, as well as untreated wastewater, can all become a source of soil pollution, paving the way for the pollutants to enter the food chain with serious consequences for the human health and well-being and for the planet.

Towards Healthy soils

Several diverse farming approaches promote sustainable management of soils with the goal of improving food productivity. The 'Save and Grow' practice consists of a set of techniques that advocate the production of more with less. It focuses on conserving agriculture, maintenance of soil health and pest control. Then there is also the 'Zero Budget Natural Farming', which is being targeted at 6 million farmer households.

Many farmers are gradually shifting to polycropping from the prevalent groundnut monoculture being practised since generations, which has greatly impacted soil health. The

concept of permaculture integrates traditional and new practices in which all the things required in farming are produced in the farm itself, resulting in food self-sufficiency. One of the core issues that permaculture tackles is that of resources. Using design, we focus on conservation and proliferation of a given resource, be it sunlight, water and soil.

There is no doubt that modern agricultural practices like monoculture make the soil vulnerable. It leads to the depletion of soil nutrients and creates a huge imbalance. Soil nutrient deficiency is one of the biggest hurdles Indian agriculture is facing right now. Intensification has led to over reliance on chemical fertilisers. Our soil lacks micronutrients like iron and manganese. The food we grow also lacks these and, hence, we are also deficient in nutrients. The usage of urea is still very high and few farmers use organic fertilisers.

Farmers need to be advised to go for integrated cropping patterns where they can grow multiple crops at the same time as it is good for soil health. As we need more food from lesser resources, sustainable intensification is the way forward. It can keep our soil health in check and also improve it. We need to recycle what we take from the soil.

The National Mission for Sustainable Agriculture (NMSA), which is one of the eight Missions under the National Action Plan on Climate Change (NAPCC), seeks to address issues regarding 'Sustainable Agriculture' in the context of risks associated with

climate change. One of its objectives includes adopting appropriate soil and moisture conservation measures that will enhance the conservation of natural resources. Adopting comprehensive soil health management practices based on soil fertility maps, soil test based application of macro & micro nutrients, judicious use of fertilizers, etc. are other objectives.

Conclusion

When it comes to combating climate change, a focus on soil health will solve this for us to some extent. If we can design agricultural production systems that are using biologically-based practices to regenerate soil, we will sequester more carbon (i.e. build soil organic matter). This will also reduce nitrous oxide emissions by reducing use of nitrogen fertilizer. These systems seem to be more resilient against climatic uncertainty.

Food systems today are being viewed through a narrow and distorting lens called per-hectare-productivity. In order to tackle the issues of climate change as well as global health and food security, every eater—from policymakers, academics, and scientists to eaters and consumers—needs to recognize the interconnected nature of all these systems.

General Studies Paper- III

Topic: Conservation, environmental pollution and degradation, environmental impact assessment.



SEVEN SUBJECTIVE QUESTIONS WITH MODEL ANSWERS

1. International Day of Persons with Disabilities 2019 : An Overview

Q. Disability is not just defined by a person's inability to perform certain functions, but also by the degree to which social and structural barriers prevent the person's full participation in society. Discuss.

Hints:

- ◆ A disability is an umbrella term, covering impairments, activity limitations, and participation restrictions. Impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations.
- ◆ Awareness is a huge challenge and changing mindsets—not only in society but among employers—is key. It is ironic to see disability events where panel discussions on it are held with no representation of persons with disabilities (PwDs). There needs to be a fundamental shift from the subsidies-and-charity approach to a coolabilities-and-rights approach.
- ◆ India's Rights of Persons with Disabilities Act, 2016, is a strong and progressive law. However, it merely lists disabilities (from 7 in the past to 21 now) instead of defining disability as an inability to perform certain functions (similar to the American Disabilities Act).
- ◆ The absence of a holistic approach. Today, PwDs as well as the organizations that work for them fail to speak in one voice. A middle-aged deaf person does not find common ground with an old person on a wheelchair or a young autistic person. We cannot have real progress unless we abandon our "scarcity mindset". The success of one disability cannot come at the expense of another, and we need to take a horizontal approach. Also, we need to drive systemic thinking. Most change remains at the level of building a prototype or pilot programme, or at the level of building communities. However, real change must occur at the system level.

2. Mid-day Meal Scheme : An Analysis

Q. 'Mid-day Meal Scheme' has substantial effect in reducing hunger at school's. Critically analyse.

Hints:

- ◆ The MDM Scheme shall be evaluated in terms of its achievements in alleviating classroom hunger, micronutrient supplementation of the primary school children.
- ◆ MDM scheme has substantial effect in reducing hunger at school and protein-energy malnutrition of the participant school children. The contribution of mid-day meals to food security and child nutrition is particularly crucial in tribal areas, where hunger is endemic and hence parental appreciation of mid-day meals was highest among tribal communities.
- ◆ Lack of proper storage facility for the food supplies required for the preparation of mid-day meals, poor implementation by the school authorities, negligence of private sector and non-government organisation (NGO) units in preparation of mid-day meals and substandard nutritive quality of the cooked mid-day meal have been major regarding the implementation of the scheme.
- ◆ Food-products/ mid-day meals are also classified as credence goods, where quality of food in terms of nutrition and safety is not known to consumers and often to producers, even long after the consumption of the product. Thus, in the presence of imperfect and asymmetric information, market institutions are likely to not deliver efficient outcomes in the case of credence goods such as mid-day meal.
- ◆ Ever since it was made compulsory under a Supreme Court order, the MDM scheme has received considerable appreciation. It is the world's biggest scheme of its kind. Its role in materialising the 'Right to Food' has been significant owing to its ability to diminish classroom hunger, reduce gender disparities and improve educational attainment.

3. Extrajudicial Killings : Against the Due Process of Law

Q. Extrajudicial killings are eroding citizen's faith in state institutions. Critically analyse.

Hints:

- ◆ Chief Justice of India, S A Bobde, in a recent speech held that "Justice is never ought to be instant. Justice must never ever take the form of revenge. Justice will lose its character when it becomes revenge. There is a need in the judiciary to invoke self-correcting measures but whether or not they should be publicised is a matter of debate."
- ◆ While taking a moral position on custodial killings, we should equally note the collective collapse of citizen's faith in India's criminal justice system and due process of law. Presently, Indian criminal justice system increasingly reflects the idea of 'power' rather than 'justice'. Since the promise of criminal law as an instrument of safety is matched only by its power to destroy, guarantees of due process were accordingly incorporated in the criminal procedure so that every accused person gets a fair trial.
- ◆ To call it 'bloodlust' is to undermine the popular sentiment that arises from a deep frustration over a situation where delay in justice routinely leads to denial of justice. Criminals mostly go unpunished if they have power and influence and even if they are caught, the moth-eaten system fails to deliver justice. In cases of sexual violence against women, a rape survivor needs the resolve of an activist, navigating the hostility of the system.
- ◆ When a state routinely fails its citizens and its institutions are unable to perform the roles assigned to it, there develops a sense of collective frustration that seeks a release. The extrajudicial killings have provided that release.

4. Fratricides and Suicides in Armed Forces : A Growing Concern

Q. The incidents of fratricides and suicides in Indian armed forces are increasing. Discuss the reasons behind the incidents.

Hints:

- ◆ In last four years, 340 army men, 18 personnel from the Navy and 79 defence personnel from the Indian Armed Forces (IAF) have committed suicide. The Minister also

pointed out that 104 personnel (80 soldiers, 16 airmen, and eight sailors) are "suspected" to have committed suicide in 2018.

- ◆ An analysis of factors related to operational as well as domestic environment suggests that the cumulative effect of the professional and domestic pressures induces varying levels of stress in army personnel. The operational environment has been covered with relation to facets of job satisfaction, living conditions including recreational facilities, service conditions including pay and allowances, food, leave, promotion, postings and tenures in operational and high altitude/difficult areas, and aspect of inter-personal communication among peers, colleagues and subordinates.
- ◆ As far as the domestic aspect is concerned, the factors that play a significant role domestic worries including housing, education of wards, marital discords, medical problems of family members, financial problems and inability to resolve disputes during leave. The causes of stress are enumerated in the succeeding paragraphs.
- ◆ To sum up, we can pretend that Indian armed forces are a disciplined force and that it has a glorious record of service to the "Nation", never mind if this service involves ignoble wars waged on our own people and bestial behavior against civilians in war zones which has become pandemic. However, when one realizes that the very same force is being stressed out or that suicides continue to occur then it makes it all the more necessary for us to take stock of this aspect of our reality.

5. Evolution of the Indian Foreign Policy : A Critique

Q. A nation that has the aspiration to become a leading power someday cannot continue with unsettled borders, an unintegrated region and under-exploited opportunities. Discuss it in context of Indian foreign policy.

Hints:

- ◆ Seven decades of foreign policy certainly offer a lot of lessons, especially if we contemplate a challenging road ahead. They span a broad spectrum, both in time and in outcomes. A dispassionate assessment of our performance would note that while we ourselves have done well in many respects, many competitors have done much better. Overcoming many challenges, India consolidated its national unity and integrity.
- ◆ A modern economy with industrial capacities was developed over time, even as our reliance on nature

was mitigated in agriculture. Defence preparedness was improved and one of the key accomplishments of diplomacy was to enable access to multiple sources of equipment and technology. However, the fact remains that even after seven decades of independence, many of our borders remain unsettled.

