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SEVEN IMPORTANT ISSUES

I. SUPER COMMITTEE FOR DEFENCE PLANNING

Why in News?

The newly-constituted Defence Planning Committee (DPC) on 4th May 2018, deliberated on the geo-strategic landscape of the region and decided to make an "action plan" to effectively deal with various security challenges facing the nation. The members deliberated upon the geo-strategic landscape and agreed to chart a time-bound action plan in keeping with its broad mandate. The committee will also focus its energy on development of Indian defence industry and technology advancements.

Why DPC?

The decision of creating DPC comes at a time when Indian defence planning stands at a crossroads. The silo-driven approach to defence planning has resulted in the lack of an integrated view. The three services as well as the civilian and defence agencies are often seen to be working at cross purposes. Such an ad hoc approach has meant that more often than not, issues like threat perception and force structure are not managed via a centralized and authoritative overview. Instead, individual services tend to be driving the agenda at their own levels.

This lack of synchronization was underscored recently. On the one hand, the Indian Army chief was talking of a two-front war. On the other, the vice-chief of army staff was testifying before the parliamentary standing committee on defence that the budget allocated to the defence forces was hardly enough

to complete the committed payments for the emergency procurements already made, let alone for pursuing an ambitious defence modernization plan.

The headlines on Indian defence policy often tend to be completely divorced from the ground reality. India's \$250-billion military modernization programme is often talked about. But even as New Delhi remains keen on acquiring significant weapons platforms, there have been persistent doubts about its ability to harness these resources in service of a long-term strategy. Indeed, the absence of an Indian "grand strategy" that sets out political objectives for Indian power projection—and then ensures military, economic, intelligence and educational development—coordinated toward these objectives, has been a perennial topic of discussion within Indian strategic circles.

Recognizing this link between the grand strategy discourse and India's defence predicament can help develop a better articulation of political judgement to resources. The evolution of India's defence structures and processes bears witness to the persistence of personal networks and the preferences of the Prime Minister

of the day being the determinant of policy action.

Effective defence planning and force structuring is a function of an institutional framework that allows for a clear delineation of political goals, efficient mobilization of resources and effective use of these resources for developing instrumentalities of state power. With the formation of the DPC, New Delhi seems to have finally acknowledged that a new institutional framework is needed. Hopefully, this will provide an overarching vision for Indian's defence planning.

At a time when advances in technology are revolutionizing warfare, India is still debating the need to move towards leaner force structures. India needs to cut the flab on an urgent basis as over half of the annual defence budget going to meet salary and pension requirements is clearly not sustainable. The priorities of India's "Make in India" initiative and cumbersome defence procurement process will also have to be brought in sync with each other.

India's status as the world's largest arms importer hardly does justice to its ambitions to emerge as a defence manufacturing hub.

Mandate of Defence Planning Committee

1. Prepare a draft National Security Strategy
2. Develop a capability development plan
3. Work on defence diplomacy issues
4. Improving defence manufacturing ecosystem in India.

DPC would also analyse all inputs relating to the defence planning and foreign policy imperatives. The committee would focus on the defence acquisition and infrastructure development plans including the 15 year long integrated perspective plan. The committee will work for the development of Indian defence industry and technology advancements. To provide duly considered and refined inputs to the DPC, specific issues would be managed through a number of sub committees.

Significance

The Present government has created an overarching Defence Planning Committee (DPC) under National Security Advisor that will drive the country's military and security strategy, draft capability development plans and guide (and accelerate) defence equipment acquisitions.

The formation of the DPC is likely to bridge a key gap in the existing defence planning mechanism, which, for long, was thought would be met through the creation of the post of Chief of Defence Staff (CDS) as the ultimate arbitrator of all requirements of the armed forces including the planning aspects. With the CDS not finding favour with successive political dispensations, the existing system of HQ IDS-led planning is perceived to have given way to the parochial interests of various stakeholders. This has had an adverse impact not only on how security threats were perceived by various security organs, but also on how scarce resources are distributed among the services and within the various branches of each service. Equally importantly, the existing planning process has had very little control on such aspects as true indigenisation and self-reliance in defence procurement matters, which are being vigorously pursued through the 'Make in India' programme.

Overall, the extant system of defence planning resulted in: the provision of less than adequate resources to meet numerous security challenges; chasing goals that were not of immediate priority; duplication and wastage of scarce resources;

giving less than required focus on new technological advancements while pursuing manpower driven military modernisation; and, a defence R&D and manufacturing base losing its sight on self-reliance.

With the powerful DPC in place and the NSA assuming the role of de facto CDS for all practical purposes other than in operational matters, the defence planning process is expected to become more rational as well as provide a much needed boost to defence preparedness. The realistic enough expectation is that the DPC would clearly articulate the key national security/ defence/ military goals as well as prioritise defence and security requirements as per the likely available resources while at the same time providing adequate focus on emerging security challenges, technological advancements and establishing a strong indigenous defence manufacturing base.

It will also work on a strategy to boost defence exports and prioritise capability development plans for the armed forces.

Perhaps the most sub-optimal performance in our entire public sector has been by our defence production units and the Defence Research and Development Organisation (DRDO). Almost all projects are running late, often by decades, with huge cost overruns. To see a nation with global aspirations blundering so egregiously when it comes to meeting critical defence requirements is nothing short of scandalous.

As a result of our woefully inadequate indigenous defence production, India has become the world's largest importer of arms. Billions go in the purchase of weapons, ignoring other vital priorities, when actually India could have been earning much needed revenue by exporting arms. In stark contrast, China, with a much bigger arsenal hardly imports any defence equipment precisely because it has so efficiently upgraded its internal defence production. If fact, it is a major exporter of arms.

Decisions

The new Defence Planning Committee (DPC) met for the first time under the chairmanship of National Security Advisor Ajit Doval to chalk out the way ahead for finalizing the draft National Security Strategy (NSS) and other doctrines as well as ushering reforms in the country's higher defence management and planning.

- The 15-lakh strong armed forces have been told to become leaner and meaner for technology-intensive futuristic wars because there is simply not enough money for unbridled procurements in the face of the ballooning wage and pension bills.
- National security adviser Ajit Doval, stressed that the Army, Navy and the Indian Air Force (IAF) have to ensure optimal utilisation of funds with clear intra and inter-service prioritisation in the acquisition of weapon systems due to budgetary constraints.
- The three Service chiefs, Admiral Sunil Lanba, General Bipin Rawat and Air Chief Marshal B S Dhanoa, were also asked in the Defence Planning Committee meeting to assess threats to national security in the short, medium and long-term time frames and draw up plans to effectively counter them.
- A draft national security strategy, which has to basically revolve

As of March 2018 members of the Defence Planning Committee (DPC) include:

1. National Security Advisor of India as Chairman, Ajit Doval
2. Three Service Chiefs
 - ♦ Chief of the Army Staff (COAS) — General Bipin Rawat
 - ♦ Chief of the Naval Staff (CNS) — Admiral Sunil Lanba
 - ♦ Chief of the Air Staff (CAS) — Air Chief Marshal Birender Singh Dhanoa
3. Defence Secretary- Sanjay Mitra
4. Expenditure Secretary- Ajay Narayan Jha
5. Foreign Secretary- Vijay Gokhale
6. Chief of Integrated Defence Staff- Lt General Satish Dua

around preserving India's territorial integrity and strategic autonomy in face of myriad external and internal threats, as well as long-pending reforms in the country's higher defence management and planning are high on the agenda of the Defence Planning Committee.

- Another sub-committee under the DPC will be on "defence diplomacy", which will evaluate the foreign policy imperatives and formulate an international defence engagement strategy. This is crucial since it is often felt that while India promises a lot to countries in its neighbourhood and the Indian Ocean Region in terms of military supplies and capacity-building, it fails to deliver effectively.
- The "policy and strategy" sub-committee, will undertake an external security risk assessment and define national defence and security priorities, as also help in finalizing the draft NSS, national military strategy and strategic defence strategy.

Earlier Tries

This is not the first time a reform like the DPC has been tried for defence planning. In 1974, the apex group was established under the planning minister to bring defence planning under the purview of national planning.

In 1977, the then government had set up a Committee for Defence Planning (CDP) to allocate resources among the defence services and undertake regular assessments relevant to defence planning.

On the lines of NATO: The Defence Planning Committee was a former senior decision-making body on matters relating to the integrated military structure of NATO. It was dissolved following a major committee review in June 2010 and its responsibilities absorbed by the North Atlantic Council.

The DPC was the ultimate authority on all questions related to NATO's integrated military structure. It provided guidance to NATO's military authorities and oversaw the force planning process.

Existing Architecture: While India does have a defence planning architecture in place, this is the first time it is creating a body that will factor in everything from foreign policy imperatives to operational directives and long-term defence equipment acquisition and infrastructure development plans to technological developments in other parts of the world while coming up with a plan.

Way Forward

The DPC will be a permanent body. It is mandated to prepare a draft national security strategy, undertake a strategic defence review and formulate an international defence engagement strategy. Even if this sounds too ambitious, the intent must be welcomed. Perhaps, the resolve, one year before this government's term expires, to create an inter-ministerial body for preparing a national security strategy, is too little too late. But, there can never be a wrong time to begin the effort to redeem strategic policy making from the insular vertical silos in the establishment thus far.

The NSA, as the chairperson, brings in the PMO, which in real terms, is the final arbiter in national security matters. It includes the armed forces, which have thus far been sidelined by the ministry of defence bureaucracy. Diplomatic inputs will be provided by the foreign secretary. And, very importantly, the ministry of finance, which controls the purse strings, is co-opted by the presence of the secretary (expenditure).

Some important questions also need clarification. With the setting

up of the DPC, what happens to another committee, set up just two months ago, called the Raksha Mantri Advisory Committee on Ministry of Defence Capital Projects, which was created to review ongoing capital acquisition projects worth more than Rs 5 billion? Will it be subsumed by the DPC, or will committees proliferate duplicating each other's mandate?

Will the DPC also take into account new areas of strategic vulnerabilities – and opportunities – such as cyber, electronic and psychological warfare? With the NSA now in command, will the proposal for a chief of defence staff, be buried?

What is the actual position with regard to collaboration with the corporate sector in defence production? Will the DPC encourage this in a fair and transparent manner with tangible results to show? And, finally, with the powers now assumed by the DPC, what exactly is the role of the rakshamantri? She is not on the committee (the defence secretary is), but is it because she is above it, or because her role is only that of rubber stamping what the DPC decides?

While these residual questions remain, the central point is that any attempt to cohesively devise a national strategic policy and enhance defence preparedness, must be an overriding priority for India. The DPC is the right step in this direction, provided it works dynamically, meets frequently, follows a strict timeline, allows members to express their views freely and – since the NSA can co-opt members as required – welcomes academic and thinktank peer review.

General Studies Paper- II

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



2. THE MENACE OF MALNUTRITION IN INDIA

Why in News?

Recently the National Council on Nutrition (NCN) has unanimously rejected Union Minister for Women and Child Development (WCD) Maneka Gandhi's proposal to replace ready-to-eat food as take-home dry ration with energy-dense nutrient packets which could be mixed with food for anganwadi beneficiaries.

The council has also directed that pilot projects be conducted in 10 select districts on cash transfers instead of take-home rations — Ms. Gandhi has opposed the idea on the grounds that there is no guarantee that beneficiaries would use the money for food.

Introduction

The rationale for investing in nutrition is globally well recognized — both as a critical development imperative, as well as crucial for the fulfillment of human rights- especially of the most vulnerable children, girls and women. It constitutes the foundation for human development, by reducing susceptibility to infections, related morbidity, disability and mortality burden, enhancing cumulative lifelong learning capacities and adult productivity. Nutrition is acknowledged as one of the most effective entry points for human development, poverty reduction and economic development, with high economic returns.

Under nutrition is both a consequence as well as a cause of perpetuating poverty, eroding human capital through irreversible and intergenerational effects on cognitive and physical development. This intergenerational cycle of under nutrition, manifest as low birth weight, is compounded by gender discrimination and social exclusion.

The central principle that should guide the Centre in improving maternal

and child nutrition is that early childhood is the foundation for the health and well-being of an individual. Tinkering with the existing national programme of providing hot-cooked meals to children three to six years old and take-home rations for younger children and pregnant and lactating mothers is fraught with danger. Attempts to substitute meals or rations with factory-made nutrients will inject commercialisation into a key mission and upset the nutritional basis of the scheme. Good sense has prevailed and the newly-formed inter-ministerial National Council on India's Nutrition Challenges has chosen to continue the current practice, overruling the Minister for Women and Child Development, Maneka Gandhi, who proposed distribution of packaged nutrients to beneficiaries.

Nutritional Politics

Many children have died of malnutrition in India and yet Women and Child Development Ministers over the years haven't decided what food to be give to children in anganwadis. This is worrying. How many more children must suffer from stunted growth before the Minister in charge of their welfare decides on whether to serve them hot-cooked nutritious meals or packaged/processed fortified mixes? And why does there have to be a choice between the two? Why can't India incorporate both? Is it really that difficult to keep a close watch on the quality of food served to children between the ages of three and six as well as take-home ration for pregnant and lactating women?

Apparently, it is. The governments in past as well as in present have always exercised the easy option: dense, fortified food for malnourished children, courtesy the manufacturers.

After more than a decade of discussions, there is no solution on what to feed children in anganwadis.

Determinants of Under Nutrition

Undernutrition is the outcome of a complex interaction between insufficient dietary intake, absorption and inadequate prevention and management of disease/infections- these are the immediate determinants of undernutrition. Underlying determinants include the lack of access to health and child care services, safe drinking water, sanitation and hygienic environments, lack of access to household food security and livelihoods and inadequate caring and feeding practices for children and women. Care practices are critical as they translate food and health resources into nutrition outcomes for children and women. These include infant and young child feeding practices, health, hygiene, care for girls and women, psychosocial care and early learning. Direct or nutrition specific interventions mostly focus on improving the immediate and underlying determinants of undernutrition, with impact visible over a shorter period of time.

Basic determinants include factors such as poverty, livelihoods, social protection safety nets, agriculture, public distribution systems, education and communication- especially female literacy and girls' education, women's empowerment and autonomy in decision making, control and use of resources (human, economic, natural), shaped by the macro socio- economic and political environments and the potential resource base.

Child Under Nutrition

India is home to the largest number of children in the world. Nearly every fifth

young child in the world lives in India. It is estimated that there are about 43 crore children in the age group of 0-18 years. Children and women together constitute around 70% of India's people – representing not just the present human resource base – but also the future. This resource base is eroded by undernutrition - which undermines their survival, health, cumulative learning capacities and adult productivity and must be urgently addressed. Child Undernutrition remains high, despite improvements over the last decade.

Underweight Prevalence in Children

In India, undernutrition levels have remained persistently high – especially in utero, in the early years of life, in adolescent girls and in women across the life cycle-especially in disadvantaged /excluded community groups and those living in areas or conditions of high nutritional vulnerability and multiple deprivations.