- ◆ In the economic sphere, we may look good when benchmarked against our own past. It seems a little different when compared to China or South East Asia. So, what really matters is to develop a sharp awareness about our own performance.
- ◆ The balance sheet for India's foreign policy after seven decades presents a mixed picture. National development is at the heart of any assessment, and it is difficult to quarrel with the view that there has been significant progress, but not enough. The comparison with what China achieved in the same period is sobering. Reading the global tea leaves right and then leveraging the international situation could have gone better.

6. Solar Energy in India : Prospects and Challenges

- Q. While solar is becoming an important contributor to energy needs in India, there is still a huge gap to be filled. Discuss.**

Hints:

- ◆ India has a huge potential for harnessing renewable energy, especially solar, since almost the entire country is blessed with abundant sunlight throughout the year. India lying in tropical belt has an advantage of receiving peak solar radiation for 300 days, amounting 2300-3,000 hours of sunshine equivalent to above 5,000 trillion kWh. India's current installed solar power capacity, according to Central electricity authority, is 26025.97 MW which is 34% of total renewable energy sources i.e, 75055.92 MW till February 2019.
- ◆ The government of India has shown its keenness to fast track growth of solar industry. However, there is room for more strategic interventions to fully realise India's solar potential and plenty of groundwork is needed to help us move closer to the ambitious target of 100 GW solar power capacity by 2022. Here are five areas that need more attention and focus, to take the Indian solar power industry to the next level.
- ◆ While solar is becoming an important contributor to energy needs in India, there is still a huge gap to be filled. Rooftop solar solutions, for example, can

add large capacities but certainly need a push from respective state governments.

- ◆ Achieving the ambitious target of 100 GW solar power capacity by 2022 needs a collaborative effort from all the stakeholders, including the central and state governments' financiers, discoms and private players. The government has a key role to play — not only by providing the required policy support but also acting as a central coordinator—guiding and synchronising efforts from various stakeholders, to catalyze the solar industry's growth.

7. World Soil Day 2019 : Stop Soil Erosion, Save Our Future

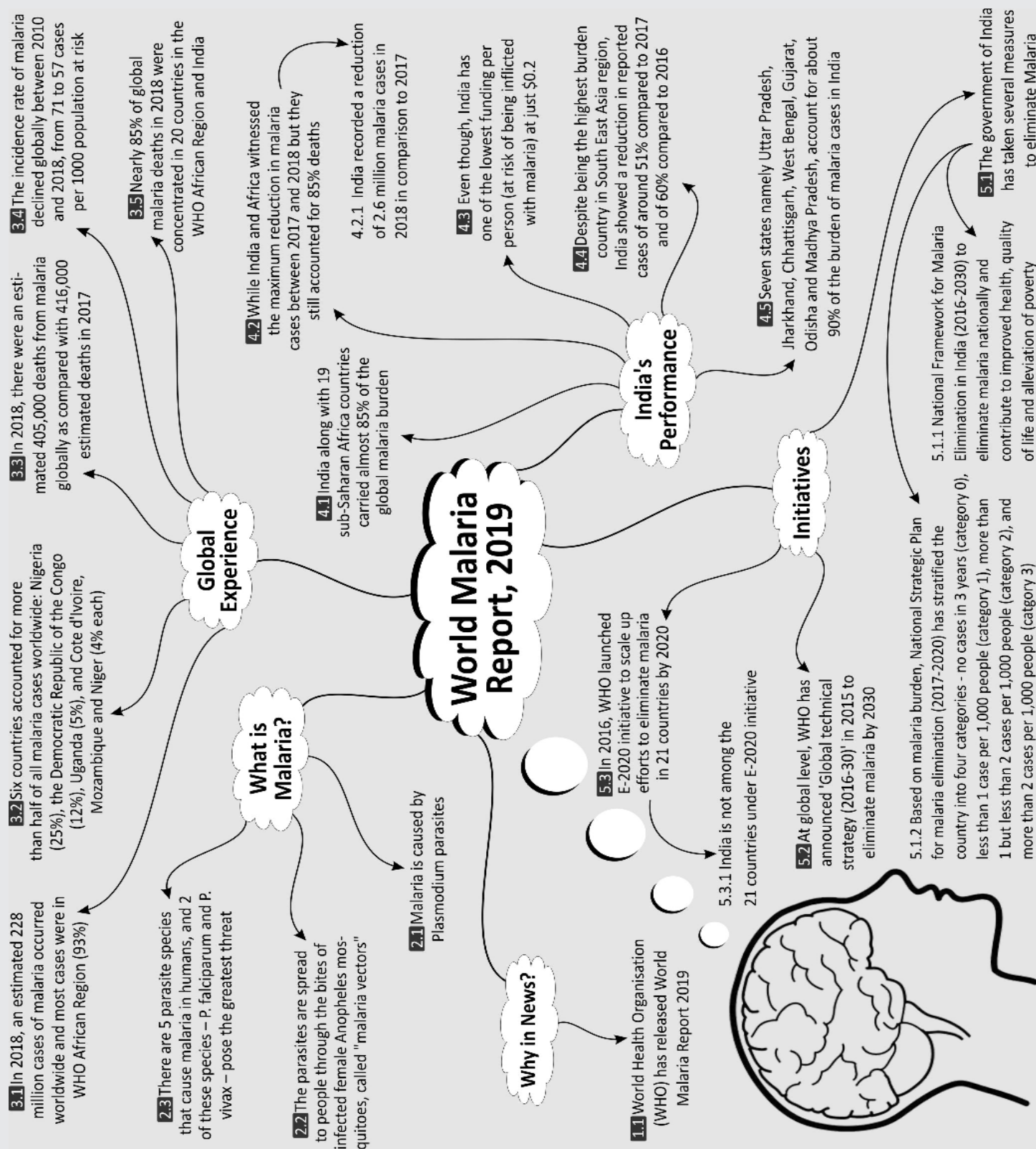
- Q. Land and soils constitute the foundation for sustainable agricultural development, essential ecosystem functions, and food security. Discuss.**

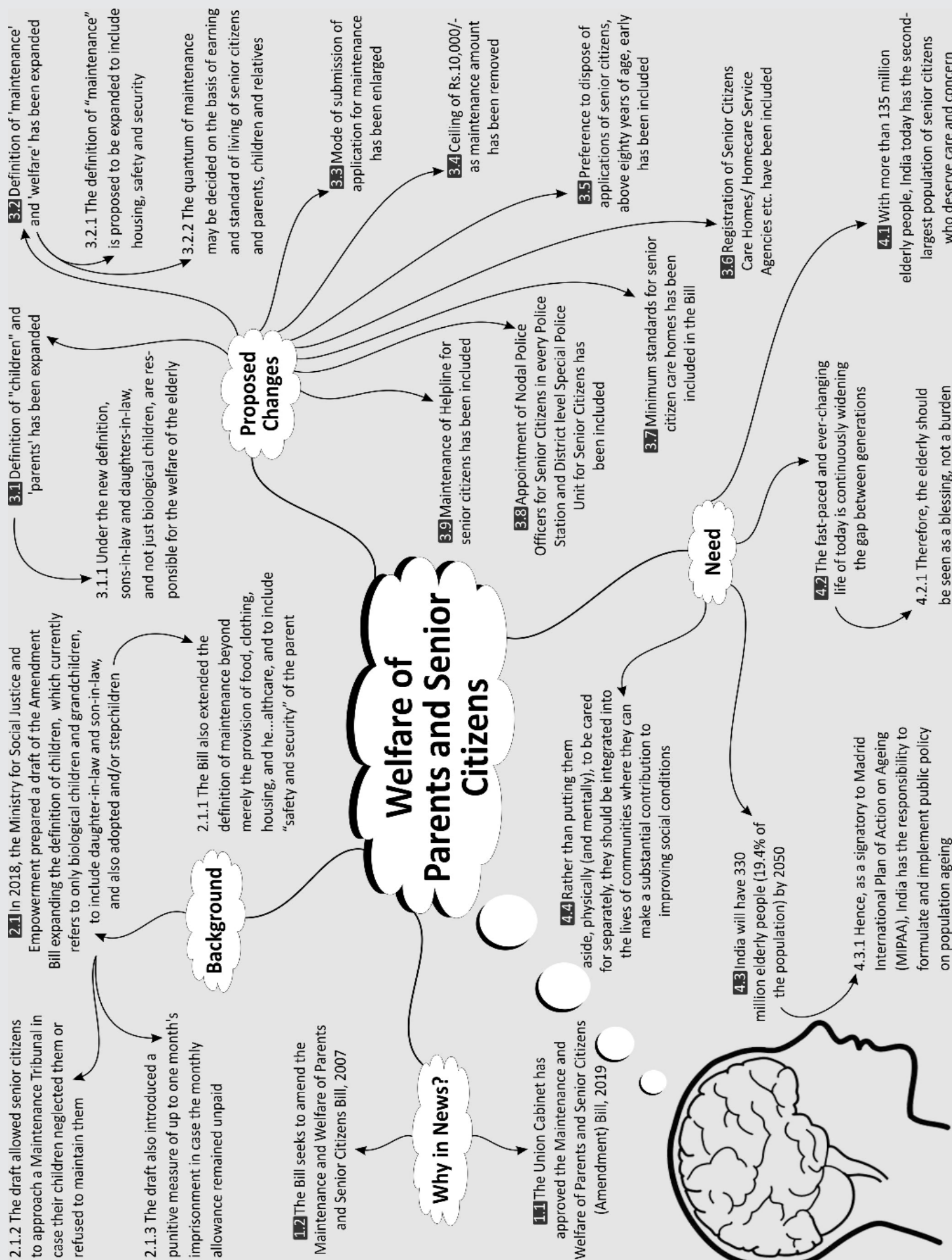
Hints:

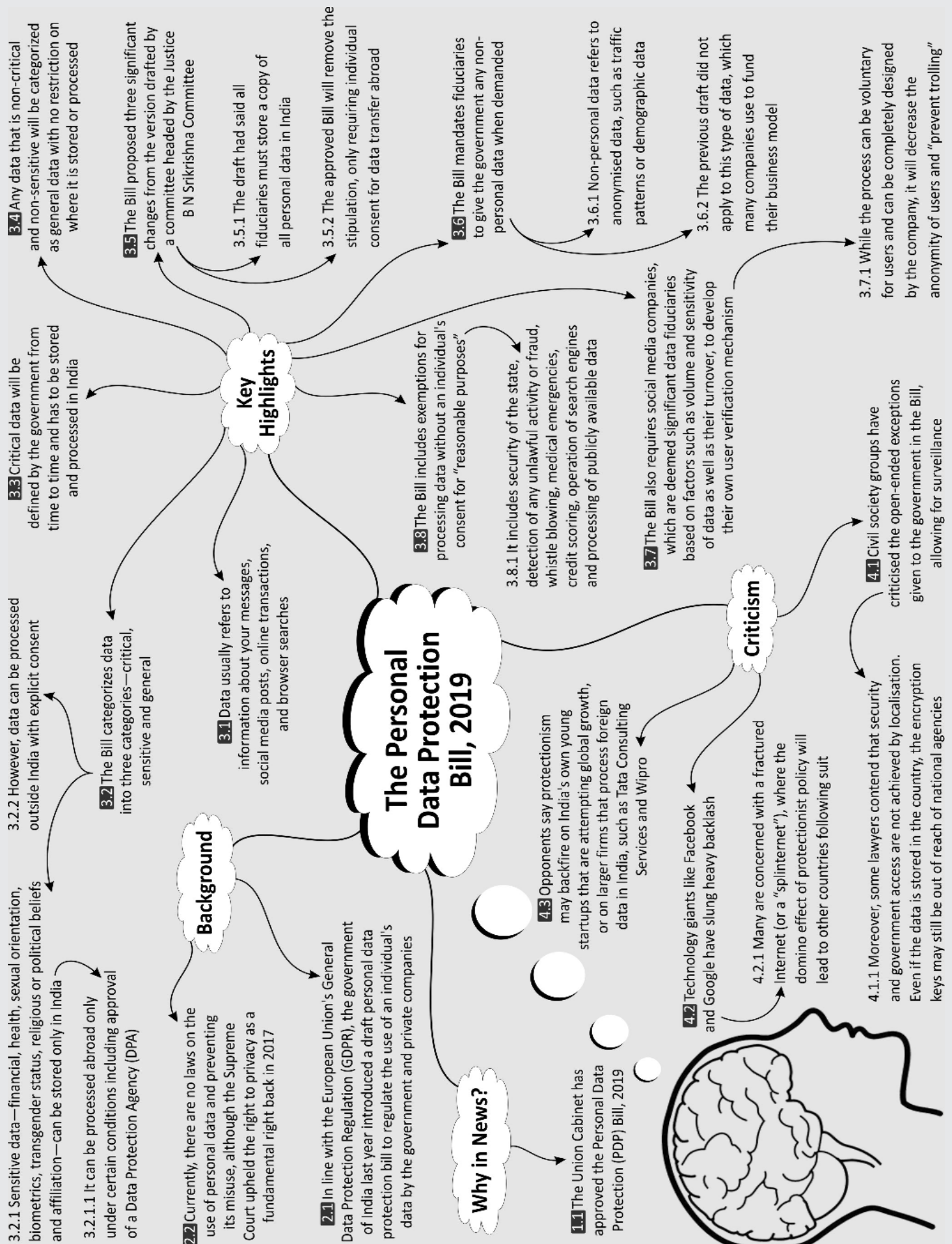
- ◆ Soil is more than just dirt—the state of our soils impacts everything from human health to climate change. Today, scientists, research organizations, and individuals across the globe recognize how healthy soils are vital for the future of the food system and a sustainable planet.
- ◆ Soil quality is the capacity of a specific kind of soil to function, within natural or managed ecosystem boundaries, to sustain plant and animal productivity, maintain or enhance water and air quality, and support human health and habitation.
- ◆ There is no doubt that modern agricultural practices like monoculture make the soil vulnerable. It leads to the depletion of soil nutrients and creates a huge imbalance. Soil nutrient deficiency is one of the biggest hurdles Indian agriculture is facing right now. Intensification has led to over reliance on chemical fertilisers. Our soil lacks micronutrients like iron and manganese. The food we grow also lacks these and, hence, we are also deficient in nutrients. The usage of urea is still very high and few farmers use organic fertilisers.
- ◆ Farmers need to be advised to go for integrated cropping patterns where they can grow multiple crops at the same time as it is good for soil health. As we need more food from lesser resources, sustainable intensification is the way forward. It can keep our soil health in check and also improve it. We need to recycle what we take from the soil.

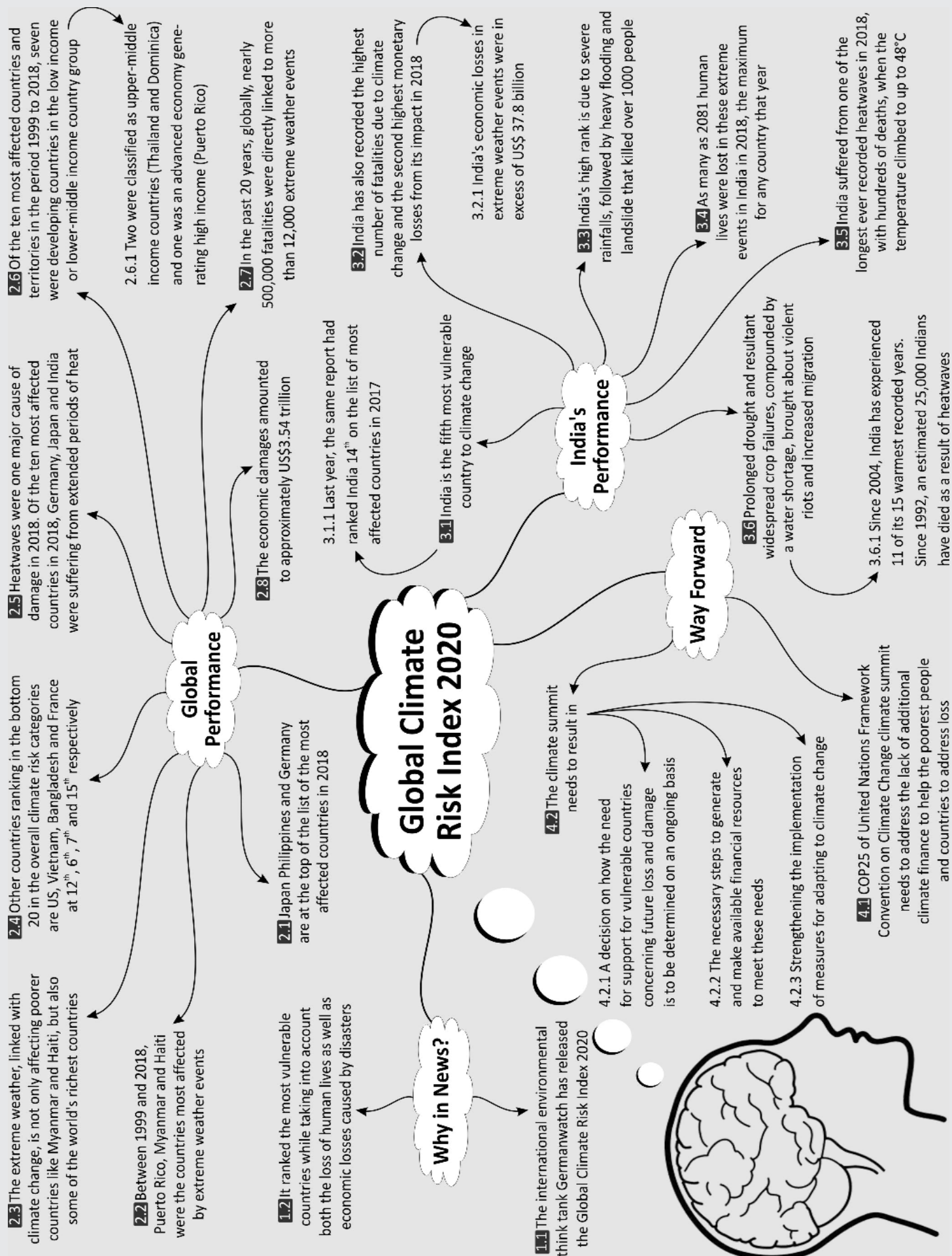
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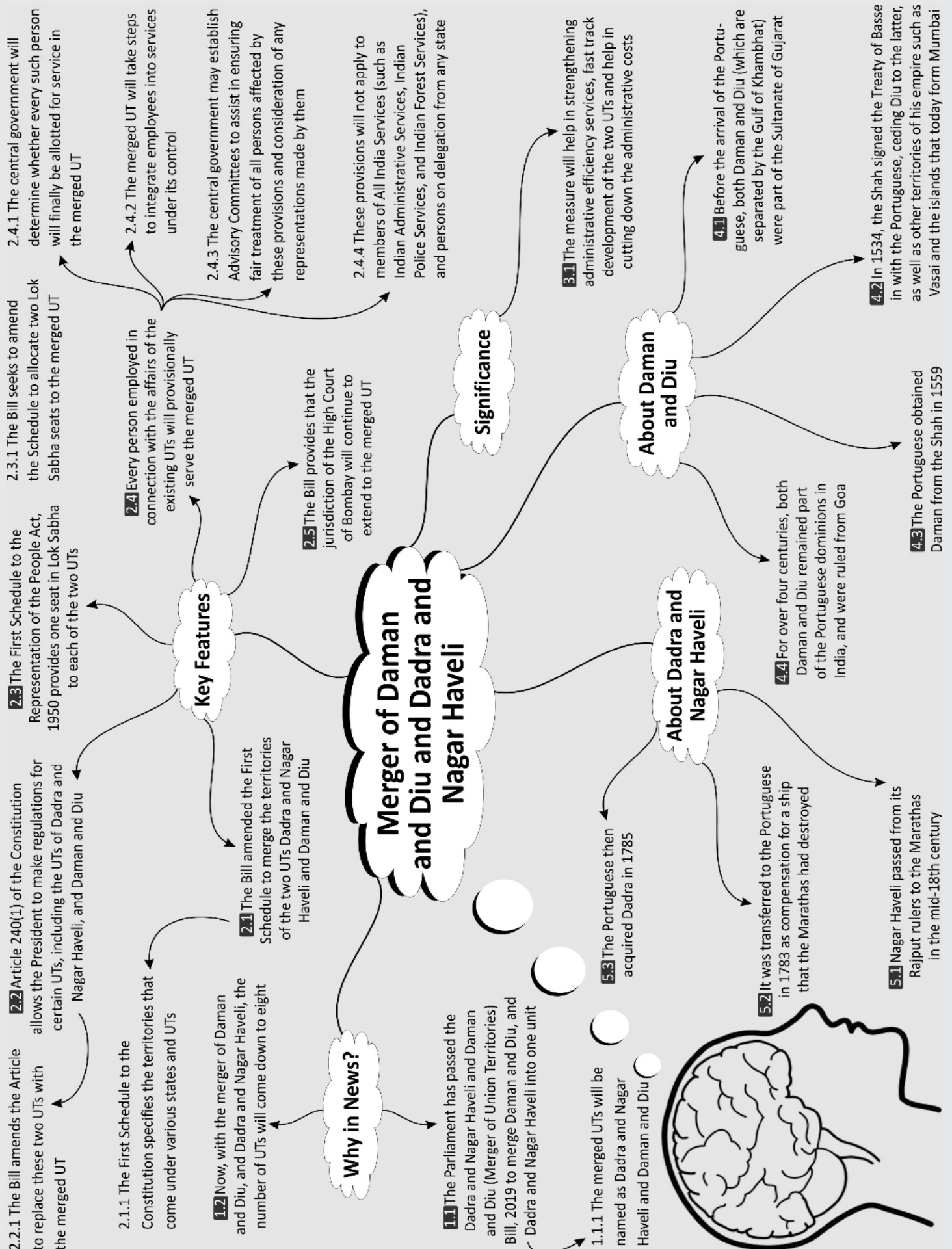
SEVEN BRAIN BOOSTERS