Overall, there has been a 16% decrease in the underweight prevalence among children below 5 years. Underweight prevalence in children under 5 years (composite indicator of acute and chronic undernutrition) has declined in all the States and UTs (except Delhi), although absolute levels are still high.

Remarkable reductions are seen in Himachal Pradesh (by 41.9%), Meghalaya, Mizoram, Arunachal Pradesh (by 40%), Tripura (by 39%) and Manipur (by 37.8%); whereas Maharashtra, Goa, Karnataka, Uttar Pradesh and Rajasthan show near stagnation.

Stunting in Children

Recent findings from National Family Health Survey (NFHS-4) highlight that stunting in children under 5 years has reduced in all the states, although absolute levels are still high in some

states. Most significant reductions are seen in Arunachal Pradesh (by 32.10%), Tripura (by 31.92%), Himachal Pradesh (by 31.86%), Punjab (by 29.9%) and Mizoram (by 29.6%). Reductions by more than 25% are also seen in the case of Chhattisgarh, West Bengal, Nagaland, Maharashtra and Haryana, Gujarat.

While the overall prevalence of stunting has gone down, in terms of absolute values, it continues to remain high in Bihar, Uttar Pradesh, Jharkhand, Meghalaya, Madhya Pradesh and Dadra & Nagar Haveli, where more than 40% of the children remain stunted.

Wasting in Children

Findings from NFHS-4 highlight that wasting in children under 5 years (weight- for- height) or acute malnutrition is still high, with levels above 25% in Jharkhand (29%), Dadra & Nagar Haveli (27.6%), Gujarat (26.4%), Karnataka (26.1%), Madhya Pradesh (25.8%) and Maharashtra (25.6%). Significant reductions are seen in Meghalaya (by 50%), Mizoram (by 32.33%), Tripura (by 31.7%), Himachal Pradesh (by 29.01%) and Madhya Pradesh (by 26.28%); although absolute values remain high. Sharp increase in the incidence of child wasting is seen in Punjab, Goa, Maharashtra, Karnataka and Sikkim.

The Dark Side

Data on malnutrition should serve as a wake-up call for the government. When the government recently launched POSHAN Abhiyaan, an integrator that will build capacity among nutrition workers, it acknowledged that while official data show a reduction in some of the depressing aspects of women and child health, the ground reality is far from comforting: the National Family Health Survey-4 shows a drop in underweight and stunted children under five years of age compared to the previous survey, but the absolute

numbers are still high. An estimated 35.7% children are underweight and 38.4% are stunted in that age group. The body mass index of 22.9% women aged 15-49 indicates chronic energy deficiency. These figures should cause alarm that even after a long period of robust economic growth; India has not achieved a transformation.

Eight years ago, when malnutrition deaths occurred in some districts in Maharashtra, a simple solution involving a protein-rich diet called Lapsi — a green millet mixture combined with water and milk — was given to malnourished babies. In Jharkhand, dry rations such as oil, dal, wheat or rice were given to mothers — until the contractor lobby forced the government to shift in favour of processed food. The point is to address malnourishment through locally produced diverse food options that the country offers.

Government Initiatives

Raising nutritional standards for young children has become a policy imperative only in recent years, with the National Food Security Act, 2013, incorporating the mandate in Schedule II and the Supplementary Nutrition (Integrated Child Development Services Scheme) Rules, 2017, laying down entitlements. They emphasis on strengthening these legal guarantees by providing more nutritious hot-cooked meals and rations with the help of local self-help groups is to be welcomed. If the ICDS scheme, now called the Anganwadi Services Scheme, is to achieve better outcomes, it must focus on the provision of physical infrastructure and funding, besides closer monitoring of the nutrition mission. Theoretically, the mission covers every child, but in practice it is not accessible to all.

POSHAN Abhiyan

It was launched on 8th March 2018 in Jhunjhunu (Rajasthan) to reduce

malnutrition and stunting among children and women. It has been set up with a three year budget of Rs.9046.17 crore commencing from 2017-18. It is a comprehensive approach towards raising nutrition level in the country on a war footing. It will comprise mapping of various schemes contributing towards addressing malnutrition, including a very robust convergence mechanism, ICT based Real Time Monitoring system, incentivizing States/UTs for meeting the targets, incentivizing Anganwadi Workers (AWWs) for using IT based tools, eliminating registers used by AWWs, introducing measurement of height of children at the Anganwadi Centres (AWCs), Social Audits, setting-up Nutrition Resource Centres, involving masses through Jan Andolan for their participation on nutrition through various activities, among others.

It targets to reduce stunting, under-nutrition, anemia (among young children, women and adolescent girls) and reduce low birth weight by 2%, 2%, 3% and 2% per annum respectively. Although the target to reduce stunting is at least 2% p.a., mission would strive to achieve reduction in stunting from 38.4% (NFHS-4) to 25% by 2022 (Mission 25 by 2022). More than 10 crore people will be benefitted by this programme. All the states and districts will be covered in a phased manner i.e. 315 districts in 2017-18, 235 districts in 2018-19 and remaining districts in 2019-20.

The mission focuses on social and behavioural change. The community based events envisaged to improve linkage between community and front line workers and by wide public participation convert this into Jan Andolan to make "New India" as "Suposhit Bharat". In order to ensure awareness of health and nutritional behaviour among beneficiaries, it is pertinent that the front line functionaries are adequately trained

this is achievable through incremental earning approach another essential component of the mission. Incentives have also been built in at state, district and aanganwadi level to ensure an overall enhanced participation at all level in the mission.

Food Under DBT

The Union government was running two pilot programmes in Assam and Uttarakhand. In Assam, they are supplying money needed to buy nutritional food to families of children directly. This has reduced corruption and leakage.

In Uttarakhand, they are sending 30 nutritional packets per month to children's homes directly. These dry food packets can be cooked into tasty, nutrient rich and palatable food by their mothers.

The National Council on India's Nutrition Challenges

The National Council on India's Nutrition Challenges, headed by Vice-Chairman of the NITI Aayog Rajiv Kumar was constituted in January 2018.

The mandate of the National Council on India's Nutritional Challenges is as under:

- Provide policy directions to address India's nutritional challenges through coordinated inter-sectoral action.
- Coordinate and review convergence between Ministries.
- Review programmes for nutrition on a quarterly basis.

This system has brought down the chances of food being stolen by middlemen. Both the systems are Aadhaar linked. Aadhaar-linking had introduced transparency, reduced bogus beneficiaries and increased efficiency. It has reduced presence of over 11 lakh bogus children in Maharashtra and over three lakh children in Assam.

Way Forward

Despite thousands of crores of rupees being spent and a number of government schemes working for child

development, the status of health and nutrition of children remains abysmal. All nutrition-specific and nutrition-sensitive schemes work in silos. As a result, they are not able to achieve the intended outcome. Therefore, the establishment of a nodal agency that would facilitate coordination of all ministries and departments and execute the schemes in a convergent manner is urgently required.

The need of the hour is to involve all field functionaries in a productive manner. Consistent monitoring and evaluation of the schemes using technological interventions and real-time data is important. There is also a need to providing leverage budgets from related departments to develop an integrated plan with cross- sectoral collaboration to achieve nutrition-related targets.

To accelerate the pace of progress, POSHAN Abhiyaan should rigorously measure levels of access and quality of nutrition and publish the data periodically. It should be pointed out that NFHS data show several states performing worse than the national average. In a recent report, Nourishing India, the NITI Aayog refers to acute malnutrition levels of about 25% in some states. There is no quick fix and the answer to better nutrition lies in fresh, wholesome and varied intake.

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.

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



3. NEW ERA OF IRRATIONALITY

Context

India is considered as a land of belief. Indians like to assert that faith and religion are a 'way of life'. Terms such as modernity, rational thinking and scientific analysis are often frowned upon and misdiagnosed as disrespect to Indian culture. In recent years, we have entered a new era of Irrationality. There are also new ways in which unscientific views have entered the political arena, making them more visible and problematic. There appears to be a relay race among people in public positions, each one making an astonishingly ridiculous claim and then passing on the baton. The claim that the Internet existed in the times of the Mahabharata is the latest. But there have been several other persons before that: Ganesh was the first example of plastic surgery, Darwin's theory of evolution is hokum because nobody has seen monkeys turning into humans and that Stephen Hawking had said that Vedas have a theory superior to Einstein's theory. These statements have made the mockery of scientific achievements that have been made in the country and made us the laughing stock of the global scientific community.

These remarks are generally made by the fringe and god-man. The fact that these claims are often made by public officials is a cause of concern. The assault on rationality is a consequence of a concerted strategy of political forces. As rational thinking thins, the same political forces fatten. Extremists are threatening and killing 'rationalist' activists. After Narendra Dabholkar's murder, two more rationalists Govind Pansare and M.M. Kalburgi were killed. Critics have raised questions on the safety of writers and journalists against after the killing of senior Kannada journalist Gauri Lankesh in Bengaluru.

It is a threat to the democratic and constitutional ethos of the country. It is not that the atmosphere of India has become intolerant, but those intolerant people have got ways of eliminating the rationalists.

Irrationality vs Rationality

Irrationality is cognition, thinking, talking, or acting without inclusion of rationality. It is more specifically described as an action or opinion given through inadequate use of reason, or through emotional distress or cognitive deficiency. The term is used, usually pejoratively, to describe thinking and actions that are, or appear to be, less useful, or more illogical than other more rational alternatives.

It is a notion that reason and religion are mortal foes. Reason deals a death blow to religion; religion is clearly irrationality on stilts. If only religion didn't exist, reason would rule the world and there would be no more wars, tyrannies or murderous hatreds. It follows therefore that religious people are either stupid or unbalanced and are inimical to progress, modernity and happiness. This conception isn't true at all. In fact, reason is underpinned by religion, without which there would have been no science, no equality and human rights and no liberal belief in progress.

In the backdrop of a multi-religious country with a secular constitution, the nationalism has been gaining ground. Last year a nationwide court order forced cinemas to play the national anthem before or films and requires cinema-goers to stand for its duration. The order has resulted in arrests and attacks on disabled people unable to stand. The belief system is so deeply entrenched in our society that Indians have never really adopted the scientific temper, irrespective of our education.

It's evident from our belief in crackpot sciences such as astrology and palmistry in our daily lives. However, in the past four years, the belief in pseudo-sciences has gained a political fig leaf as have tall, unverifiable claims on science. The cultivation of scientific temper involves asking questions and demanding empirical evidence. It has no place for blind faith. The leaders have devised a devious strategy to invest in the culture of blind belief. They already have a willing constituency. Ludicrous statements made by leaders in positions of power with alarming frequency, go on to legitimise and boost the Era of Irrationality.

The idea of examining belief is not palatable to some people. Actually, the stand one should take should be, feel free to examine my faith. It will stand your test and if it does not it won't be belief. Why should one stick to things that don't stand the test? A piece of gold is never afraid of being tested in the furnace, because it is confident that going through the test will make it more lustrous. Same is the case with morality. It easily stands the test of time eternal.

The Constitution has provided the freedom of speech & expression and freedom of religion to the people. Everyone has the fundamental right to express their opinion. There is a famous phrase "I do not agree with what you have to say, but I'll defend to the death your right to say it". But all the freedoms come with certain restrictions and rights with duties. The same is true for our constitutional principles in the form of fundamental rights and fundamental duties. The founders of the Constitution were aware of this. Hence the words "scientific temper" and "the spirit of inquiry and reform" find place in the Constitution, along with "secular", "equality" and "rights".

To dismantle secularism, dilute equality and pushback rights, it is imperative to destroy a scientific temperament.

The indoctrination against the scientific temper begins very early in our lives. It starts in our families and communities where young minds are aggressively discouraged from questioning authority and asking questions. An upper caste child for example may be forced to follow customs, which among others include practicing and subscribing to the age-old caste system. The same methodology is used to impose fixed gender, sexual and religious identities. As a result, we are hardwired to be casteist, majoritarian and misogynist. The final step in the 'irrationality project' is to inject with regularity, preposterous, over-the-top claims about the nation's past. It effectively blurs vision of the present.

Scientific Temper in India

The term "scientific temper" was first used in India by Pandit Jawaharlal Nehru in 1946. After he became the first Prime Minister of Independent India in 1947, Nehru relentlessly expanded the notion of scientific temper and strived hard to convince the political and scientific leadership to inculcate scientific temper among its citizens. The Scientific Policy Resolution (SPR) of the government of India, adopted by both the Houses of Parliament in 1958, reflected the national aspiration based on which Nehru was able to build on the concept of scientific temper. SPR was an expression of India's political leaders' faith in science and the role that technology could play in national development.

In 1976, through a constitutional amendment 'To develop the scientific temper, humanism and a spirit of inquiry and reform' a nodal agency, the National Council of Science and Technology Communication (NCSTC), was set up under the Department

of Science and Technology to take necessary measures to inculcate scientific temper in the citizens.

In the 1980s, People's Science Movements emerged in different parts of the country. These movements spearheaded by Kerala Sastra Sahitya Parishad and supported by the National Council for Science and Technology Communication resulted in two massive mobilisations in the forms of Bharat Jan Vigyan Jatha-1982 and Bharat Gyan Vigyan Jatha 1987.

In 2011, 'The Palampur Declaration' an international conference on scientific temper organised by the four premier agencies of the government of India viz., Council of Scientific and Industrial Research-National Institute of Science Communication and Information Resources (CSIR-NISCAIR), National Council of Science Museums (NCSM), National Council for Science and Technology Communication (NCSTC) and VigyanPrasar in New Delhi. The context of the conference was, "The pace of technological intrusion, without essential back-up support of scientific knowledge base, introduces cultural and social distortions within traditional cognitive structures. Lack of effort in providing the necessary complementary scientific knowledge base to the population at large is consolidating these distortions resulting in the erosion of democratic structures. Moreover, technology-driven modernisation creates a cognitive gap due to loss of traditional knowledge, which is being filled in by religiosity in new forms".

Scientific Temper in Indian Constitution

Though the importance of scientific temper had been generally recognised, no specific role or place was assigned to it in the Indian Constitution as originally enacted. The Fifth Parliament by the 42nd Amendment to the Constitution inserted one article namely Article 51A(h).

This scientific temper or scientific attitude is characterized by following traits:

- Healthy skepticism
- Universalism
- Freedom from prejudice or bias
- Objectivity
- Open mindedness and humility
- Willingness to suspend judgment without sufficient evidence
- Rationality
- Perseverance - positive approach to failure

It says that : "It shall be the duty of every citizen of India to develop the scientific temper, humanism and the spirit of inquiry and reform". - Article 51 A(h)

Thus, a good citizen of India is duty bound to develop a scientific temper. Development of scientific temper among the people could, in fact, bring into focus the essence of all religions-the universal laws governing the inner world of human beings and, thus, promote communal harmony in a multilingual, multi-religious and multiracial country like India.