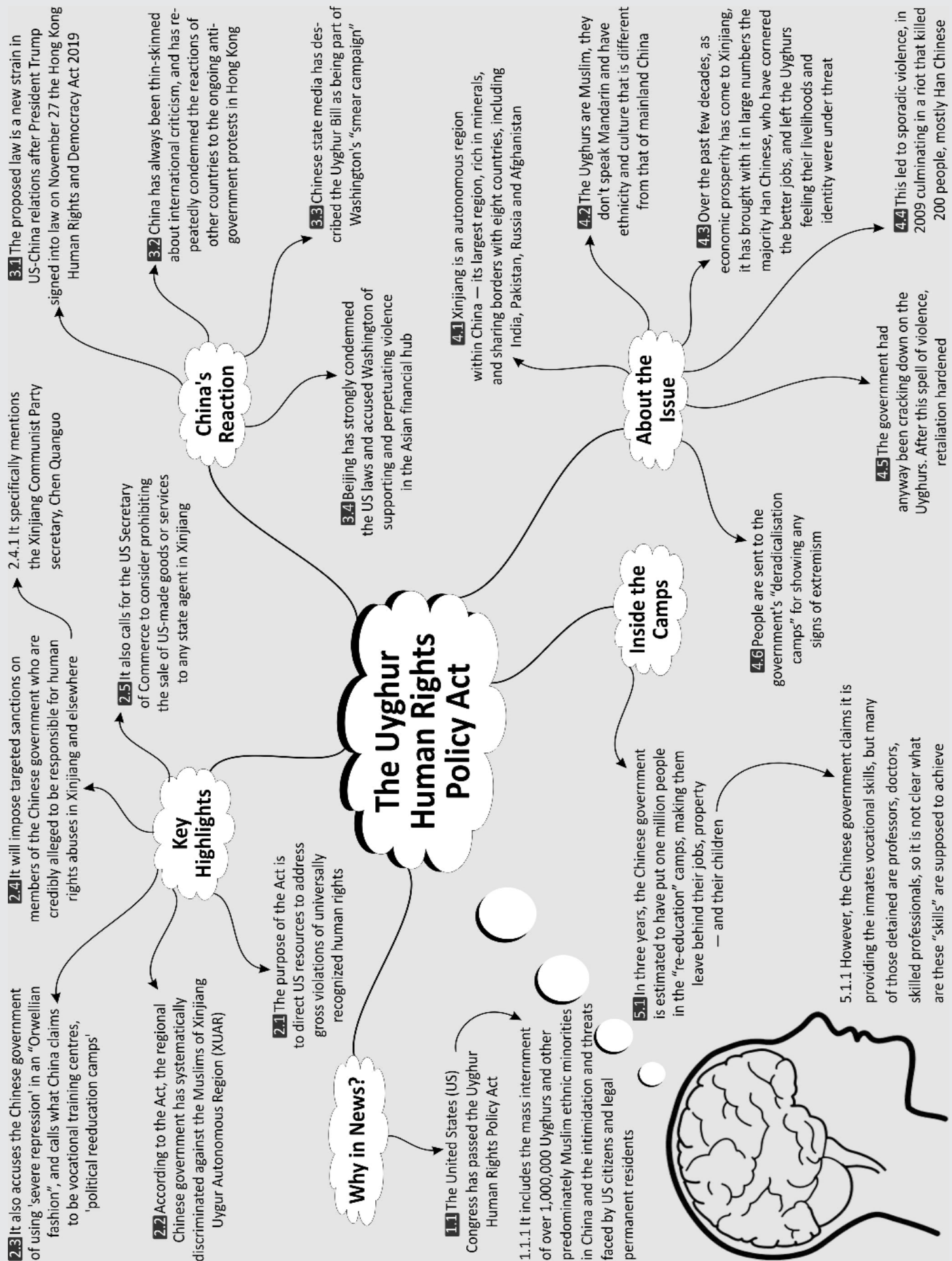


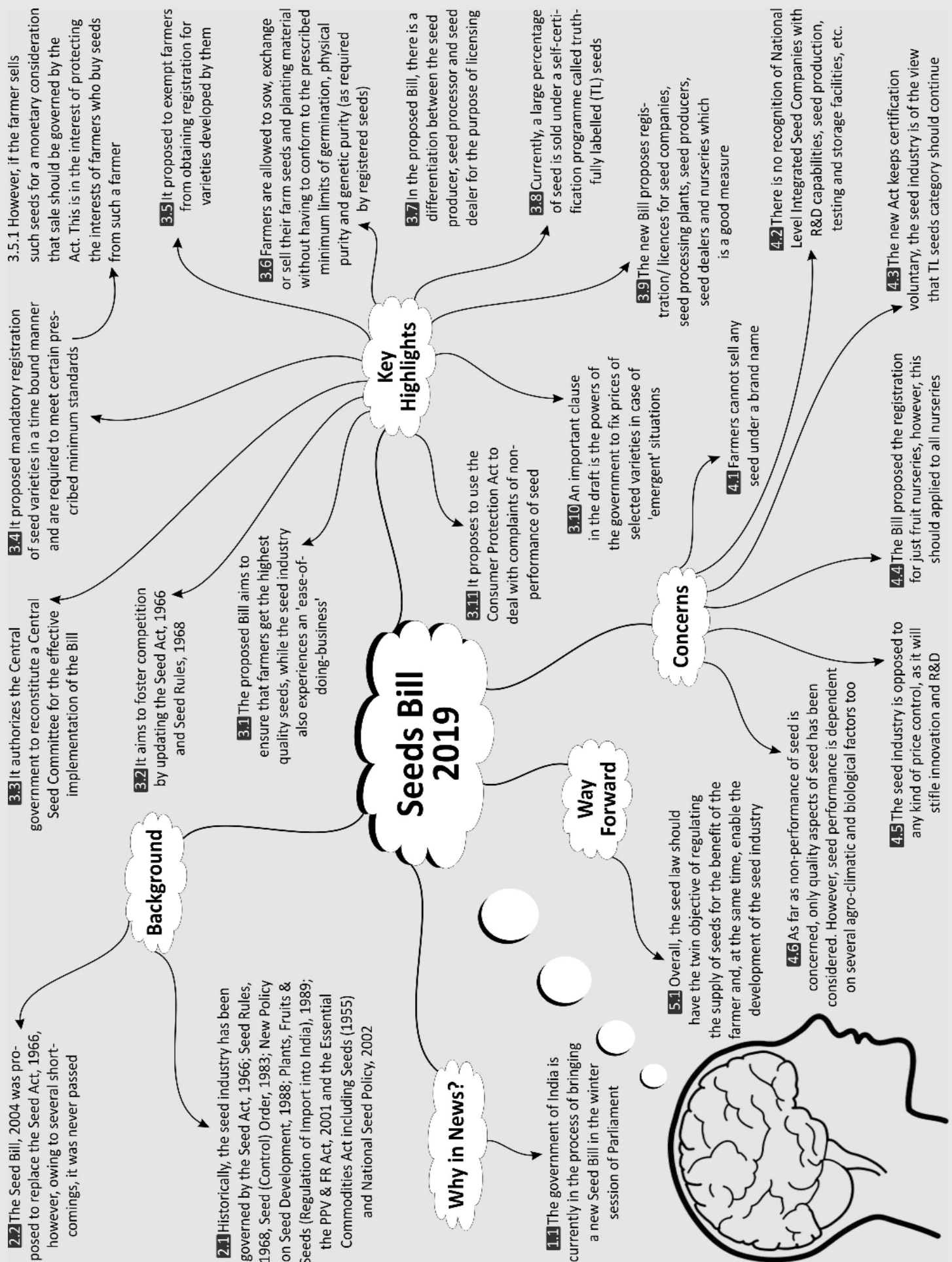












SEVEN MCQ's WITH EXPLANATORY ANSWERS (Based on Brain Boosters)

1. World Malaria Report, 2019

Q. With reference to the 'World Malaria Report, 2019', consider the following statements:

1. It has been released by World Health Organisation.
2. In 2018, an estimated 228 million cases of malaria occurred worldwide and most cases were in WHO African Region (93%).
3. India along with 19 sub-Saharan Africa countries carried almost 85% of the global malaria burden.

Which of the statements given above is/are correct?

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

Answer: (d)

Explanation: All statements are correct. World Health Organisation (WHO) has released World Malaria Report 2019. In 2018, an estimated 228 million cases of malaria occurred worldwide and most cases were in WHO African Region (93%).

India along with 19 sub-Saharan Africa countries carried almost 85% of the global malaria burden.

2. Welfare of Parents and Senior Citizens

Q. Consider the following statements with respect of the 'Maintenance and Welfare of Parents and Senior Citizens (Amendment) Bill, 2019':

1. It will expand the definition of children from biological children to include daughter-in-law and son-in-law, and also adopted and/or stepchildren.
2. But, it kept unchanged the ceiling of Rs.10,000 as maintenance allowance per month.

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 Maintenance and Welfare of Parents and Senior Citizens (Amendment) Bill, 2019 has expanded the definition of children, which

currently refers to only biological children and grandchildren, to include daughter-in-law and son-in-law, and also adopted and/or stepchildren.

Statement 2 is not correct. The Bill also removed the ceiling of Rs.10,000 as maintenance allowance per month.

3. The Personal Data Protection Bill, 2019

Q. Consider the following statements with respect of the Personal Data Protection (PDP) Bill, 2019:

1. The Bill categorizes data into three categories—critical, sensitive and general.
2. Sensitive data can be processed and stored in India only.
3. Critical data will be defined by the government from time to time and has to be stored and processed in India.

Which of the statements given above is/are correct?

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

Answer: (c)

Explanation: Statement 1 is correct. The Bill categorizes data into three categories—critical, sensitive and general.

Statement 2 is not correct. Sensitive data—financial, health, sexual orientation, biometrics, transgender status, religious or political beliefs and affiliation—can be stored only in India. However, data can be processed outside India with explicit consent.

Statement 3 is correct. Critical data will be defined by the government from time to time and has to be stored and processed in India.

4. Global Climate Risk Index 2020

Q. With reference to the 'Global Climate Risk Index 2020', consider the following statements:

1. It has been released by United Nations Framework Convention on Climate Change.

2. Globally, Japan, Philippines and Germany are at the top of the list of the most affected countries in 2018.
3. It has ranked India 3rd in the list of countries worst affected by climate disasters in 2018.

Which of the statements given above is/are correct?

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

Answer: (b)

Explanation: **Statement 1 is not correct.** The international environmental think tank Germanwatch has released the Global Climate Risk Index 2020.

Statement 2 is correct. Globally, it ranked Japan, the Philippines and Germany are at the top of the list of the most affected countries in 2018.

Statement 3 is not correct. It has ranked India is the fifth most vulnerable country to climate change. Last year, the same report had ranked India 14th on the list of most affected countries in 2017.

5. Merger of Daman and Diu and Dadra and Nagar Haveli

Q. With reference to the Dadra and Nagar Haveli and Daman and Diu (Merger of Union Territories) Bill, 2019, consider the following statements:

1. The Bill amended the First Schedule to merge the territories of the two UTs Dadra and Nagar Haveli and Daman and Diu.
2. Article 240(1) of the Constitution of India allows the President to make regulations for certain UTs.
3. Now, with the merger of Daman and Diu, and Dadra and Nagar Haveli, the number of UTs will come down to eight.

Which of the statements given above is/are correct?

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

Answer: (d)

Explanation: **All statements are correct.** The Bill amended the First Schedule to merge the territories of the two UTs Dadra and Nagar Haveli and Daman and Diu. The First Schedule to the Constitution specifies the territories that come under various states and UTs.