Scientific Temper and Religion

There is a widespread misconception about "religion" or "Dharma". Unfortunately, the english word "religion" is not an appropriate translation of the Sanskrit word "Dharma" used in Indian tradition. The term "Dharma" literally means "Law of Nature". Dharma is thus an exposition of the laws pertaining to our inner world, just as science deals with the laws pertaining to the outer world. The difference between 'science' and 'dharma' is thus only a difference in the realm of enquiry – as there are differences between the various "departments" of science such as physics, chemistry, zoology, psychology etc. Just as the understanding of laws of science enables us to bring an order in our 'outer' world, proper understanding of Dharma enables us

to bring an order in our inner world. There is thus, no reason that the scientific method can not be extended to the pursuit of “Dharma”.

Swami Vivekananda pleaded vigorously for this:

“Is religion to justify itself by the discoveries of reason through which every other science justifies itself? Are the same methods of investigation, which we apply to science and knowledge outside, to be applied to the science of religion? In my opinion, this must be so; and I am also of opinion that the sooner it is done the better. If a religion is destroyed by such investigations, it was then all the time useless, unworthy, superstition and the sooner it goes the better. I am thoroughly convinced that its destruction would be the best thing that could happen. All that is dross will be taken off, no doubt, but the essential parts of religion will emerge triumphant out of this investigation. Not only will it be made scientific – as scientific, at least, as any of the conclusions of physics or chemistry – but it will have greater strength because physics or chemistry has no internal mandate to vouch for its truth, which religion has.”

Conclusion

The absurd statements by political leaders and God-men are misleading

to the society. They exert greater influence on the society and people look up to them. These statements are more than a deceit to the fundamental principles of the human nature and its progress. The goal of scientific temper and questioning is inevitable for the development of science and technology. These misleading statements and dark-era statements are not just the violation to the fundamental duties but also the misuse of the right to speech and expression.

Scientific temper is an intrinsic quality. It has to be imbibed and not merely imparted. But in our anxiety not to invest our best brains outside the country, we seem to have resorted to imparting scientific temper in our education curriculum and not inculcating this spirit in our young minds. This trend has reversed, the teacher and the taught both have great roles and responsibility in this endeavor. Scientific temper has to be an inherent quality in our young minds and it should be cultivated in them as a matter of routine and the curriculum-based attempts will not always be complete of which has to be a societal responsibility as well. Critical analysis is a quality which has to be cultivated and this quality is somehow missing in our education system due to our anxiety to impart formal knowledge fully at an early stage of

the students’ career without even considering whether assimilation and acquiring have been accomplished.

Political and constitutional framework in formulating policies for scientific temper can only be decorative and acceptable languages but the enforcement of them in the education system has not shown any rewards. The educational structure adopted by this country is not only shaken but also is being questioned if it is appropriate to our system of learning. Any exercise seeking truth whether it may be in science or in any other activity of human race has always been scrutinized and criticized, but never doubted and hence it is hoped that India will evolve and re-emerge with appropriate scientific temper which can be an eye opener to the whole world.

Politicians and other role models of the society need to keep a healthy and progressive attitude in public life and should contribute positively to the society in terms of imbibing modern values and keeping the nation ahead of the knowledge revolution.

General Studies Paper- I

Topic: Salient features of Indian Society, Diversity of India.

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4. PANCHAYATI RAJ @25 YEARS

Context

On 24 April 1993, India took a momentous step to strengthen its democracy by making it much more inclusive and participatory. The government notification of the 73rd Constitution Amendment Act or The Panchayati Raj Act (later 74th Act for urban local bodies) brought a “third-tier” to the country’s federal polity and heralded a new era of decentralised governance. Significantly, the

73rd Amendment established a constitutional and legal basis for local self-governance institutions or decentralized governance in India. In 2018, twenty-five years have gone by after this significant measure.

The Background

The system of Raj of Panchayat has always existed in India. The traditional Panchayats had been formed in various parts of India after the pastoral society was converted into an agrarian one

following the emergence of agriculture as the major mode of production and the consequent settlement of the villages. Every village community formed a council for the system maintenance and conflict resolution. The British too admired the village ‘Panchayat’. Sir Charles Metcalfe, a British governor in India in the 19th Century even called them “the little republics”. But these so called little republics were not ideal centers with democratic participation of all the

people, due to the caste ridden feudal system of those days.

During the British period, the working village assemblies were kept alive and wherever there was a demand for them they were revived, in fact, local self-government in India, in the sense of a representative institution accountable to the electorate, was the creation of Lord Ripon in 1882.

In modern independent India, April 24, 1993 is a red-letter day in the history of Panchayati Raj as on this day the constitution (73rd Amendment) Act, 1992 came into force to provide constitutional status to the Panchayati Raj institutions. It has brought them under the purview of the justiciable part of the Constitution. The Panchayat Extension to Scheduled Areas (PESA) Act, 1996 lays a framework of self-governance and people's control over resources through the Gram Sabhas in Schedule V areas.

The Ministry of Panchayati Raj was created as a separate Ministry on 27th May 2004. It has the primary objective of implementation of Part IX of the Constitution, Panchayats in Fifth Schedule Areas and District Planning Committees. Since under the scheme of things in the Constitution, most of the actions including framing of laws rests with the State Government, the Ministry strives to reach its goals primarily through advocacy and also through financial support. The Ministry of Rural Development extends limited financial assistance to the states in their effort to train and create awareness among the elected members of Panchayats and functionaries. The State Governments are being asked to conduct such training courses. The Ministry has also been providing financial assistance through the Council for Advancement of People's Action & Rural Technology (CAPART) to the non-governmental organizations for conducting training and awareness generation programmes

on Panchayati Raj. This Ministry also commissions research and evaluation studies related to Panchayati Raj from voluntary organizations/institution.

Panchayati Raj : The Game-changer

The 73rd Amendment which bestowed constitutional status to the Panchayats and recognised them as "self-governing institutions" has made deep inroad into the democratic psyche of the country. Numbers speak for themselves. From merely 5,000 elected representatives (MPs/MLAs), the PRI Act has created space for a mammoth three million representatives at various levels (Gram Sabha, Panchayat Samiti and Zilla Parishad), thus making it the largest democratic exercise in the world.

The second — and the most critical — contribution is that the 73rd Amendment Act has deepened democracy, political inclusion and participation among the most marginalised sections of the society. The mandatory reservations for women, Scheduled Castes and Scheduled Tribes and Other Backward Classes that the 73rd Amendment enumerated has brought up more than a million new representatives from these sections to the democratic spaces. This is arguably India's most transformative affirmative action for women in the political sphere. Compared to a measly 8% representation in Parliament and State Assemblies, now a staggering 49% of elected representatives are women. There are 14 lakh elected women representatives now. Out of this, 86,000 chair their local bodies.

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Of course, there are plenty of stories about "notional" representation and how women representatives, including those holding Sarpanch and Zilla Parishad chairmanship, have

become pawns (proxies for their husbands or other family members) in the hands of male members. Yet, a number of reports and studies in the recent times show plenty of positive outcomes emerging from such mandatory quota in Panchayats. For example, researchers in their influential study of Panchayats in Rajasthan and West Bengal found that women representation in the local bodies had positive effect in adequate delivery of local public goods to disadvantaged groups. Another study found that having more women in local bodies help women come forward to report crimes and take up issues beneficial to women. Although comprehensive nation-wide empirical studies are yet to emerge, there is some evidence to suggest that notwithstanding their low level literacy, absence of political and managerial skills and exposures, elected representatives belonging to women, scheduled tribes and scheduled castes are asserting their political rights and beginning to emerge as leaders breaking away from the centuries-old oppression and marginalisation.

Third, from being ranked "toothless institutions" in the decades earlier (post-Balwant Rai Mehta Committee 1957), the 73rd Amendment not only been vested with many functions ranging from civic welfare to preparation of plans and their expenditures, but also PRIs have lately been bestowed with considerable resources (on paper) to look after their day-to-day affairs. Recognising their transformative potentials to service delivery and local governance, both the 13th and the 14th Finance Commissions have allocated a sizeable percentage of the central transfers (converted into untied grants) to local bodies. The N.K. Singh led 15th Finance Commission has proposed to increase the current funding by about 2 per cent of the divisible pool. This could become a potential game changer.

Fourth, such has been the promise of the decentralisation that the Union Government has chosen Panchayats as the principal planning and implementing authorities to execute its most ambitious flagship rural employment guarantee programme (MGNREGA, Swachh Bharat).

Finally, with pressures building from the bottom, the decentralisation initiative is taking serious traction in terms of actual devolution of powers to local bodies. Of late, a healthy competition has emerged among various states in terms of devolving funds, functions and functionaries (3Fs). For instance, after getting inspired by Kerala and Karnataka (which has devolved 26 departments), Rajasthan too took a plunge to devolve 3Fs in respect of 9 departments such as agriculture, education, health, social welfare and women and child. Similarly, the government of Bihar has come out with the idea of “Panchayat Sarkar” that lends primacy to grassroots governance in the overall scheme of development. After waiting for 30 years, Jharkhand went for Panchayat elections recently. In short, the decentralisation process has taken a strong root and looks ‘irreversible’ in India.

Panchayati Raj: Shortcomings

Panchayati raj institutions are simultaneously a remarkable success and a staggering failure. Soon after the 73rd and 74th Amendments, every state government began the process of creating the requisite layer of PRIs and urban local bodies. State election commissions were in charge of the infrastructure required to elect local representatives. There are about 250,000 PRIs and urban local bodies and over three million elected local government representatives. The 73rd and 74th Amendments required that no less than one-third of the total seats in local bodies should be reserved for women. At 1.4 billion, India has the

most women in elected positions. Seats and sarpanch/pradhan positions were also reserved for SC/ST candidates.

On all other margins except representation, PRIs are either a failure or, at best, a series of missed opportunities. Before 1993, India had only two levels of government. The 73rd Amendment introduced local governing bodies across India. This amendment, however, did not require the implementation of local self-governing bodies. It only mandated the creation of local self-governing bodies and left the decision to delegate powers, functions and finances to the state legislatures. And therein lies the failure of PRIs.

The first failure of the 73rd Amendment was that the transfer of various governance functions—like the provision of education, health, sanitation and water was not mandated. Instead the amendment listed the functions that could be transferred and left it to the state legislature to actually devolve functions. There has been very little devolution of authority and functions in the last 25 years. PRIs cannot govern unless they are given the authority to actually perform functions related to governance.

To make matters worse, because these functions were never devolved, state executive authorities have proliferated to carry out these functions. The most common example is the terrible state water boards, performing tasks that should have been left to elected representatives of local governments who best understand local water problems and can be disciplined through the democratic process.

The second failure of the 73rd Amendment is the lack of finances for PRIs. Local governments can either raise their own revenue through local taxes or receive intergovernmental transfers. The 73th Amendment

recognized both forms of public finance, but did not mandate either. The power to tax, even for subjects falling within the purview of PRIs, has to be specifically authorized by the state legislature. The 73rd Amendment let this be a choice open to the state legislatures—a choice that most states have not exercised.

A second avenue of revenue generation is intergovernmental transfers, where state governments devolve a certain percentage of their revenue to PRIs. The constitutional amendment created provisions for State Finance Commissions to recommend the revenue share between state and local governments. However, these are merely recommendations and the state governments are not bound by them. Though finance commissions, at every level, have advocated for greater devolution of funds, there has been little action by states to devolve funds.

As a result, PRIs are so starved for funds that they are often unable to meet even payroll obligations. They are reluctant to take on projects that require any meaningful financial outlay and are often unable to solve even the most basic local governance needs. The only long-term solution is to foster genuine fiscal federalism where PRIs raise a large portion of their own revenue and face hard budget constraints, i.e. fiscal autonomy accompanied by fiscal responsibility.

Now that there are millions of elected representatives giving voice to Indians at the grass-roots level, these representatives need clear mandates of local functions and the ability to raise their own revenue, to foster better local governance. Without the functions and finances, PRIs will only be an expensive failure.

Conclusion

Notwithstanding many milestones and achievements, particularly the

empowerment of women and other marginalised sections, the journey towards decentralisation remains slow, tardy and far from satisfactory. While ensuring constitutional status to these bodies was a great first step for expanding inclusion and participation in the large and diverse country characterised by historical marginalisation and rigid hierarchies, a substantive transformation requires political statesmanship from the States and the Centre. One hopes

panchayats will emerge as genuine "little republics" in the years to come.

It is a long drawn effort at bringing the democracy to grass roots. The steps may be slow and tardy, but are necessary for enabling the voice of the masses to be heard by those who are at the helm of affairs. The political enlightenment of the people of India is not a one stop shop process, it's a gradual process and an ongoing learning while keeping the historical traditions intact.

General Studies Paper- II

Topic: Indian Constitution- historical underpinnings, evolution, features, amendments, significant provisions and basic structure.

Topic: Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure, devolution of powers and finances up to local levels and challenges therein.

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5. FOOD PROCESSING IN INDIA: NEED OF THE HOUR

Why in News?

Last month, Prem Singh Chavan, a farmer from Maharashtra's Marathwada region, destroyed his ready-to-harvest crop of tomatoes and cauliflowers after wholesale prices dipped so low that it did not cover the cost of transporting the harvest to the nearest wholesale market.

Chavan's predicament is shared by millions of farmers across India. Over the past year, tomato farmers in Karnataka, potato growers from Uttar Pradesh and onion producers in Madhya Pradesh, among others, have dumped their produce by the roadside for want of decent price.

Introduction

The Indian food industry is poised for huge growth, increasing its contribution to world food trade every year. In India, the food sector has emerged as a high-growth and high-profit sector due to its immense potential for value addition, particularly within the food processing industry.

Accounting for about 32 per cent of the country's total food market, the government of India has been instrumental in the growth and development of the food processing industry. The government through the Ministry of Food Processing Industries

(MoFPI) is making all efforts to encourage investments in the business. It has approved proposals for joint ventures (JV), foreign collaborations, industrial licenses and 100 per cent export oriented units.

Currently, according to the food processing ministry, just about one-tenth of India's agriculture produce is processed, and the ministry aims to raise it threefold.

Food Processing and Doubling Farmers' Income: Challenges

According to an official report on Doubling Farmers Income (DFI), the extent of food processing is highest among foodgrains at almost 70 per cent, while in fisheries it is only 26 per cent and 35 per cent in milk. Buffalo meat is processed to about 20 per cent, followed by poultry (6 per cent), while processing of fruits and vegetables is very low at 2.2 per cent.

At the all-India level, the proportion of production that farmers are not able to sell in the market and thus do not get a monetary return for is 34 per cent, 44.6 per cent and 40 per cent for fruits, vegetables and fruits and vegetables combined respectively, the report said.

Clearly, this is a huge quantum, given that India produced about 305

million tonnes of fruits and vegetables in 2017-18.

Assuming that 3-4 per cent of the production is retained by the farmer for self-consumption and seeds, the unsold fruit and vegetable output would be as much as 36 per cent. In value terms this could mean millions of rupees lost due to sheer inability to process.

In India post-harvest losses are not as precisely quantified as in other countries. It is more of value loss like someone buying poor quality products. Therefore, the focus should be on retaining that value instead of building big processing units.

There is dual challenge of not getting the right buyers in domestic markets who are willing to purchase high-priced products, while international markets have stringent quality standards that farm goods often aren't able to meet.