Article 240(1) of the Constitution allows the President to make regulations for certain UTs, including the UTs of Dadra and Nagar Haveli, and Daman and Diu.

The Bill amends the Article to replace these two UTs with the merged UT. Now, with the merger of Daman and

Diu, and Dadra and Nagar Haveli, the number of UTs will come down to eight.

6. The Uyghur Human Rights Policy Act

Q. Consider the following statements:

1. Xinjiang is an autonomous region within China and shares borders with eight countries, including India, Pakistan, Russia and Iran.
2. The Uyghurs are Muslim but they are ethnically and culturally similar to the mainland China.

Which of the statements given above is/are correct?

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

Answer: (d)

Explanation: **Both statements are incorrect.** Xinjiang is an autonomous region within China — its largest region, rich in minerals, and sharing borders with eight countries, including India, Pakistan, Russia and Afghanistan.

The Uyghurs are Turkic-speaking Muslims from the Central Asian region. The largest population live in China's autonomous Xinjiang region, in the country's north-west. The Uyghurs are one of a number of persecuted Muslim minorities in Xinjiang, including the Kazakhs, Uzbeks, Tajiks, Kyrgyz and Hui.

7. Seeds Bill 2019

Q. Consider the following statements with respect of 'Seeds Bill 2019':

1. The proposed Bill has proposed the removal of self-certification programme called truthfully labelled (TL) seeds.
2. An important clause in the Bill is the powers of the government to fix prices of selected varieties in case of 'emergent' situations.

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.** Currently, a large percentage of seed is sold under a self-certification programme called truthfully labelled (TL) seeds. While the new Act keeps certification voluntary, the industry is of the view that TL seeds category should continue.

Statement 2 is correct. An important clause in the draft is the powers of the government to fix prices of selected varieties in case of 'emergent' situations.



SEVEN IMPORTANT FACTS FOR PRELIMS

1. Which state government has launched the 'Anti-Depression Squad' of the Forest Department to regulate the human-wildlife conflict?

–Assam

2. Which country has hosted the NATO Heads of State and Government Meeting 2019?

–The United Kingdom

3. Which country has begun its annual military exercise, 'Hand-in-Hand 2019' with India in Meghalaya?

–China

4. Which place is chosen for the establishment of a 'National Maritime Heritage Museum'?

–Lothal, a Harappan site on the Saurashtra coast in Gujarat

5. Which state has been honored with the “Best Performing State for Organ Donation.”?

–Tamil Nadu

6. Who has been honoured with United Nations Children's Fund's (UNICEF's) Danny Kaye Humanitarian Award 2019?

–Priyanka Chopra

7. Which state has celebrated 'Indigenous Faith Day' to preserve the age-old traditions and beliefs?

–Arunachal Pradesh

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SEVEN PRACTICE QUESTIONS FOR MAINS EXAM

1. What is 'Citizenship (Amendment) Bill, 2019'? Why north-eastern states are opposing the Bill? Discuss.
2. India needs to invest more in maritime scientific research. Critically analyse in the context of recent Shiyan incident.
3. What do you understand by 'right to internet'? can access to Internet in general be defined as a basic human right? Discuss.
4. The WTO's dispute settlements mechanism is all but dead. Discuss the importance of WTO amid rising protectionism and constraints in world trade.
5. Do you think that constitution of India does not accept principle of strict separation of powers rather it is based on the principle of 'checks and balance'? Explain.
6. "There can not be instant justice but there can not be constant delays either." Discuss it in context of heavy pendency of court cases in the country.
7. Highlight the Central Asian and Greco Bactrian elements in the Gandhara art.



SEVEN IMPORTANT NEWS

1. Integrated Command and Control Centre of Gurugram

Chief Minister of Haryana Manohar Lal Khattar has inaugurated Gurgaon's ambitious Integrated Command and Control Centre (ICCC).

Key Highlights

All the government buildings and police stations of the city will be connected with the Fiber network; currently 160 government buildings and police stations of the city have been connected with this network.

So far 400 km of optical fiber has been laid in the city and all the government buildings and adjoining gram panchayats of the city will be connected with the cloud network of the data center. The center will provide online real time access, evaluation and

reporting of data for decisions, paperless work, high speed bandwidth with Wi-Fi and internet facilities as well as video conferencing facility in various offices.