How Food Processing can Increase Farmer's Income?

One of the downsides of food processing at a very small scale is that the wastage is very high because when there is a glut, there is a huge amount of wastage and after 3-4 months when the demand is still there, rotting leads to a spike in prices.

Landholding here is shrinking whereas mouths to feed are increasing. In this entire dichotomy, food processing can play a pivotal role in addressing all these issues. Food processing can help in increasing the remuneration of the farmers.

The government has also launched a new scheme called Kisan Sampada Yojana and Rs 6,000 crore has been put aside to create this infrastructure over the next three years. It is going to leverage the additional investment of almost Rs 31,000 crore, leading to agri-processing of 331 million metric tonnes worth almost 1 lakh crore which will benefit almost 25 lakh farmers and create employment for almost five lakh youths.

Kisan Sampada Yojana, will provide a subsidy to the smaller players because 90 per cent of the food processing industry lies in the unorganized sector. The three new schemes, one is the unit scheme that ensures anyone putting a unit inside the mega food park will get a subsidy, second is to ensure a food processing infrastructure wherever there is a cluster of raw material such as milk, meat, fruit and vegetable and every perishable across India and the third is the backward and the forward linkages, where a farmer can go for value addition through food processing operations. It will handhold the farmers for a period of two years and then move out. So, these schemes will bring a huge amount of difference in the coming years.

Food processing is the bridge between the industry and farming and thus, the farmer requires good seeds, modern technology, modern know-how, so, that his industry can flourish. This industry is going to benefit farmers since the demand from the market will control as to what the industry should produce and the industry wants the control on what farmers should grow. It will be a very positive change.

Forty-two mega food parks are coming across the country scattered in almost every state.

In the years since independence, India has made immense progress towards achieving food security. Its population has tripled, but food-grain production has more than quadrupled; there has thus been a substantial increase in available food-grain per capita.

But more can be done. Crop yields in India are still just 30% to 60% of the best sustainable crop yields achievable in the farms of developed and other developing countries. And poor infrastructure and unorganized retail means India has one of the world's highest levels of post-harvest food loss.

Clearly, it is time for change. We not only need to respond to long-standing issues and challenges, but we must also face newer realities. The natural resources on which agriculture is based – land and water, above all – are being degraded and there is growing competition for their use. Climate change is already exacerbating this situation, making agriculture more risky and it will have an even greater impact in the future.

But the public-private partnership model could be just the game-changer India's agricultural sector needs. By drawing on the collective power of all agricultural stakeholders, PPPs can transform the sector at multiple levels. With the government providing and co-financing the back-end of the value chain and the private sector and farmer contributions doing the rest, the agricultural sector could remain a primary engine of rural growth and poverty reduction in India.

Here are three ways PPPs could do that:

1. Investing in smarter value chains: PPPs could help spur the development of the food processing industry, one of the newest sectors in Indian agriculture. The food processing industry must do more than just increase the shelf life of food, preserve food nutrients and

provide fortified products. Instead, supported by government and private investments, it should also look at providing farm extension services, enhance price realization, cut out intermediaries and improve the supply chain through forward and backward linkages.

An important role of the government, besides funding, will be to create an enabling environment for private investment. This needs to be done through tax rationalizations, duty exemptions, increases in public spending, priority sector lending and FDI. It is steps such as these that will boost private sector investment in supply chain infrastructure and services, leading to a reduction in waste and more added value.

2. Improving access to credit, technology and markets: PPPs could help bring cutting-edge technologies and approaches to India's agricultural sector. IT and biotech stand to transform agriculture, raising its production levels and outputs. We need PPPs focused on getting farmers access to vital information, methodologies and the latest technology to help them in areas such as crop rotation, weather patterns, fertilizer use and going organic – all at the click of a button or a simple SMS on their mobile phones.

Biotechnology, meanwhile, can equip growers with techniques for developing high-yield crops, managing pests, better utilizing waste water and focusing on nutrition. The remarkable breakthroughs made in the cereal production industry show how much of an impact biotechnology can make. PPPs can help replicate this success in crucial areas such as oil seeds and pulses, which are highly import-intensive.

In the same way, PPP projects, when targeted at helping farmers connect with their marketplaces and

financial institutions for micro-funding, can usher in massive alterations in the rural economy.

3. Building farmer resilience to environmental shocks: India's farmers are constantly threatened by adverse weather and environmental conditions that spell disaster for their produce. Extreme situations such as flooding and droughts constantly plague India's farming community. PPPs that protect the agricultural sector against the vagaries of nature can be life savers. In fact, in a country where farmer suicides are common, such interventions can actually save lives. PPPs that help the agricultural sector deal with weather shocks and allow farmers to minimize risk through insurance, can be a crucial helping hand.

While PPPs in the agri space are not commonplace, they need to be. The Maharashtra government has already made a start with its Maharashtra Public-Private Partnership for Integrated Agriculture Development (PPPIAD) project. Under the aegis of this initiative, Maharashtra is developing integrated value chains for selected crops through PPPs and co-investment.

Part of the World Economic Forum's New Vision for Agriculture, the project aims to develop integrated value chains. What began with 11 projects in 2012-13 now encompasses 33 value chain programmes, with more than 60 participating companies. The project focuses on 15 key crops and has already reached almost half a million farmers, with a target of 5 million by 2020.

PPPs like the Maharashtra project are the way to go for India's agricultural sector. They are proving to be an important step in renewing and rejuvenating rural economies and leading them to inclusive and sustainable growth.

Market Size

The Indian food and grocery market is the world's sixth largest, with retail contributing 70 per cent of the sales. The Indian food processing industry accounts for 32 per cent of the country's total food market, one of the largest industries in India and is ranked fifth in terms of production, consumption, export and expected growth. It contributes around 8.80 and 8.39 per cent of Gross Value Added (GVA) in manufacturing and agriculture respectively, 13 per cent of India's exports and six per cent of total industrial investment. The Indian gourmet food market is currently valued at US\$ 1.3 billion and is growing at a Compound Annual Growth Rate (CAGR) of 20 per cent. India's organic food market is expected to increase by three times by 2020.

The online food ordering business in India is in its nascent stage, but witnessing exponential growth. With online food delivery players like FoodPanda, Zomato, TinyOwl and Swiggy building scale through partnerships, the organised food business has a huge potential and a promising future. The online food delivery industry grew at 150 per cent year-on-year with an estimated Gross Merchandise Value (GMV) of US\$ 300 million in 2016.

Government Initiatives

Some of the major initiatives taken by the government of India to improve the food processing sector in India are as follows:

- Government of India aims to boost growth in the food processing sector by leveraging reforms such as 100 per cent Foreign Direct investment (FDI) in marketing of food products and various incentives at central and state government level along with a strong focus on supply chain infrastructure.

- The government of India has set up a dairy processing infra fund worth Rs 8,000 crore (US\$ 1.2 billion).
- The government of India has relaxed foreign direct investment (FDI) norms for the sector, allowing up to 100 per cent FDI in food product e-commerce through automatic route.
- The Food Safety and Standards Authority of India (FSSAI) plans to invest around Rs 482 crore (US\$ 72.3 million) to strengthen the food testing infrastructure in India, by upgrading 59 existing food testing laboratories and setting up 62 new mobile testing labs across the country.
- The Indian Council for Fertilizer and Nutrient Research (ICFNR) will adopt international best practices for research in fertiliser sector, which will enable farmers to get good quality fertilisers at affordable rates and thereby achieve food security for the common man.
- The Ministry of Food Processing Industries announced a scheme for Human Resource Development (HRD) in the food processing sector. The HRD scheme is being implemented through state governments under the National Mission on Food Processing. The scheme has the following four components:
 - ♦ Creation of infrastructure facilities for degree/diploma courses in food processing sector.
 - ♦ Entrepreneurship Development Programme (EDP).
 - ♦ Food Processing Training Centres (FPTC).
 - ♦ Training at recognised institutions at State/National level.

Road Ahead

From increasing exports to accelerating food processing, to increasing efficiency in farm, are usually considered as

enablers to double farmer's income. But none of this will be possible unless you have a mechanism to maximise the nutritional value of agricultural output and minimise losses as well.

Food loss occurs, not due to lack of storability, but when food does not reach consumers or comes to gainful end-use. In order to tackle concern about food loss, there is a need to organise agri-logistics (including cold-chain), which alone can ensure that produce is delivered to end consumers. Without market connectivity, any

production is a futile exercise. Efficient agri-logistics, enhance and extend market reach and linkage of producers and will be the key to reduce food losses.

Apart from logistics, market architecture is also critical. The 2018-19 budget takes cognisance of this need and has announced the developing the 22,000 rural haats into Gramin Agricultural Markets (GrAMs). These will be enabled with ability to serve as pooling points, to aggregate, package and dispatch farm produce to distant

terminal markets. This will allow farmers to capture higher price for a unit of value produced and greatly contribute to our national agenda of doubling farmers' income.

General Studies Paper- III

Topic: Food processing and related industries in India- scope and significant; location, upstream and downstream requirements, supply chain management.

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6. SOCIAL AUDIT: A CITIZEN CENTRIC MODE OF ACCOUNTABILITY

Why in News?

Recently in April, 2018 a "Jan Sunwai" campaign was organised in five development blocks of Rajasthan.

Introduction

People learnt by doing. They realised that information is at the core of their empowerment. The process of verification, inquiry and auditing of records was demystified. Public readings of informally accessed development records had dramatic outcomes. As the names were read out from government labour lists, the responses were immediate and galvanised the people. Information about payments made to dead people and non-workers propelled residents to testify in the Jan Sunwai. These included serving government and armed forces personnel and names randomly copied in serial order from electoral lists. Even animals absurdly enough found their way into the lists of workers. Unfinished buildings without doors, windows or a roof were shown as audited and 'complete'. Ghost names and ghost works were exposed. Fake development works paid for and 'completed' on paper enraged local residents. This was "audit returning to its roots": the word audit comes from the Latin word *audire*, which means "to hear".

The Jan Sunwai facilitated the reading of information and recorded the people's response. The effective institutionalisation of this platform could be a fundamental breakthrough in the attempt to give people and communities real monitoring powers. One of the defining slogans of the RTI movement that emerged from these Jan Sunwais and people's agitations — "hamaara paisa, hamaara hisab" (our money, our accounts) — succinctly encapsulated the concept of a social audit.

What is Social Audit?

India is a democracy. People are masters. Government exists to serve the people. It is the primary duty of any master to take a look at the accounts of the servant at regular intervals and hold the servant accountable. Social audit or public audit is a step in that direction. People use right to information to obtain details of the works carried out by a government department or the manner in which the money was spent by that department. This information contained in records is compared with field reality. This is public audit or social audit and is a very important tool in the hands of the people to hold the government accountable.

Public audits do not have any legal sanction. The findings of a public audit are not acceptable as evidence under any law. However, a public audit creates a lot of public pressure on the political establishment to take corrective steps.

Need for Social Audit

The investment of thousands of crores of rupees made by the government of India and various national and international agencies, since independence in social development programmes, has not been justified by the impact it has made. Huge gap between the desired impact and the actual impact takes anyone within the government or otherwise to think deeply about the failures. It was high time that the planners get themselves engaged to seek the real cause and the remedy for such failures. The erstwhile Planning Commission was concerned about this and was keen to address this issue of limited impact of development inputs, in a comprehensive manner.

The dominant reason for the failure of the programme delivery systems lies in the weak "Demand Side" as compared to the "Supply Side". The major focus by the government hitherto has been in the supply side of the programme delivery system as can be seen from the model:

Reasons for failure of the development programmes	
Demand Side (Problems)	Supply Side (Problems)
➤ Weak, unorganized beneficiaries, unable to create demand for quality and effective programme Delivery. ➤ Gram Sabhas not being effective to the extent desired. ➤ Vested interest groups want Beneficiaries to remain unorganized and Gram Sabhas in-effective.	➤ Programme design, not need based. ➤ Even when need based, it is not designed to be practical in implementation. ➤ Even when need based and well designed, it is not managed by competent managers with a result oriented approach. ➤ Failure to achieve results does not lead to any accountability being fixed, leading to poor programme performance. ➤ Failure in controlling

Out of the above broad reasons, including the programme design improvement of the "Supply Side" system and the process of developing

an effective programme management and control system to control vested interest groups is a long term process.

In comparison to this, the process of strengthening the demand side, may be a short run process including :

- Creating, awareness and abilities of beneficiaries to enable them to demand their rightful benefits and
- Organising Gram Sabha in spirit than letter and in records,

CASE STUDY - HAMARA PAISA, HAMARA HISAAB

Initiated by Mazdoor Kisan Shakti Sangathan (MKSS), Rajasthan.

The MKSS, born in 1990, is a big grassroots organisation that grew out of a local struggle for minimum wages and its ideology is that change for the local people will only come through a political process. People in Rajasthan have always had difficulty getting paid the minimum wage. Politicians would always promise to secure the minimum wage in return for votes. However, these promises never translated into lasting change and, over time, campaigners realised that they had to obtain the relevant documentation, in particular the muster rolls. The right to information and the right to survive thus became united in peoples' minds.

a) Activities / Initiatives

The campaign of Mazdoor Kisan Shakti Sangathan in Rajasthan is known as Hamaara Paisa, Hamaara Hisaab. Initially, demands to see the muster rolls were met with refusal on the grounds that these were 'secret documents'. These refusals led to a long agitation for the right to access information. By 1994, the MKSS hit upon a new, empowering strategy, based on the idea of a Jan Sunwai or 'public hearing'. The MKSS brought people together and simply read out official documents that they had procured, either through surreptitious means or from officials who had no idea of their import. The documents related to construction records for school buildings, panchayatbhawans and patwari bhawans, dams, bridges and other local structures. A serious effort was made to ensure that the debate was transparent and accessible to the outside world. The government boycotted the first four hearings. To ensure openness and publicity, anyone could attend and an independent outsider chaired each hearing. Local officials and public representatives were invited, including those likely to be criticised. Despite the expense, the proceedings were video taped. This deterred speakers from misrepresenting information and put them on oath as they knew what they said could be referred to later. When the records were read out it was sometimes immediately obvious that they contained false information. Examples were items like bills for the transport of materials over 6 km when the real distance was only 1 km, or people listed on the muster rolls who lived in other cities or were dead. The documentation also proved that corrupt officials and others were siphoning money and that minimum wages were being paid only on paper. The exploitation of the poor in two ways -- by denial of their minimum wages and through corruption by some of the village middle class -- was revealed at the Jan Sunwais in front of the entire village.

b) Effectiveness / Results

People who would have been intimidated on their own now had a platform where they could speak out. This process also brought together the poor and sections of the middle class who had not previously supported them but now spoke out against corruption, which they realised hurt them too. MKSS in Rajasthan demanded and got information on minimum wages and government infrastructure programmes, sparking off, in the process, a national movement for freedom of information. After a long battle, the government announced a change in the Panchayat Act, so people could inspect local documents pertaining to development works. This also led to the national movement for Right to Information Act, led by Ms Aruna Roy and others finally the enactment of a legendary Right To Information Act, 2005.

This in turn, will improve the effectiveness of the total delivery system much faster. Based on the above, there is a need to strengthen the "Demand Side" on a priority through:

- a) Creating a culture of social audits of development programmes, and
- b) Strengthening the Gram Sabhas, the closest institution to the beneficiaries.

Social Audit essentially completes the loop below by generating and providing relevant information about the Development Programmes, in absence of which the Delivery System

remains Supply Oriented rather than Demand oriented.

Out of the above broad reasons, improvement of the supply side including the programme design system and the process of developing an effective programme management and control system to control vested interest groups, is a long term process. In comparison to this, the process of strengthening the demand side, may be a short run process

Legislative Support

- In 1982, the Supreme Court of India ruled that access to government information was an essential part of the fundamental right to freedom of speech and expression. The Court stated, “The concept of an open government is the direct emanation from the right to know which seems implicit in the right of free speech and expression guaranteed under Article 19(1) (a). Therefore, disclosures of information in regard to the functioning of government must be the rule and secrecy an exception justified only where the strictest requirement of public interest so demands. The approach of the Court must be to attenuate the area of secrecy as much as possible consistently with the requirement of public interest, bearing in mind all the time that disclosure also serves an important aspect of public interest.
- The 73rd amendment of the Indian Constitution: Social Audit gained significance especially after the 73rd Amendment of the Constitution relating to Panchayat Raj Institutions. That empowered the gram sabhas to conduct social audits in addition to its other functions and it was by far the only legislative reference to the concept of social audit.
- Right to information Act, 2005: This is also a key pillar of support for social audit system in India.

This was enacted by Parliament of India to provide for setting out the practical regime of the right to information for citizens. The Act applies to all states and union territories of India, except the state of Jammu and Kashmir. This Act also requires every public authority to computerize records for wide dissemination and to proactively publish certain categories of information so that the citizens need minimum resources to request for information formally. This is again a support for social audit system in India.

- National Rural Employment Guarantee Act, 2005 (NREGA): Section 17 of this Act provides for regular “Social Audits” so as to ensure transparency and accountability in the scheme. It is the responsibility of the state government to conduct the social audit. The state government will conduct the social audit according to the pre-designed “Schedule of Social Audit”. The state government is to ensure that the agencies for conducting social audit are trained.

Eleventh Finance Commission and Ministry of Finance Guidelines

The Eleventh Finance Commission recommendations and their acceptance by government have brought about a major change in the accountability regime in PRIs – accounting, audit and reporting arrangements etc. Pursuant to the recommendations of Eleventh Finance Commission, government of India, Ministry of Finance, issued guidelines that the CAG shall be responsible for exercising control and supervision over the proper maintenance of accounts of all the three tiers/levels of Panchayati Raj Institutions (PRIs) and Urban Local Bodies (ULBs) and their audit. The guidelines also stipulated that the Director, Local Fund Audit, or any

other agency made responsible for the audit of accounts of the Local Bodies shall also work under the technical supervision and advice of the CAG. CAG will prescribe the formats for budget, accounts and database of finances of LBs.

In all the states, the Director Local Fund Audit (DLFA) or a similar statutory authority conducts audit of local bodies under the state Acts. The accounts of the LBs are also maintained as per the state Act/Rules. In some States the reports of the DLFA are presented before the state legislature. In others, the reports are submitted/forwarded to prescribe authorities as per the state Act/Rules. The Action taken on the audit reports of DLFA is also as per the State Act/Rules. Action to obtain the necessary consent of the state governments was initiated in June 2001. The department has been able to make considerable headway in this regard. The related modalities were finalized after taking into account the existing arrangements for the audit of PRIs and ULBs in various states. As part of technical guidance and support, model accounting formats to be adopted by the PRIs have been prescribed. To upgrade the skills of the functionaries of PRIs and local fund audit departments, a comprehensive training programme has also being formulated by CAG.

Conclusion

The social audit is conceptually simple. Information is to be proactively shared amongst people so that they can “performance audit” a service or programme, from planning, to implementation and evaluation. This is, however, easier said than done. An independent facilitation structure needs to be set up, fleshed out, legally empowered and mandated to ensure that social audits are conducted. The relationship between the powerful and the powerless has to shift from patronage to rights and from inequality to equality, making the right to question sacrosanct. Specific methods of sharing information, recording

comments and acting on findings have been worked out. They now need to be acted upon.

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) was the first law to mandate social audit as a statutory requirement. However, even within the MGNREGA, social audits made painfully slow progress. They faced their most trenchant opposition in Rajasthan, where the concept was born. Elected representatives and officials reacted with intimidation, violence and pressure on the political leadership to stall and neutralise the process. The notable exception was undivided Andhra Pradesh which institutionalised social audits and drew significant positive outcomes.

There have been innovative efforts in states like Sikkim, Tamil Nadu and Jharkhand. Nationally, institutionalised social audits have begun to make real progress only recently, with the interest and support of the office of the Comptroller and Auditor General (CAG) and the orders of the Supreme Court. In what was a social audit breakthrough in 2017, Meghalaya became the first State to pass and roll out a social audit law to cover all departments. The current dispensation makes a cursory mention of social audits in its manifesto. But there has been no delivery on legal accountability frameworks such as the Lokpal Bill and the Whistle Blowers Protection Bill. The system of social audits needs synergetic endorsement

and a push by multiple authorities to establish an institutionalised framework which cannot be undermined by any vested interests. It is now an opportune time for citizens groups to campaign to strengthen social audits and make real progress in holding the political executive and implementing agencies to account.

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.

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7. SOIL POLLUTION : A HIDDEN DANGER

Why in News?

Soil pollution is posing a serious threat to our environment, to our sources of food and ultimately to our health. The Food and Agriculture Organization of the United Nations (FAO) warns that there is still a lack of awareness about the scale and severity of this threat.

FAO released a report titled "Soil Pollution: A Hidden Reality" at the start of a global symposium which took place on 2-4 May, 2018 at FAO headquarters, Rome, participated by experts and policymakers to discuss the threat of soil pollution in order to build an effective framework for a cohesive international response.

Background

Soil pollution refers to the presence of a chemical or substance out of place and/or present at a higher than normal concentration that has adverse effects on any non-targeted organism. Soil pollution often cannot be directly assessed or visually perceived, making it a hidden danger. As a "hidden danger" right below our

feet, soil pollution turns out to be underestimated affecting everyone – humans and animals.

The FAO report warns that this dangerous phenomenon should be of concern worldwide. Its consequences are not limited to the degrading of our soils: ultimately, it also poisons the food we eat, the water we drink and the air we breathe. Soil pollution significantly reduces food security, not only by reducing crop yields due to toxic levels of contaminants, but also by causing crops produced from polluted soils unsafe for consumptions both for animals and humans.

The Global Symposium on Soil Pollution (GSOP18) aims to be a step to build a common platform to discuss the latest data on the status, trends and actions on soil pollution and its threatening consequences on human health, food safety and the environment. The report prepared by FAO shows how the Sustainable Development Goals (SDGs) are deeply linked with the issue of addressing soil pollution. SDG 2 (Zero Hunger), SDG

3 (Good Wealth and Well-Being), SDG 12 (Responsible Consumption and Production) and SDG 15 (Life on Land) have all targets which have direct reference to soil resources, particularly soil pollution and degradation in relation to food security.

Furthermore, the widespread consensus that was achieved on the Declaration on soil pollution during the UN Environment Assembly (UNEA-3, December 2017) is an obvious sign of global determination to tackle pollution and its causes, which mainly originate from human activities. Unsustainable farming practices, industrial activities and mining, untreated urban waste and other non-environmental friendly practices are amongst the main causes of soil pollution.

Main Causes of Soil Pollution

1. Industrial Activity: Industrial activity has been the biggest contributor to the problem in the last century, especially since the amount of mining and manufacturing has increased. Most industries are dependent on

extracting minerals from the Earth. Whether it is iron ore or coal, the by products are contaminated and they are not disposed off in a manner that can be considered safe. As a result, the industrial waste lingers in the soil surface for a long time and makes it unsuitable for use.

2. **Agricultural Activities:** Chemical utilization has gone up tremendously since technology provided us with modern pesticides and fertilizers. They are full of chemicals that are not produced in nature and cannot be broken down by it. As a result, they seep into the ground after they mix with water and slowly reduce the fertility of the soil. Other chemicals damage the composition of the soil and make it easier to erode by water and air. Plants absorb many of these pesticides and when they decompose, they cause soil pollution since they become a part of the land.

3. **Waste Disposal:** Finally, a growing cause for concern is how we dispose of our waste. While industrial waste is sure to cause contamination, there is another way in which we are adding to the pollution. Every human produces a certain amount of personal waste products by way of urine and feces.

While much of it moves into the sewer the system, there is also a large amount that is dumped directly into landfills in the form of diapers. Even the sewer system ends at the landfill, where the biological waste pollutes the soil and water. This is because our bodies are full of toxins and chemicals which are now seeping into the land and causing pollution of soil.

4. **Accidental Oil Spills:** Oil leaks can happen during storage and transport of chemicals. This can be seen at most of the fuel stations. The chemicals present in the fuel deteriorate the quality of soil and make them unsuitable

for cultivation. These chemicals can enter into the groundwater through soil and make the water undrinkable.

5. **Acid Rain:** Acid rain is caused when pollutants present in the air mixes up with the rain and fall back on the ground. The polluted water could dissolve away some of the important nutrients found in soil and change the structure of the soil.

By far, most soil pollution is due to human activities. Industrial activities including mining, smelting and manufacturing; domestic, livestock and municipal wastes; pesticides, herbicides, fertilizers used in agriculture; petroleum-derived products that are released into or break-down in the environment; fumes generated by transportation — all contribute to the problem.

So-called "emerging pollutants" are also a growing concern. These include pharmaceuticals, endocrine disruptors, hormones and biological pollutants; "e-waste" from old electronics; and the plastics that are nowadays used in almost every human endeavour. (Almost no science on the fate of plastics in soils exists, observes Hidden Reality, while most e-waste continues to be disposed of in landfills rather than recycled.)

Effects of Soil Pollution

Soil pollution can have a number of harmful effects on ecosystems and human, plants and animal health. The harmful effects of soil pollution may come from direct contact with polluted soil or from contact with other resources, such as water or food which has been grown on or come in direct contact with the polluted soil.

1. **Effect on Health of Humans:** Considering how soil is the reason we are able to sustain ourselves, the contamination of it has major consequences on our health. Crops

and plants grown on polluted soil absorb much of the pollution and then pass these on to us. This could explain the sudden surge in small and terminal illnesses.

Long term exposure to such soil can affect the genetic make-up of the body, causing congenital illnesses and chronic health problems that cannot be cured easily. In fact, it can sicken the livestock to a considerable extent and cause food poisoning over a long period of time. The soil pollution can even lead to widespread famines if the plants are unable to grow in it.

2. **Effect on Growth of Plants:**

The ecological balance of any system gets affected due to the widespread contamination of the soil. Most plants are unable to adapt when the chemistry of the soil changes so radically in a short period of time. Fungi and bacteria found in the soil that bind it together begin to decline, which creates an additional problem of soil erosion.

The fertility slowly diminishes, making land unsuitable for agriculture and any local vegetation to survive. The soil pollution causes large tracts of land to become hazardous to health. Unlike deserts, which are suitable for its native vegetation, such land cannot support most forms of life.

3. **Decreased Soil Fertility:** The toxic chemicals present in the soil can decrease soil fertility and therefore decrease in the soil yield. The contaminated soil is then used to produce fruits and vegetables which lacks quality nutrients and may contain some poisonous substance to cause serious health problems in people consuming them.
4. **Toxic Dust:** The emission of toxic and foul gases from landfills pollutes the environment and causes serious effects on health

of some people. The unpleasant smell causes inconvenience to other people.

5. Changes in Soil Structure: The death of many soil organisms (e.g. earthworms) in the soil can lead to alteration in soil structure. Apart from that, it could also force other predators to move to other places in search of food.

6. On Animals: Soil pollution can negatively affect the metabolism of microorganisms and arthropods, which can destroy some layers of the primary food chain and have a harmful effect on predator animal species. Also, small life forms may consume harmful chemicals in the soil which may then be passed up the food chain to larger animals, which may lead to increased mortality rates and even animal extinction.

7. Organ Damage: The presence of heavy metals in soil in toxic amounts can cause irreversible developmental damage in children. Although lead and mercury may be found naturally in soil, high concentrations of either metal may cause damage to the developing brains of young children, which in turn may lead to neurological problems. Humans of any age may also suffer kidney or liver damage from exposure to excessive mercury in soil.

8. Bioaccumulation: Soil that is not significantly polluted may still harm humans indirectly. One way such soil pollution can harm humans is by bioaccumulation. Plants that are grown in lightly polluted soil continuously absorb molecules of the pollutants. Since the plants cannot get rid of these molecules, they accumulate in the plant, causing higher amounts of pollution to exist in the plant than in the soil. Animals who eat many of these polluted plants take

on all the pollution those plants have accumulated. Larger animals who eat the plant-eating animals take on all the pollution from the animals they eat. Humans who eat plants or animals that have accumulated large amounts of soil pollutants may be poisoned, even if the soil itself does not contain enough pollution to harm human health.

9. Cancer: Many common soil pollutants are carcinogenic, or cancer-causing. Humans who are exposed to these pollutants are far more likely to develop cancer than humans who are not exposed to them. For example, regular exposure to benzene is known to cause leukemia in both children and adults. Exposure to polychlorinated biphenyls (PCBs) is linked to liver cancer.

10. Economic Losses: In addition to endangering human health, soil pollution can also cause economic damage. For example, in some parts of China, soil that is polluted with heavy metals is nevertheless used to grow grain. The grain grown in these soils is often polluted with heavy metals.

11. Danger to Food and Health:

- ♦ Soil pollution often cannot be visually perceived or directly assessed, making it a hidden danger — with serious consequences.
- ♦ It impacts food security both by impairing plant metabolism and thus reducing crop yields, as well as by making crops unsafe for consumption. Pollutants also directly harm organisms that live in soil and make it more fertile.
- ♦ And of course 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 pose serious risks to human health.

Facts and Figures by FAO

FAO's report is a synthesis of existing scientific research on soil pollution. Noteworthy facts and figures from that research include:

- Production of chemicals grown rapidly in recent decades and is projected to increase annually by 3.4 percent until 2030. Non-OECD countries will be much greater contributors in the future.
- In 2015, the European chemical industry produced 319 million tonnes of chemicals. Of these, 117 million tonnes (MT) were deemed hazardous to the environment.
- Global production of municipal solid waste was around 1.3 billion tonnes per year in 2012; it is expected to rise to 2.2 billion tonnes annually by 2025.
- In many world regions, levels of persistent organic pollutants in human milk are significantly above those considered safe, with a higher incidence in India and in some European and African countries.
- Certain low and middle-income countries have notably increased their use of pesticides over the last decade. Bangladesh, for example, did so by four times, Rwanda and Ethiopia by over six times and the Sudan by ten times.
- Global manure production increased 66 percent between 1961 and 2016, from 73 to 124 MT. The volume of manure applied to soils grew from 18 to 28 MT and the amount of manure left on pasture increased from 48 to

86 MT. Manure can contain high amounts of heavy metals, pathogen organisms and antibiotics.

- Soils near roads have high levels of heavy metals, hydrocarbons and other pollutants, posing a threat when food production occurs in adjacent areas or grazing on roadside soils takes place.
- Approximately 110 million mines or other unexploded pieces of ordnance are scattered across 64 countries on all continents,

remnants of wars that can have deadly consequences for farmers and which can release heavy metals through weathering.