Further, in order to make Gurugram Smart City, the facilities such as integrated smart services at this center, the facility of CCTV system for data analysis and monitoring, traffic control and management, property and land record management, public traffic, street light monitoring and control, solid waste management, STP of water Quality Monitoring, Drinking Water Supply Monitoring, Environmental Monitoring, Urban Service Cooperation Center and public participation through Mobile Apps has been given.

What is ICCC?

The Integrated Command and Control Centers are envisaged to be the brain for city operation, exception handling, and disaster management. The sensors and edge devices will capture and generate real time data from various utilities such as water, waste management, energy, mobility, the built environment, education, healthcare and safety. ICCC as a platform through its different layers and components will act as a decision support system (DSS) for city administration to respond to the real time events by consuming data feeds from different data sources and by processing information out of the data sets. ■

2. Citizenship (Amendment) Bill, 2019

The Parliament has passed the 'The Citizenship (Amendment) Bill, 2019.'

Key Highlights

The Bill seeks to amend the definition of illegal immigrant for Hindu, Sikh, Parsi, Buddhist and Christian immigrants from Pakistan, Afghanistan and Bangladesh, who have lived in India without documentation. They will be granted fast-track Indian citizenship in six years. So far, 12 years of residence has been the standard eligibility requirement for naturalisation.

The proposed legislation applies to those who were "forced or compelled to seek shelter in India due to persecution on the ground of religion. It aims to protect such people from proceedings of illegal migration. The cut-off date for citizenship is December 31, 2014,

which means the applicant should have entered India on or before that date.

Indian citizenship, under present law, is given either to those born in India or if they have resided in the country for a minimum of 11 years. The Bill also proposes to incorporate a sub-section (d) to Section 7, providing for cancellation of Overseas Citizen of India (OCI) registration where the OCI card-holder has violated any provision of the Citizenship Act or any other law in force.

Exemptions

The Bill says that the provisions on citizenship for illegal migrants will not apply to the tribal areas of Assam, Meghalaya, Mizoram, or Tripura, as included in the Sixth Schedule to the Constitution. These tribal areas

include Karbi Anglong (in Assam), Garo Hills (in Meghalaya), Chakma District (in Mizoram), and Tripura Tribal Areas District. It will also not apply to the areas under the Inner Line" under the Bengal Eastern Frontier Regulation, 1873. The Inner Line Permit regulates visit of Indians to Arunachal Pradesh, Mizoram, and Nagaland.

Criticism

The Bill violates the Indian Constitution's Article 14, the fundamental right to equality to all persons. Right to equality constitutes basic structure of the Constitution which cannot be reshaped by any Parliament. However, the government maintains that it does not discriminate or violate the right to equality. ■

3. Chandrayaan 2's Vikram Lander

Since India lost contact with the spacecraft in September, the precise location of its crash has been a mystery. But recently, NASA has claimed that they found pieces of Vikram, a small spacecraft that India attempted to land on the moon in September. They did it with the help of an engineer from India who scoured the lunar surface in his spare time. But Indian Space Research Organisation (ISRO) chief K Sivan has rejected NASA's claims that they have located the debris of the crashed Vikram lander on the lunar surface and said the ISRO had located it long back.

NASA has used the Lunar Reconnaissance Orbiter Camera (LROC) to locate the Vikram Lander.

Background

The Chandrayaan 2's Vikram lander was targeted to land on Moon's highland smooth plain, about 600 kilometres from its the South Pole. However,



India's attempt to create history by becoming the first nation to land on the South Pole had faced setback after Vikram lander lost communication just before the scheduled touchdown on September 7.

About Vikram Lander

The Lander of Chandrayaan-2 was named Vikram after Dr Vikram A Sarabhai, the Father of the Indian

Space Programme. It was designed to function for one lunar day, which is equivalent to about 14 Earth days.

About LROC

The LROC, is a system of three cameras mounted on the Lunar Reconnaissance Orbiter (LRO) that capture high resolution black and white images and moderate resolution multi-spectral images of the lunar surface.

In June of 2009, NASA launched the Lunar Reconnaissance Orbiter, a robotic spacecraft, now orbiting the Moon at an altitude of 50-200 km. LRO's primary objective is to make fundamental scientific discoveries about the Moon.

4. 25th UN Climate Change Conference (COP 25)

The 25th session of Conference of Parties under the United Nations (UN) Framework Convention of Climate Change (UNFCCC COP25) has begun from December 2 in Madrid, Spain. Originally, the COP 25 was scheduled to be held at Chile but social unrest and mass protests over inequality and injustice have paralysed Chile and forced Chile to pull out of hosting COP 25.

The Madrid Conference

The objective of the COP25 is to complete negotiations on the last outstanding issues in the 'Katowice rulebook' for implementing the Paris Agreement, notably the rules for

international carbon markets (Article 6 of the Paris Agreement). The Paris Rulebook that will become effective in 2020 to replace the 1997 Kyoto Protocol. Kyoto Protocol comes to an end in 2020). But, the issues like the creation of new carbon markets, emission reduction targets, country's individual targets, etc. remained unresolved during COP24 at Katowice (Poland) 2019.

About Article 6

Under the Paris Agreement (the relevant section is Article 6), countries agreed to set up a new global carbon market system to help countries decarbonise their economies at lower

cost. Countries have tried and failed to agree the rules governing this mechanism. It is the last section of the Paris accord rulebook which remains unresolved and it has the potential to make or break efforts to curb emissions.

Background

In the Paris Agreement, developed countries had agreed to a financial commitment of US \$100 billion each year by 2020. Currently, only around half of this commitment is being met. The Rulebook had to define what all will constitute 'finance', and how it will be reported and reviewed.

5. India becomes First Country to make entire Hajj Process Digital

India has become the first country to make the entire process of applying for the Hajj pilgrims in 2020 entirely digital. This includes the application,

the e-Visa, the E-Medical Assistance System for Indian Pilgrims Abroad (E-MASIHA) health facility and 'e-luggage pre-tagging', among others.

Significance

Under the move, for the first time all major processes of Hajj — from application and visa to health records,

luggage tagging and accommodation updates — will be executed online.

Now, the pilgrims who are going for Hajj will be able to apply online, track their progress on mobile application, can use 'e-MASIHA' health card and e-luggage pre-tagging facility. The pilgrims will get all the information regarding accommodation and transportation in Mecca and Madina in India itself.

This digital push will streamline different processes of Hajj and

make the entire process hassle free for the pilgrims. This year, a 100-line information centre has been established at the Haj House, Mumbai for providing information regarding the entire Haj process. E-MASIHA will create and maintain the complete health database of Indian pilgrims along with doctors' preions, medical treatment as well as medicine disbursal. Further, it will also deal with any emergency in Mecca and Madina.

Haj Group Organisers (HGOs) have also been connected with 100 per

cent digital system which has ensured transparency in their functioning and has also ensured better facilities to Indian Haj pilgrims.

Background

According to Haj committee of India, last year it received a total of 3,55,604 applications which included 1,89,217 male and 1,66,387 female applicants and as many as 1,75,025 people went for Hajj.

6. Women Help Desks in Police Stations

The Ministry of Home Affairs has sanctioned Rs 100 crore from the Nirbhaya fund to set up women help desks in police stations across the country. The move came a fortnight after a young veterinarian was gang-raped and murdered near Hyderabad, leading to protests in different parts of the country.

Key Highlights

The women help desks would focus on making police stations more women-friendly and approachable, as they would be the first and single point of contact for any woman walking into a police station.

The scheme would be implemented by the states and Union Territories, and lady police officers would be deployed at these help desks.

The officials of women help desks would be trained to be sensitive towards women. These help desks would have enlisted panel of experts like lawyers, psychologists and NGOs to facilitate legal aid, counselling, shelter, rehabilitation and training among others.

About Nirbhaya Fund

The Nirbhaya Fund was created in 2013 in the aftermath of December 2012 Delhi gangrape and murder case. The

victim was then given a name, Nirbhaya (which literally means fearless). The government proposed an allocation of Rs 10,000 crore under Nirbhaya Fund to ensure safety of women.

The Women and Child Development Ministry is the nodal agency for expenditure from the Nirbhaya Fund. Earlier, it was the one releasing the funds but now it examines the programmes submitted to it by the states under Nirbhaya scheme, approves them and recommends to the department of economic affairs for allocating funds.

7. Exercise Surya Kiran-XIV

The 14th edition of bilateral annual military exercise Surya Kiran-XIV between Indian and Nepal Army has begun in Nepal from December 3, 2019. The 13th edition of the joint military

exercise was held at Pithoragarh, Uttarakhand in June 2018.

Key Highlights

The aim of this exercise is to conduct a battalion level combined training between Indian Army and Nepal Army with a scope to enhance interoperability at military level in jungle warfare, counter terrorist operations in mountainous terrain, humanitarian assistance, disaster relief operations, medical and environmental

conservation including aviation aspects. As part of the exercise, important lectures, demonstrations and drills related to counter insurgency and counter terrorism operations in jungle and mountainous terrain will be conducted.

Both the Armies will also share their valuable experiences in countering such situations and also refine drills and procedures for joint operations wherever the need arises.



SEVEN IMPORTANT HIGHLIGHTS FROM PIB

1. Self-defence Training to Girls in Schools and Colleges

With the rise in number of crimes against women, the Ministry of Human Resource Development had launched 'Samagra Shiksha Initiative' in 2018-19. As part of this integrated scheme of school education, self-defence training is imparted to girls from class VI to XII.