- Almost all soil in the northern hemisphere contains radionuclides in higher concentrations than the background level — even in remote areas, as a result of fallout from atmospheric testing of nuclear weapons and radiological events like the Chernobyl accident.

Soil Pollution: Preventative Measures

Go organic: Organic agriculture uses much fewer chemical fertilizers and pesticides, preventing chemicals from seeping into the soil.

Proper farming methods: Finding alternatives to chemical fertilizers and pesticides is an ideal way to avoid soil erosion. Rotational and mixed farming are also encouraged.

Dispose of household waste responsibly: Recycling waste and not dumping it in landfill will keep the soil free of pollution. Not throwing batteries and electrical items into household waste bins will help to keep the soil free of dangerous chemicals.

Prevent or Manage industrial waste: Properly managing industrial and domestic waste can help prevent soil erosion. Solid waste treatment is also a good preventive measure. Regular health and safety checks and adequate waste disposal methods will ensure that industrial chemicals and other waste are not allowed to contaminate our precious soil.

Community Awareness: Creating awareness about the effects of soil pollution can help prevent its occurrence.

Burn fewer fossil fuels: Cleaner air makes it easier for us to have cleaner soil. Fresh, pure rain will keep the soil free of pollutants.

Conclusion

Soil is one of the most important resources of the world. It takes more than a million years for a single layer of fertile soil to be formed. Being a very important part of agricultural production chain, soil is not just a resource but also the base for all the agricultural production and a contributor to the food chain to which all the living species of the planet are linked, including us.

Concern and awareness over soil pollution are increasing worldwide. The report highlights the positive increase in research conducted on soil pollution around the world and fortunately, determination is turning into action at international and national levels.

Soil pollution was at the center of discussion during the Fifth Global Soil Partnership (GSP) Plenary Assembly (GSP, 2017) and not long ago, the UNE3 adopted a resolution calling for

accelerated actions and collaboration to address and manage soil pollution. This consensus achieved by more than 170 countries, is a clear sign of the global relevance of pollution and of the willingness of these countries to develop concrete solutions to address pollution problems.

FAO's World Soil Charter recommends that national governments implement regulations on soil pollution and limit the accumulation of contaminants beyond established levels in order to guarantee human health and well-being. Governments are also urged to facilitate remediation of contaminated soils.

Conservation and protection of the soil is one of the basic things to ensure the healthy survival of the species along with other commercial interests. Being an agricultural dominated country, for India, the issue of soil pollution is of utmost importance to be addressed at the war-footing. It is linked not just with agricultural production and other forms of primary activities but also to the sustainable livelihoods of the people at the base of economic pyramid.

General Studies Paper- III

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

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SEVEN SUBJECTIVE QUESTIONS WITH MODEL ANSWERS

Super-Committee for Defence Planning

Q1. Defence planning committee is a long drawn solution to India's fragmented approach towards defence planning, procurement and policy making. Comment.

Hints:

- The present government has created an overarching Defence Planning Committee (DPC) under National Security Advisor that will drive the country's military and security strategy, draft capability development plans and guide (and accelerate) defence equipment acquisitions.
- The formation of the DPC is likely to bridge a key gap in the existing defence planning mechanism, which, for long, was thought would be met through the creation of the post of Chief of Defence Staff (CDS) as the ultimate arbitrator of all requirements of the armed forces including the planning aspects.
- With the CDS not finding favour with successive political dispensations, the existing system of HQ IDS-led planning is perceived to have given way to the parochial interests of various stakeholders. This has had an adverse impact not only on how security threats were perceived by various security organs, but also on how scarce resources are distributed among the services and within the various branches of each service. Equally importantly, the existing planning process has had very little control on such aspects as true indigenisation and self-reliance in defence procurement matters, which are being vigorously pursued through the 'Make in India' programme.
- The decision of creating DPC comes at a time when Indian defence planning stands at a crossroads. The silo-driven approach to defence planning has resulted in the lack of an integrated view. The three services as well as the civilian and defence agencies are often seen to be working at cross purposes. Such an ad hoc approach has meant that more often than not, issues like threat perception and force structure are not managed via a centralized and authoritative overview. Instead, individual services tend to be driving the agenda at their own levels.
- With the powerful DPC in place and the NSA assuming the role of de facto CDS for all practical purposes other than in operational matters, the defence planning process is expected to become more rational as well as provide a much needed boost to defence preparedness.
- The realistic enough expectation is that the DPC would clearly articulate the key national security/ defence/ military goals as well as prioritise defence and security requirements as per the likely available resources while at the same time providing adequate focus on emerging security challenges, technological advancements and establishing a strong indigenous defence manufacturing base.
- The NSA, as the chairperson, brings in the PMO, which in real terms, is the final arbiter in national security matters. It includes the armed forces, which have thus far been sidelined by the ministry of defence bureaucracy. Diplomatic inputs will be provided by the foreign secretary. And, very importantly, the ministry of finance, which controls the purse strings, is co-opted by the presence of the secretary (expenditure).
- The DPC is the right step in this direction, provided it works dynamically, meets frequently, follows a strict timeline, allows members to express their views freely and – since the NSA can co-opt members as required – welcomes academic and think-tank review.

The Menace Of Malnutrition in India

Q2. Despite thousands of crores of rupees being spent on and a number of government schemes working for child development, the status of health and nutrition of children remains abysmal. Discuss.

Hints:

- The rationale for investing in nutrition is globally well recognized – both as a critical development imperative, as well as crucial for the fulfillment of human rights-

especially of the most vulnerable children, girls and women. It constitutes the foundation for human development, by reducing susceptibility to infections, related morbidity, disability and mortality burden, enhancing cumulative lifelong learning capacities and adult productivity. Nutrition is acknowledged as one of the most effective entry points for human development, poverty reduction and economic development, with high economic returns.

- Under nutrition is both a consequence as well as a cause of perpetuating poverty, eroding human capital through irreversible and intergenerational effects on cognitive and physical development. This intergenerational cycle of under nutrition, manifest as low birth weight, is compounded by gender discrimination and social exclusion.
- Tinkering with the existing national programme of providing hot-cooked meals to children three to six years old and take-home rations for younger children and pregnant and lactating mothers is fraught with danger. Attempts to substitute meals or rations with factory-made nutrients will inject commercialisation into a key mission and upset the nutritional basis of the scheme.
- Many children have died of malnutrition in India and yet Women and Child Development Ministers over the years haven't decided what food to give children in anganwadis. This is worrying. How many more children must suffer from stunted growth before the minister in charge of their welfare decides on whether to serve them hot-cooked nutritious meals or packaged/processed fortified mixes? And why does there have to be a choice between the two? Why can't India incorporate both? Is it really that difficult to keep a close watch on the quality of food served to children between the ages of three and six as well as take-home ration for pregnant and lactating women?
- In India, undernutrition levels have remained persistently high – especially in utero, in the early years of life, in adolescent girls and in women across the life cycle-especially in disadvantaged /excluded community groups and those living in areas or conditions of high nutritional vulnerability and multiple deprivations.
- Data on malnutrition should serve as a wake-up call for the government. An estimated 35.7% children are underweight and 38.4% are stunted in that age group. The body mass index of 22.9% women aged 15-49 indicates chronic energy deficiency. These figures should cause alarm that even after a long period of robust economic growth; India has not achieved a transformation.

- Raising nutritional standards for young children has become a policy imperative only in recent years, with the National Food Security Act, 2013, incorporating the mandate in Schedule II and the Supplementary Nutrition (Integrated Child Development Services Scheme) Rules, 2017, laying down entitlements. They emphasis on strengthening these legal guarantees by providing more nutritious hot-cooked meals and rations with the help of local self-help groups is to be welcomed. If the ICDS scheme, now called the Anganwadi Services Scheme, is to achieve better outcomes, it must focus on the provision of physical infrastructure and funding, besides closer monitoring of the nutrition mission. Theoretically, the mission covers every child, but in practice it is not accessible to all.
- The need of the hour is to involve all field functionaries in a productive manner. Consistent monitoring and evaluation of the schemes using technological interventions and real-time data is important. There is also a need to providing leverage budgets from related departments to develop an integrated plan with cross-sectoral collaboration to achieve nutrition-related targets.

New Era Of Irrationality

Q3. Explain the significance of "Scientific Temper" as mentioned in the constitution in taking India into the 21st century with modern values and ethics.

Hints:

- India is considered as a land of belief. Indians like to assert that faith and religion are a 'way of life'. Terms such as modernity, rational thinking and scientific analysis are often frowned upon and misdiagnosed as disrespect to Indian culture.
- In recent years, we have entered a new era of Irrationality. There are also new ways in which unscientific views have entered the political arena, making them more visible and problematic. There appears to be a relay race among people in public positions, each one making an astonishingly ridiculous claim and then passing on the baton.
- Irrationality is cognition, thinking, talking, or acting without inclusion of rationality. It is more specifically described as an action or opinion given through inadequate use of reason, or through emotional distress or cognitive deficiency. The term is used, usually pejoratively, to describe thinking and actions that are, or appear to be, less useful, or more illogical than other more rational alternatives.

- The term “scientific temper” was first used in India by Pandit Jawaharlal Nehru in 1946. After he became the first Prime Minister of Independent India in 1947, Nehru relentlessly expanded the notion of scientific temper and strived hard to convince the political and scientific leadership to inculcate scientific temper among its citizens.
- The absurd statements by political leaders and God-men are misleading to the society. They exert greater influence on the society and people look up to them. These statements are more than a deceit to the fundamental principles of the human nature and its progress.
- Scientific temper is an intrinsic quality. It has to be imbibed and not merely imparted. But in our anxiety not to invest our best brains outside the country, we seem to have resorted to imparting scientific temper in our education curriculum and not inculcating this spirit in our young minds.
- Scientific temper has to be an inherent quality in our young minds and it should be cultivated in them as a matter of routine and the curriculum based attempts will not always be complete of which has to be a societal responsibility as well.
- Any exercise seeking truth whether it may be in science or in any other activity of human race has always been scrutinized and criticized, but never doubted and hence it is hoped that India will evolve and re-emerge with appropriate scientific temper which can be an eye opener to the whole world.

Panchayati Raj @25 Years

Q4. Panchayati Raj Institutions are simultaneously a remarkable success and a staggering failure since its inception. Critically analyse.

Hints:

- On 24 April 1993, India took a momentous step to strengthen its democracy by making it much more inclusive and participatory. The government notification of the 73rd Constitution Amendment Act or the Panchayati Raj Act (later 74th Act for urban local bodies) brought a “third-tier” to the country’s federal polity and heralded a new era of decentralised governance. Significantly, the 73rd Amendment established a constitutional and legal basis for local self-governance institutions or decentralized governance in India. In 2018, twenty-five years have gone by after this significant measure.
- The 73rd Amendment which bestowed constitutional status to the Panchayats and recognised them as “self-governing institutions” has made deep inroad

into the democratic psyche of the country. From merely 5,000 elected representatives (MPs/MLAs), the PRI Act has created space for a mammoth three million representatives at various levels (Gram Sabha, Panchayat Samiti and Zilla Parishad), thus making it the largest democratic exercise in the world.

- Other contribution is that the 73rd Amendment Act has deepened democracy, political inclusion and participation among the most marginalised sections of the society.
- The decentralisation initiative is taking serious traction in terms of actual devolution of powers to local bodies. Of late, a healthy competition has emerged among various states in terms of devolving funds, functions and functionaries (3Fs).
- The first failure of the 73rd Amendment was that the transfer of various governance functions—like the provision of education, health, sanitation and water was not mandated. Instead the amendment listed the functions that could be transferred and left it to the state legislature to actually devolve functions. There has been very little devolution of authority and functions in the last 25 years.
- The second failure of the 73rd Amendment is the lack of finances for PRIs. Local governments can either raise their own revenue through local taxes or receive intergovernmental transfers. The 73th Amendment recognized both forms of public finance, but did not mandate either. The 73rd Amendment let this be a choice open to the state legislatures—a choice that most states have not exercised.
- Notwithstanding many milestones and achievements, particularly the empowerment of women and other marginalised sections, the journey towards decentralisation remains slow, tardy and far from satisfactory. While ensuring constitutional status to these bodies was a great first step for expanding inclusion and participation in the large and diverse country characterised by historical marginalisation and rigid hierarchies, a substantive transformation requires political statesmanship from the States and the Centre. One hopes panchayats will emerge as genuine “little republics” in the years to come.

Food Processing in India: Need of the Hour

- Q5. Discuss the role of food processing industry in doubling farmer’s income and highlight the salient features of Kisan Sampada Yojana in bringing prosperity to the farmers.**

Hints:

- The Indian food industry is poised for huge growth, increasing its contribution to world food trade every year. In India, the food sector has emerged as a high-growth and high-profit sector due to its immense potential for value addition, particularly within the food processing industry.
- Accounting for about 32 per cent of the country's total food market, the government of India has been instrumental in the growth and development of the food processing industry. The government through the Ministry of Food Processing Industries (MoFPI) is making all efforts to encourage investments in the business. Currently, according to the food processing ministry, just about one-tenth of India's agriculture produce is processed and the ministry aims to raise it threefold.
- According to an official report on Doubling Farmers Income (DFI), the extent of food processing is highest among foodgrains at almost 70 per cent, while in fisheries it is only 26 per cent and 35 per cent in milk. Buffalo meat is processed to about 20 per cent, followed by poultry (6 per cent), while processing of fruits and vegetables is very low at 2.2 per cent.
- Landholding here is shrinking whereas mouths to feed are increasing. In this entire dichotomy, food processing can play a pivotal role in addressing all these issues. Food processing can help in increasing the remuneration of the farmers.
- Kisan Sampada Yojana, will provide a subsidy to the smaller players because 90 per cent of the food processing industry lies in the unorganized sector. The three new schemes, one is the unit scheme that ensures anyone putting a unit inside the mega food park will get a subsidy, second is to ensure a food processing infrastructure wherever there is a cluster of raw material such as milk, meat, fruit and vegetable and every perishable across India and the third is the backward and the forward linkages, where a farmer can go for value addition through food processing operations.
- Food processing is the bridge between the industry and farming and thus, the farmer requires good seeds, modern technology, modern know-how, so, that his industry can flourish. The public-private partnership model could be just the game-changer India's agricultural sector needs. By drawing on the collective power of all agricultural stakeholders, PPPs can transform the sector at multiple levels.
- From increasing exports to accelerating food processing, to increasing efficiency in farm, are usually considered as enablers to double farmer's income. But none of this will be possible unless you have a mechanism to maximise the nutritional value of agricultural output and minimise losses as well.

- Apart from logistics, market architecture is also critical. The 2018-19 budget takes cognisance of this need and has announced the developing the 22,000 rural haats into Gramin Agricultural Markets (GrAMs). These will be enabled with ability to serve as pooling points, to aggregate, package and dispatch farm produce to distant terminal markets. This will allow farmers to capture higher price for a unit of value produced and greatly contribute to our national agenda of doubling farmers' income.

Social Audit: A Citizen Centric Mode of Accountability

- Q6. Public audit do not have any legal sanction but they are indispensable for taking democracy to the grassroots and evolving people from a subject to a citizen. Discuss.**

Hints:

- Recently in April, 2018 a "Jan Sunwai" campaign was organised in five development blocks of Rajasthan. People learnt by doing. They realised that information is at the core of their empowerment. The process of verification, inquiry and auditing of records was demystified.
- The Jan Sunwai facilitated the reading of information and recorded the people's response. The effective institutionalisation of this platform could be a fundamental breakthrough in the attempt to give people and communities real monitoring powers. One of the defining slogans of the RTI movement that emerged from these Jan Sunwais and people's agitations — "hamaara paisa, hamaara hisab" (our money, our accounts) — succinctly encapsulated the concept of a social audit.
- India is a democracy. People are masters. Government exists to serve the people. It is the primary duty of any master to take a look at the accounts of the servant at regular intervals and hold the servant accountable. Social audit or public audit is a step in that direction. People use right to information to obtain details of the works carried out by a government department or the manner in which the money was spent by that department. This information contained in records is compared with field reality. This is public audit or social audit and is a very important tool in the hands of the people to hold the government accountable.
- Public audits do not have any legal sanction. The findings of a public audit are not acceptable as evidence under any law. However, a public audit creates a lot of public pressure on the political establishment to take corrective steps.

- The investment of thousands of crores of rupees made by the government of India and various national and international agencies, since independence in social development programmes, has not been justified by the impact it has made. Huge gap between the desired impact and the actual impact takes anyone within the Government. or otherwise to think deeply about the failures. It was high time that the planners get themselves engaged to seek the real cause and the remedy for such failures.
- The social audit is conceptually simple. Information is to be proactively shared amongst people so that they can “performance audit” a service or programme, from planning, to implementation and evaluation. This is, however, easier said than done. An independent facilitation structure needs to be set up, fleshed out, legally empowered and mandated to ensure that social audits are conducted. The relationship between the powerful and the powerless has to shift from patronage to rights and from inequality to equality, making the right to question sacrosanct. Specific methods of sharing information, recording comments and acting on findings have been worked out. They now need to be acted upon.
- The system of social audits needs synergetic endorsement and a push by multiple authorities to establish an institutionalised framework which cannot be undermined by any vested interests. It is now an opportune time for citizens groups to campaign to strengthen social audits, and make real progress in holding the political executive and implementing agencies to account.
- Industrial activity has been the biggest contributor to the problem in the last century, especially since the amount of mining and manufacturing has increased. Most industries are dependent on extracting minerals from the Earth. Whether it is iron ore or coal, the by products are contaminated and they are not disposed off in a manner that can be considered safe.
- Chemical utilization has gone up tremendously since technology provided us with modern pesticides and fertilizers. They are full of chemicals that are not produced in nature and cannot be broken down by it. As a result, they seep into the ground after they mix with water and slowly reduce the fertility of the soil.
- Soil pollution can have a number of harmful effects on ecosystems and human, plants and animal health. The harmful effects of soil pollution may come from direct contact with polluted soil or from contact with other resources, such as water or food which has been grown on or come in direct contact with the polluted soil.
- Soil pollution often cannot be visually perceived or directly assessed, making it a hidden danger — with serious consequences. It impacts food security both by impairing plant metabolism and thus reducing crop yields, as well as by making crops unsafe for consumption. Pollutants also directly harm organisms that live in soil and make it more fertile.
- 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 pose serious risks to human health.
- The report prepared by FAO shows how the Sustainable Development Goals (SDGs) are deeply linked with the issue of addressing soil pollution. SDG 2 (Zero Hunger), SDG 3 (Good Health and Well-Being), SDG 12 (Responsible Consumption and Production) and SDG 15 (Life on Land) have all targets which have direct reference to soil resources, particularly soil pollution and degradation in relation to food security.
- Conservation and protection of the soil is one of the basic things to ensure the healthy survival of the species along with other commercial interests. Being an agricultural dominated country, for India, the issue of soil pollution is of utmost importance to be addressed at the war-footing. It is linked not just with agricultural production and other forms of primary activities but also to the sustainable livelihoods of the people at the base of economic pyramid.

Soil Pollution : A Hidden Danger

Q7. Soil pollution is becoming a global concern worldwide. Explain the causes and effects of soil degradation. Also examine the relationship between soil degradation, food security and sustainable development.

Hints:

- Soil pollution is posing a serious threat to our environment, to our sources of food and ultimately to our health. The Food and Agriculture Organization of the United Nations (FAO) warns that there is still a lack of awareness about the scale and severity of this threat.
- Soil pollution refers to the presence of a chemical or substance out of place and/or present at a higher than normal concentration that has adverse effects on any non-targeted organism. Soil pollution often cannot be directly assessed or visually perceived, making it a hidden danger. As a “hidden danger” right below our feet, soil pollution turns out to be underestimated affecting everyone – humans and animals.



SEVEN IMPORTANT NATIONAL & INTERNATIONAL NEWS

NATIONAL

1. Advance Pricing Agreement

The Central Board of Direct Taxes (CBDT) has achieved another milestone by signing its 200th Unilateral Advance Pricing Agreement (UAPA) in April, 2018. The progress of the APA scheme strengthens the government's resolve of fostering a non-adversarial tax regime. The Indian APA programme

has been appreciated nationally and internationally for being able to address complex transfer pricing issues in a fair and transparent manner.

About Advance Pricing Agreement

The Advance Pricing Agreement (APA) programme in India was launched

in 2012. The scheme endeavors to provide certainty to taxpayers in the domain of transfer pricing by specifying the methods of pricing and determining the prices of international transactions in advance. ■

2. Heavy Metals in Fertilizers

The scientists, from the nanoscience and water research unit of the central government's department of science and technology, found a close link between toxic heavy metals used in fertilizers and the prevalence of diabetes and cardiovascular diseases among farmers. The health ministry has been running screening programs in rural areas to get to the bottom of the

rising incidence of non-communicable diseases in the concerned areas.

Around 82.5% of the study population was involved in farming and high levels of toxic metals were detected in the synthetic fertilizers used in the study village. The prevalence of pre-diabetes, diabetes and atherosclerosis was 43.4%, 16.2% and 10.3%, respectively.

Pre-diabetes is a condition in which blood sugar is high, but not high enough to be type 2 diabetes in which the body either doesn't produce enough insulin, or it resists insulin. Atherosclerosis is a cardiovascular disease in which there is narrowing of the arteries due to plaque buildup on the artery walls. ■

3. Green Revolution - Krishonnati Yojana

The Cabinet Committee on Economic Affairs has given its approval for the Umbrella Scheme, "Green Revolution – Krishonnati Yojana" in agriculture sector beyond 12th Five Year Plan for the period from 2017-18 to 2019-20. Objectives of the scheme are betterment of agricultural base, doubling of farmers' earnings, development of appropriate agriculture infrastructure and adequate market for

sale of produce. The Umbrella scheme comprises of 11 schemes.

These schemes are: National Food Security Mission (NFSM), Mission for Integrated Development of Horticulture (MIDH), National Mission for Sustainable Agriculture (NMSA), Sub-Mission for Agriculture Extension (SMAE), Sub-Mission on Seeds and Planting Material (SMSP), Sub-Mission on Agricultural Mechanisation (SMAM)

and Sub-Mission on Plant Protection and Plant Quarantine (SMPPQ).

Integrated Scheme on Agriculture Census, Economics and Statistics (ISACES), Integrated Scheme on Agricultural Co-operation (ISAC), Integrated Scheme on Agricultural Marketing (ISAM) and National e-Governance Plan (NeGP-A) have also been merged into the umbrella scheme. ■

4. SWAYAM Platform

The Ministry of Human Resource Development has launched a major and unique initiative of online professional development of 1.5 million higher education faculty using the Massive Open Online Courses (MOOCs) platform SWAYAM. In the first phase, 75 discipline specific national resource centres have been identified.

Under this initiative, all in-service teachers, irrespective of their subject and seniority will have an enabling opportunity to keep abreast of the latest developments in their disciplines.

About SWAYAM

It is an online learning platform that provides, not only video lectures,

reading material but also assignments that could end up in securing credits after completing the assessment system. More than 400 courses are available on SWAYAM covering all the engineering and non-engineering subjects at undergraduate and post-graduate levels. ■

5. Pradhan Mantri Jan Vikas Karyakram

The Cabinet Committee on Economic Affairs has approved the proposal for renaming and restructuring of Multi-sectoral Development Programme (MsDP) as Pradhan Mantri Jan Vikas Karyakram (PMJVK).

Impact

- The restructured programme would provide better socio economic infrastructure facilities to the

minority communities particularly in the field of education, health & skill development.

- The criteria for identification of Minority Concentration Towns and Clusters of Villages have been rationalized by lowering the population percentage criteria of minority communities and fulfilment of backwardness parameters.

Background

MsDP was launched in the year 2008-09 in 90 identified Minority Concentration Districts (MCDs) having at least 25% minority population and below national average with respect to one or both of the backwardness parameters with the objective of developing assets for socio-economic and basic amenities. ■

6. National Water Informatics Centre

Recently, National Water Informatics Centre (NWIC) has been created by Ministry of Water Resources, River Development and Ganga Rejuvenation.

- NWIC would be a repository of nation-wide water resources data and would work as a subordinate office under water resources ministry.

- It is expected to provide a 'Single Window' source of updated data on water resources & allied themes; and provides value added products and services to all stakeholders.

- To develop value added products and services for all aspects of integrated water resources management serving the nation

through research, capacity building linkages and better governance in water resources sector.

The management of water resources is a highly complex and tedious task that involves expertise of multidisciplinary domains and depend on historical and real time reliable data and information. ■

7. Indian Petroleum & Explosives Safety Service

The Union Cabinet has approved the Cadre review and formation of Group 'A' service of the technical cadre of Petroleum & Safety Organization (PESO) in the name of Indian Petroleum & Explosives Safety Service (IPESS).

About PESO

It is a subordinate office under Department of Industrial Policy &

Promotion (DIPP). The organization is serving the nation since 1898 as a nodal agency for regulating safety of substances such as explosives, compressed gases and petroleum. Today, the organization deals with wide range of subjects related to explosives, petroleum, compressed gases, pressure vessels, gas cylinders,

cross-country pipelines, Liquefied Natural Gas (LNG), Compressed Natural Gas (CNG), Auto Liquefied Petroleum Gas (Auto LPG) etc. The increase in workload is manifested in the quantum jump in the number of licensed premises and other activities. ■

INTERNATIONAL

1. FDI Confidence Index

The foreign Direct Investment (FDI) confidence index for the year- 2018 has been released.

Key Findings

- India has slipped by three points to 11th position in the FDI Confidence Index- 2018 of global consultancy firm A T Kearney. China (5) and Singapore (12) all rank lower this year, while Australia rises to 8th and New Zealand jumps to the 16th spot in only its second year on the Index. Japan and South Korea hold steady at 6th and 18th, respectively.

- Reforms that have had a positive impact on India's attractiveness include the elimination of the Foreign Investment Promotion Board, a government agency responsible for reviewing all potential foreign investment and the liberalisation of overseas investment thresholds for the retail, aviation and biomedical industries, the report said.

About the Index

The Foreign Direct Investment Confidence (FDI) Index prepared by

A.T. Kearney is an annual survey which tracks the impact of likely political, economic and regulatory changes on the foreign direct investment intentions and preferences of CEOs, CFOs and other top executives of Global 1000 companies. The report includes detailed commentary on the markets and the impact a variety of global trade issues have on their FDI attractiveness, as well as a ranking of the top 25 countries.

2. Fish Mortalities in Arabian Sea

A new joint Indo-US study has found that global warming is leading to large-scale fish kills in the Arabian Sea by fuelling the growth of harmful bioluminescent algae. The striking green algae, Noctiluca scintillans, which is behind the scintillating phenomenon observed in oceans when they glow fluorescent blue at night, are indicators of fish mortality. Scientists highlight that their growing

abundance is a cause of concern, because they adversely affect fish, which do not thrive in such waters.

Currently, the western coast, Persian Gulf and Oman are largely affected, but if it keeps on increasing, it will have drastic effects on fisheries along the Indian coast. Following the research, INCOIS has announced the setting up of a Marine Observation

System along Indian Coast (MOSAIC) to monitor the water quality of the Indian coastal waters.

The study jointly conducted by scientists of INCOIS, Hyderabad, and those of the National Oceanic and Atmospheric Administration (NOAA) under the US Department of Commerce.

3.Strategy 2030 to Eradicate Poverty in APAC Region

Asian Development Bank (ADB) is developing a new long-term 'Strategy 2030', which will renew its commitment to eradicate poverty in region and expand vision to achieve a prosperous, inclusive, resilient and sustainable Asia and the Pacific (APAC). With the economic centre of gravity shifting to the APAC region and almost all our developing member countries have advanced to middle-income status. There is still persistent poverty.

Key Points

- ADB will foster regional cooperation and integration, building on

its experience in sub-regional cooperation initiatives since the 1990s in Central Asia, South Asia, Southeast Asia and the Pacific.

- ADB will promote regional public goods such as transportation and logistical networks and protection against communicable diseases.
- ADB will support a regional approach to energy security, education, tourism and financial stability.
- ADB will cooperate with existing and emerging international and regional initiatives.

India is a founding member of the ADB and is currently the fourth-largest shareholder and the largest borrower of ADB sovereign lending since 2010.

About ADB

The ADB was founded in 1966 and was mandated to lift people out of poverty and fund projects which will benefit society at large. Since its inception, ADB has been led conventionally by a Japanese governor, with larger quantum of funding coming from Japan and United States. The ADB has 67 member countries, including —48 from the Asian region.

4. Mars InSight Mission

NASA has launched Interior Exploration using Seismic Investigations, Geodesy and Heat Transport (InSight), the first-ever mission to study the heart of Mars. InSight will reach its destination in a little less than seven months, touching down Nov. 26 on the north of the Martian equator. It will probe the interior of another terrestrial planet,

giving us an idea of the size of the core, the mantle, the crust and our ability then to compare that with the Earth.

By using sophisticated geophysical instruments, InSight would delve deep beneath the surface of Mars, detecting the fingerprints of the processes of terrestrial planet formation, as well as measuring the planet's "vital signs": Its

"pulse" (seismology), "temperature" (heat flow probe) and "reflexes" (precision tracking).