Key Highlights

The Ministry is providing Rs 3,000 per month for a period of three months per government-run school for the self-defence training and inculcating life skills among girls.

The self-defence training is also being provided in Kasturba Gandhi Balika Vidyalayas (KGBVs) which are residential schools meant for girls

of class VI to XII and belonging to disadvantaged groups.

Self defence training is regularly provided to girl students in Kendriya Vidyalayas (KVs), Jawahar Navodaya Vidyalayas (JNVs) and Schools run by Central Tibetan Schools Administration (CTSA), where girls are trained in Judo, Taekwondo and Boxing, etc. In KVs, inter-house competitions and tournaments of these games are conducted at Regional and National levels.

University Grants Commission (UGC) has issued letters from time to time to Higher Educational Institutions (HEIs) requesting them to sensitize the management and teachers and to work out road-map for implementation of

the recommendations of the SAKSHAM report on the measures for ensuring the safety of women and programmes for gender sensitization.

The Special Police Unit for Women and Children (SPUWAC) of Delhi Police is organising self defence training classes and workshops on the request of Heads of Schools / Colleges / MNCs / Hospitals / Institutions / NGOs / NCC / Hotel etc. for students, working women and house-wives.

The Ministry has also asked the states to avail funding for self-defence training under the Nirbhaya Fund allocated by the Ministry of Women and Child Development or with other state government schemes.

2. Pilot Project for using FASTags for Parking Purposes

Ministry of Road Transport and Highways has started a pilot project for using FASTags for parking purposes at Hyderabad Airport.

Key Highlights

The pilot project has been launched in two phases, the first being a controlled pilot testing, wherein only ICICI tags would be used. The second phase of pilot shall cover all other issuer bank tags. This has been done to ensure the benefits of FASTag beyond tolling. After the success in Hyderabad, the project will be launched at Delhi airport.

The journey of FASTag 2.0 has many exciting use cases like Fuel Payments, Enforcement (E-challan) payments,

Access Management at offices and residence. GST council has also mandated FASTag for all commercial vehicles which would be generating an E-way bill from 1st April, 2020. This integration will be a big boost to GSTN as it would help in identifying the leakages with respect to non-issuance/ miss reporting of E-way bill.

National Electronic Toll Collection (FASTag) programme, the flagship initiative of Ministry of Road Transport and Highways has been implemented on pan India basis across National Highway toll plazas. It has given a major fillip to the digital India initiative by converting cash toll payments to electronic and brought in an

enhanced transparency in entire tolling ecosystem.

About FASTag

FASTag is a device that employs Radio Frequency Identification (RFID) technology for making toll payments directly while the vehicle is in motion. FASTag (RFID Tag) is affixed on the windscreen of the vehicle and enables a customer to make the toll payments directly from the account which is linked to FASTag.

FASTag offers the convenience of cashless payment along with benefits like - savings on fuel and time as the customer does not has to stop at the toll plaza.

3. India - Maldives Relations

The Prime Minister Narendra Modi and President of Maldives Ibrahim Mohamed Solih has jointly inaugurated several key development projects in Maldives via video conference. These included gifting of Made in India Coast Guard Ship Kaamiyaab to Maldives, launch of RuPay card, lighting up of Male using LED lights, High Impact Community Development Projects, launch of fish processing plants.

Key Highlights

India's 'Neighbourhood First Policy'

and Maldives' 'India first Policy' has strengthened the bilateral cooperation in all sectors.

One of the key aspects of close relations between two countries is people-to-people contacts. Indian tourist figures in Maldives have more than doubled. India has moved from 5th to 2nd position. Recently, three direct flights from Delhi, Mumbai and Bengaluru have also started.

India has handed over fast interceptor craft to the Maldives Coast Guard. This advanced vessel will help

enhance Maldives' maritime security, and promote blue economy and tourism.

Both countries are also working on building a cancer hospital and cricket stadium in Hulhulmale while work on the water and sanitation project in 34 islands will begin soon.

India reiterated its commitment to continue partnering with Maldives for strengthening of democracy and development and both countries would enhance cooperation for peace and security in Indian Ocean Region.

4. Measures taken by Government to prevent Crime against Women

In a written reply to a question regarding crime against women, in Lok Sabha, Union Minister of State for Home Affairs has said that women safety is a high priority for the Government and several initiatives have been taken for safety of women across the country. Important measures are given below:

The Criminal Law (Amendment) Act, 2013 was enacted for effective deterrence against sexual offences. Further, the Criminal Law (Amendment) Act, 2018 was enacted to prescribe even more stringent penal provisions including death penalty for rape of a girl below the age of 12 years. The Act also inter-alia mandates completion of investigation and trials within 2 months each.

Emergency Response Support System provides a pan-India, single, internationally recognized number (112) based system for all emergencies,

with computer aided dispatch of field resources to the location of distress.

Using technology to aid smart policing and safety management, Safe City Projects have been sanctioned in first Phase in 8 cities (Ahmedabad, Bengaluru, Chennai, Delhi, Hyderabad, Kolkata, Lucknow and Mumbai).

The Ministry of Home Affairs (MHA) has launched a cyber-crime portal on 20th September 2018 for citizens to report obscene content.

MHA has launched the 'National Database on Sexual Offenders' (NDSO) on 20th September 2018 to facilitate investigation and tracking of sexual offenders across the country by law enforcement agencies.

In order to facilitate States/UTs, MHA on 19th February 2019 launched an online analytic tool for police called 'Investigation Tracking System for

Sexual Offences' to monitor and track time-bound investigation in sexual assault cases in accordance with the Criminal Law (Amendment) Act 2018.

One Stop Centre (OSC) scheme is being implemented across the country since 1st April 2015 which is exclusively designed to provide integrated services such as medical aid, police assistance, legal counselling/court case management, psycho-social counselling and temporary shelter to women affected by violence under one roof. As per available information, 728 OSCs have been approved by Government of India, 595 OSCs are operational in the country.

In addition to the above-mentioned measures, MHA has issued advisories from time to time with a view to help the States/UTs to deal with crimes against women.

5. Bharat Bond Exchange Traded Fund

The Cabinet Committee on Economic Affairs has given its approval for creation and launch of Bharat Bond Exchange Traded Fund (ETF) to create

an additional source of funding for Central Public Sector Undertakings (CPSUs), Central Public Sector Enterprises (CPSEs), Central Public

Financial Institutions (CPFIs) and other government organizations. Bharat Bond ETF would be the first corporate bond ETF in the country.

Bharat Bond ETF Structure

Benefits of Bharat Bond ETF

Bond ETF will provide safety (underlying bonds are issued by CPSEs and other Government owned entities), liquidity (tradability on exchange) and predictable tax efficient returns (target maturity structure).

Tax efficiency compared to Bonds as coupons from the Bonds are taxed at marginal rates. Bond ETFs are taxed with the benefit of indexation which significantly reduces the tax on capital gains for investor.

Bond ETF would offer CPSEs, CPSUs, CPFIs and other Government organizations an additional source of

meeting their borrowing requirements apart from bank financing.

This is expected to eventually increase the size of bond ETFs in India leading to achieving key objectives at a larger scale - deepening bond markets, enhancing retail participation and reducing borrowing costs.

6. 2nd Startup India Global Venture Capital Summit 2019

The Department for Promotion of Industry and Internal Trade (DPIIT), in partnership with Government of Goa has organised the 2nd edition of the Startup India Global Venture Capital Summit for fund managers and limited partners of top global venture capital firms. The theme of the summit was 'India Opportunity – Investing in tomorrow together.'

The key objectives of the Summit were to showcase the India's opportunity in the sectors of E-Mobility, FinTech, MedTech, Enterprise Software, EdTech, Genomics and Lifesciences. It also looked at increase of capital flow

for Indian Startups by showcasing high-quality tech and non-tech startups to the global investor community and foster Ease of Doing Business by identifying and discussing issues faced by the investor community.

It showcased the India advantage, diversity and scale of Indian market opportunity, and the cutting-edge innovations originating in India.

The Summit also aimed to understand the best practices for venture capital industry, identify issues faced by them for investments in India, and evaluate ways to address them. Venture Capital ecosystem report

2019 was also released at the summit. According to the report, 2019 saw the highest ever quantum of funding at 9 billion dollars. An increase of 30% in deal volume, Approximately 55% of the top deals are in consumer internet while Software as a service, Fintech and B2B tech are the fast emerging.

Significance

Through this event Startup India is providing the Indian startups an opportunity to meet Top Global Investors at the event to get business guidance and to discuss investment opportunities.

7. Indian Culture Portal

The government of India has launched the Indian Culture web portal. The Indian Culture portal was envisioned by the Ministry of Culture and was developed by a team from the Indian Institute of Technology (IIT), Bombay while the curation of the data has been done by Indira Gandhi National Open University (IGNOU).

Key Highlights

Indian culture portal is the first government authorised portal where knowledge and cultural resources of various organizations of Ministry of Culture are now available in public domain on a single platform. This project is a part of 'Digital India'

initiative to showcase information about the rich tangible and intangible cultural heritage of India both at home and abroad.

This portal hosts documents, images, audio-video files and other data from archives, museums, academies and libraries across the nation. On this portal information about more than 90 lakhs items are currently available.

From toy carts of the Indus Valley Civilisation to the charkha of Mahatma Gandhi, Indian Culture encapsulates the words of the Shastras and the finesse of Deccan court painters, from the calm on the buddha's visage to the battle scars on armours, from rare images of monuments, to bite sized



anecdotes and detailed accounts of Indian UNESCO World Heritage Site are available on the portal.

The portal also contains write-ups and beautiful pictures on cuisines, festivals, paintings, folk art and classical art from different states of India. Rich information about rare books, manuscripts and research papers on our cultural heritage is also available on this portal.



SEVEN IMPORTANT CONCEPTS THROUGH GRAPHICS

Hot Deserts of the World

1. Deserts of Australia

- Australia is the driest inhabited continent in the world.
- Seventy per cent of the mainland receives less than 500mm of rain annually, which classifies most of Australia as arid or semi-arid. While the Simpson and the Great Victoria deserts are the best known, Australia has a total of 10 deserts.
- The name of 10 deserts are Great Victoria Desert, Great Sandy Desert, Tanami Desert, Simpson Desert, Gibson Desert, Little Sandy Desert, Strzelecki Desert, Sturt Stony Desert, Tirari Desert and Pedirka Desert.
- The deserts in Australia are primarily distributed through western plateau and interior lowlands of the country.
- In the subtropics, a belt of high pressure exists globally at about latitude 30 degrees North and South – the latter runs across Western Australia and South Australia and through the Great Victoria Desert.
- That pressure creates dry conditions that are carried by a general easterly flow that spreads the arid landscape through the Northern Territory and northern Western Australia. Then, locked away from the coast, these desert areas are separated from moisture sources.
- In summer, temperatures soar throughout Australia's deserts, although not to the extremities we might imagine. On average, days reach above 35°C but hot spells of above 40°C can stretch out over weeks. At night, temperatures can stagnate and remain around 30°C, though they tend to drop within a 15-20°C range.



2. Arabian Desert



- The Arabian Desert encompasses almost the entire Arabian Peninsula, blanketing the area in sandy terrain and seasonal winds. It contains Rub'al-Khali, one of the world's largest continuous bodies of sand in the world.
- A large proportion of the Arabian Desert lies with the political borders of Saudi Arabia.
- A significant portion of the desert reaches into Yemen in the southwest and Oman on the eastern border. Along the coast of the Persian Gulf, the Arabian Desert extends into the modern sheikdoms of the United Arab Emirates and Qatar. The desert continues its expansion northward from Saudi Arabia as well, reaching into Kuwait and Jordan. Traces of the Arabian Desert are also found in Egypt and Iraq.
- The most prominent borders of the desert are the Gulf of Aden and the Arabian Sea to the southeast and south and the Red Sea in the west.
- To the North of the Arabian Desert, the harsh conditions of the desert climate extend up towards the Syrian Desert, making the desert seem especially foreboding.

- In the summer temperatures can reach a scorching 50 °C in the heat of the day and plummet to extreme cold during the night. In the winter it is not uncommon for night time temperatures to reach below freezing.
- Gazelles, oryx, and cats and spiny-tailed lizards are some of the desert adopted species that survives in this extreme environment.

3. Kalahari Desert

- The name "Kalahari" is derived from the Tswana word Kgala, meaning "the great thirst", or Kgalagadi, meaning "a waterless place".
- The best known of the Kalahari's inhabitants are the San Bushmen, numbering only a few thousand and squeezed into inhospitable pieces of land, where they are often exploited as cheap farm labour. The San people have lived in Kalahari for around 20,000 years as hunter-gatherers.
- The Kalahari is not considered a true desert. Traditionally, an area was classified as desert if it received less than 10 inches (250 millimeters) of rain annually. A more accurate definition of a desert is a region in which the potential evaporation rate is twice as great as the precipitation. Both of these criteria are applicable to the southwestern half of the Kalahari, which receives less than 175 millimeters of rain annually.
- Therefore, Kalahari Desert is a large arid to semi-arid sandy area in southern Africa, covering much of Botswana and parts of Namibia and South Africa. Further, it stretches across 7 countries – Botswana, Zambia, the Republic of South Africa, Zimbabwe, Namibia, Angola and the Democratic Republic of Congo (DRC).
- Summer temperatures in the Kalahari range from 20 to 40 °C. In winter, the Kalahari has a dry, cold climate with frosts at night. The low winter temperature can average below 0 °C.
- The native flora includes acacia trees and many other herbs and grasses.



4. Namib Desert



- One of the oldest and largest deserts, the Namib is lying between a high inland plateau and the Atlantic Ocean.
- The Namib Desert extends along the coast of Namibia, merging with the Kaokoveld Desert into Angola in the North and South with the Karoo Desert in South Africa.
- The most widespread and dominant type of desert sand dunes are linear dunes, with crescent shaped dunes common along the coast and clusters of star dunes, such as the towering horseshoe of dunes at Sossusvlei, found in the eastern reaches of the sand sea.
- A section of the central Namib Desert incorporates the Namib Naukluft Park, the largest park in Namibia and the 3rd largest on the African continent. The present day park is a combination of the Namib Desert Park and the Naukluft Mountain Zebra Park as well as sections of the Diamond Area.
- Erratic annual rainfall compounds the regional aridity. Rain can only fall over the Namib Desert when warm, moist air is blown onto the eastern side of the African subcontinent by south-east trade winds. It is highly seasonal and coincides with weak South Atlantic anticyclone activity.
- The Namib Sand Sea is a unique coastal fog desert encompassing a diverse array of large, shifting dunes. Coastal fog regulates the climatic extremes. It is a most reliable source of moisture and although the amount of water captured from a blanket of fog is relatively small, plants and animals have adapted to the amounts on offer.

- The Namib is almost completely uninhabited by humans except for several small settlements and indigenous pastoral groups, including the Ovahimba and Obatjimba Herero in the North, and the Topnaar Nama in the Central Region.

5. Thar Desert

- The name 'Thar' is derived from thul, the general term for the region's sand ridges.
- Thar desert is also known as 'The Great Indian Desert'. To its North lies the Sutlej basin and it is bounded by the Aravalli range on the East and southeast, the Rann of Kutch and the plains of Kathiawar on the South, and the Indus basin on the East.
- It is spread over four states in India, namely Punjab, Haryana, Rajasthan, and Gujarat, and two states in Pakistan.
- It is the 18th largest subtropical desert land and also one of the most populated ones and most civilized desert in the world.
- The subtropical desert climate there results from persistent high pressure and subsidence at that latitude. The prevailing southwest monsoon winds that bring rain to much of the subcontinent in summer tend to bypass the Thar to the east.
- The amount of annual rainfall in the desert is generally low, ranging from about 4 inches (100 mm) or less in the West to about 20 inches (500 mm) in the East.
- About 90 percent of the total annual rainfall occurs during the season of the southwest monsoon, from July to September. During other seasons the prevailing wind is the dry northeast monsoon.
- Dust storms and dust-raising winds, often blowing with velocities of 87 to 93 miles (140 to 150 km) per hour, are common in May and June.
- The vegetation is sparse, and patches of sewan grass and aak shrub (*Calotropis*) can be seen. The Desert National Park in Jaisalmer district has a collection of animal fossils and plants 180 million years old.
- It is also the home of the great Indian bustard, a critically endangered species found only in India.



6. Sahara Desert



- The Sahara is the largest hot desert in the world, and the third largest desert behind Antarctica and the Arctic, which are both cold deserts.
- The Sahara is bordered by the Atlantic Ocean on the West, the Red Sea on the East, the Mediterranean Sea on the North and the Sahel Savannah on the South.
- The enormous desert spans 11 countries: Algeria, Chad, Egypt, Libya, Mali, Mauritania, Morocco, Niger, Western Sahara, Sudan and Tunisia.
- The Sahara desert has a variety of land features, but is most famous for the sand dune fields. The dunes can reach almost 600 feet (183 meters) high but they cover only about 15 percent of the entire desert.
- Other topographical features include mountains, plateaus, sand and gravel covered plains, salt flats, basins and depressions. Mount Koussi, an extinct volcano in Chad, is the highest point in the Sahara at 11,204 feet (3,415 m), and the Qattara Depression in Egypt is the Sahara's deepest point, at 436 feet (133 m) below sea level.

- Although water is scarce across the entire region, the Sahara contains two permanent rivers (the Nile and the Niger), at least 20 seasonal lakes and huge aquifers, which are the primary sources of water in the more than 90 major desert oases.
- Plants such as acacia trees, palms, succulents, spiny shrubs, and grasses have adapted to the arid conditions. The central Sahara is estimated to include five hundred species of plants, which is extremely low considering the huge extent of the area.

7. Mojave Desert

- The Mojave Desert is the smallest of the four American deserts. The Mojave Desert is largely located in California; small parts of the Mojave Desert are also located in Utah, Nevada, and Arizona.
- Death Valley, which happens to be the lowest and hottest place in all of North America, is one of the three national parks located in the Mojave Desert. The other two national parks are the Mojave National Preserve and Joshua Tree National Park.
- It is typically known for its basin and range topography. Aside from the extreme low and high elevation in the Death Valley national park, the general elevation of the Mojave Desert falls between three and six thousand feet above sea level. Death Valley contains the lowest point in the Mojave Desert, Badwater is 282 feet below sea level.
- The Mojave, like all deserts in general, is known for its summer heat, however, there is wintertime cold. In the winter temperatures can fall below 0°C, but the summer temperatures can reach an incredible 54°C, especially in the Death Valley.



- The Mojave Desert receives very little precipitation each year—approximately 250mm annually. The precipitation is usually in the form of rain; however, there is the rare possibility of snow.

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