About InSight Mission

InSight (Interior Exploration using Seismic Investigations, Geodesy and Heat Transport) is a NASA discovery program mission that will place a single geophysical lander on Mars to study its deep interior. It will be the first mission to peer deep beneath the Martian surface, studying the planet's interior by measuring its heat output and listening for marsquakes, which are seismic events similar to earthquakes on Earth. It will use the seismic waves generated by marsquakes to develop a map of the planet's deep interior. ■



5. Portable 3D Skin Printer

In a first, researchers have developed a portable 3D skin printer that deposits even layers of tissue to cover and heal deep wounds within minutes. For patients with deep skin wounds, all three skin layers - the epidermis, dermis and hypodermis - may be heavily damaged. The current preferred

treatment is called split-thickness skin grafting, where healthy donor skin is grafted onto the surface epidermis and part of the underlying dermis.

According to the researchers, the printer is an alternative to a conventional skin graft, but doesn't require healthy skin to be removed

from a donor and grafted on to a patient. Instead, the device fits in your hand and can be used like a white-out tape dispenser, rolling out "bio ink" skin tissue directly on the affected areas. It weighs less than two pounds. Researchers believe it's the first device that can form skin directly on top of a wound, in two minutes or less. ■

6. New Technology Purifies Water using Sunlight

Scientists have developed a new technology that uses the sunlight to purify water with near-perfect efficiency. By draping black, carbon-dipped paper in triangular shape and using it to both absorb and vaporise water, researchers have developed a method for using sunlight to generate clean water with near-perfect efficiency.

Usually, when solar energy is used to evaporate water, some of the energy is wasted as heat is lost to the surrounding environment. This

makes the process less than 100 per cent efficient. Our system has a way of drawing heat in from the surrounding environment, allowing us to achieve near-perfect efficiency.

The technique has many advantages. It is simple and the power source — the sun — is available just about everywhere. However, even the latest solar still models are somewhat inefficient at vaporizing water. Researchers addressed this challenge by increasing the efficiency of their evaporation system by cooling it down.

A central component of their technology is a sheet of carbon-dipped paper that is folded into an upside-down "V" shape, like the roof of a bird house. The bottom edges of the paper hang in a pool of water, soaking up the fluid like a napkin. At the same time, the carbon coating absorbs solar energy and transforms it into heat for evaporation.

The low-cost technology could provide drinking water in regions where resources are scarce, or where natural disasters have struck. ■

7. WHO's Guidelines on Daily Calorie Intake

WHO has released draft guidelines on daily calorie intake by adults and children. These draft recommendations, the first since 2002, are aimed at controlling non-communicable diseases (NCDs), which are responsible for an estimated 39.5 million death (72%) of the 54.7 million deaths worldwide in 2016.

Key Recommendations

- Saturated fatty acids should not comprise more than 10% of your daily calorie intake.
- Trans fatty acids should not comprise more than 1% of your daily calorie intake.

- Use heart-healthy polyunsaturated fatty acids (PUFAs) as replacement.

About Saturated Fatty Acids

- Saturated fatty acids are found in foods from animal sources such as butter, milk, meat, salmon and egg yolks and some plant-derived products such as chocolate and cocoa butter, coconut, palm and palm kernel oils.

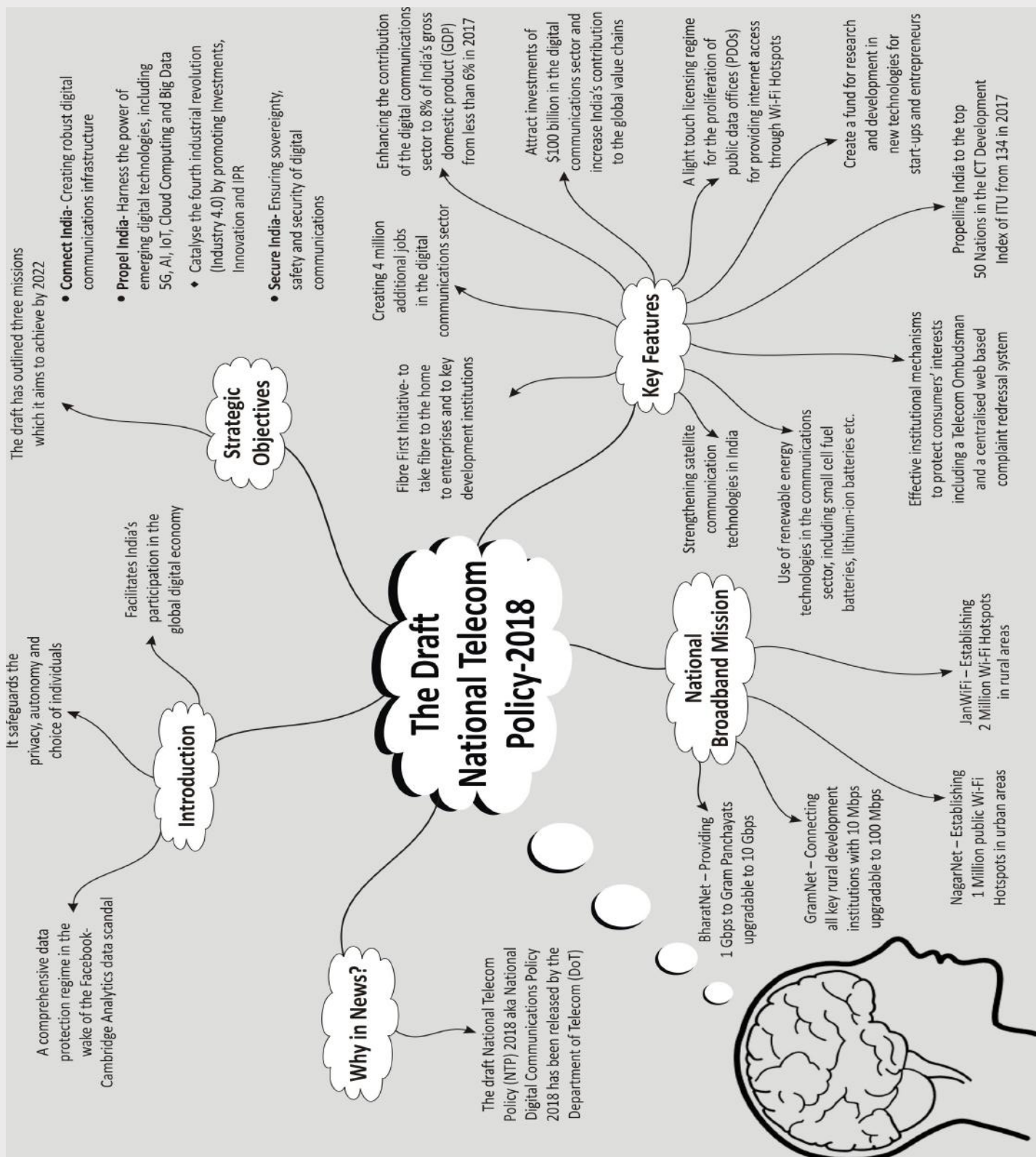
About Trans-fatty Acids

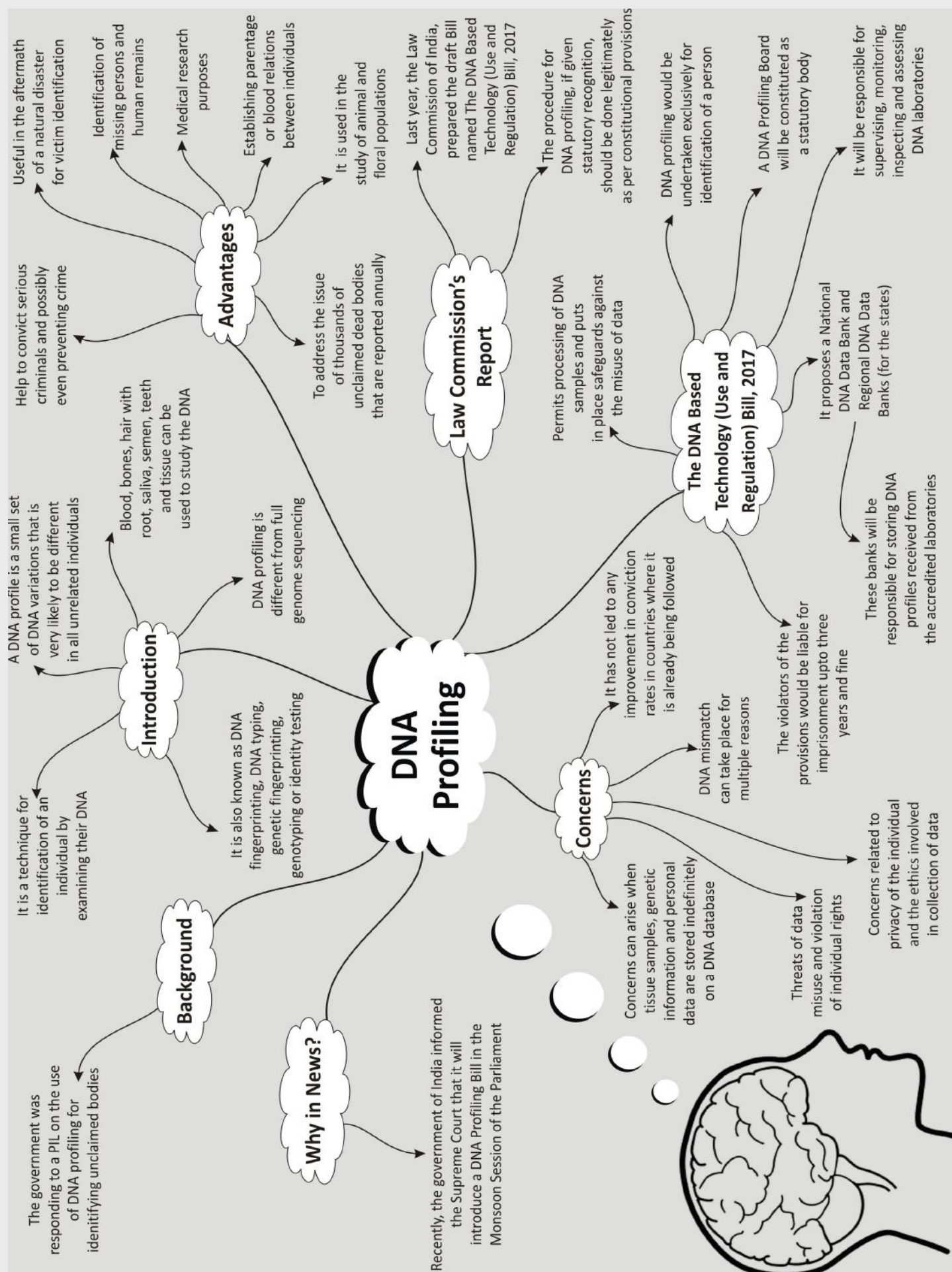
Trans-fatty acids can be industrially produced by the partial

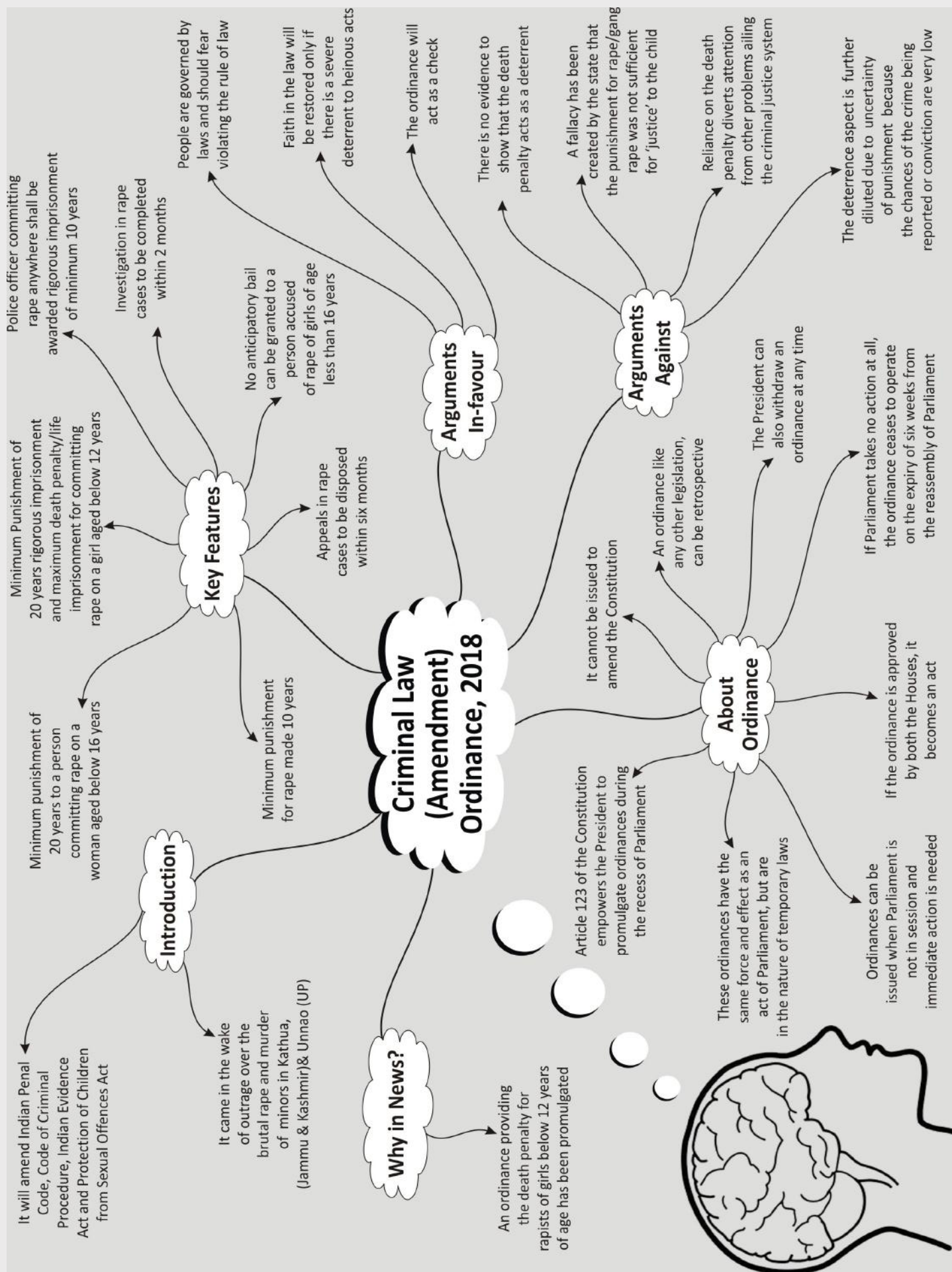
hydrogenation of vegetable and fish oils, but they also occur naturally in meat and dairy products from ruminant animals (for example, cattle, sheep, goats and camels). Industrially-produced trans- fatty acids can be found in baked and fried foods (doughnuts, cookies, crackers, pies, etc.), pre-packaged snacks and food and in partially hydrogenated cooking oils and fats that are often used at home, in restaurants, or by the informal sector, such as street vendors of food.

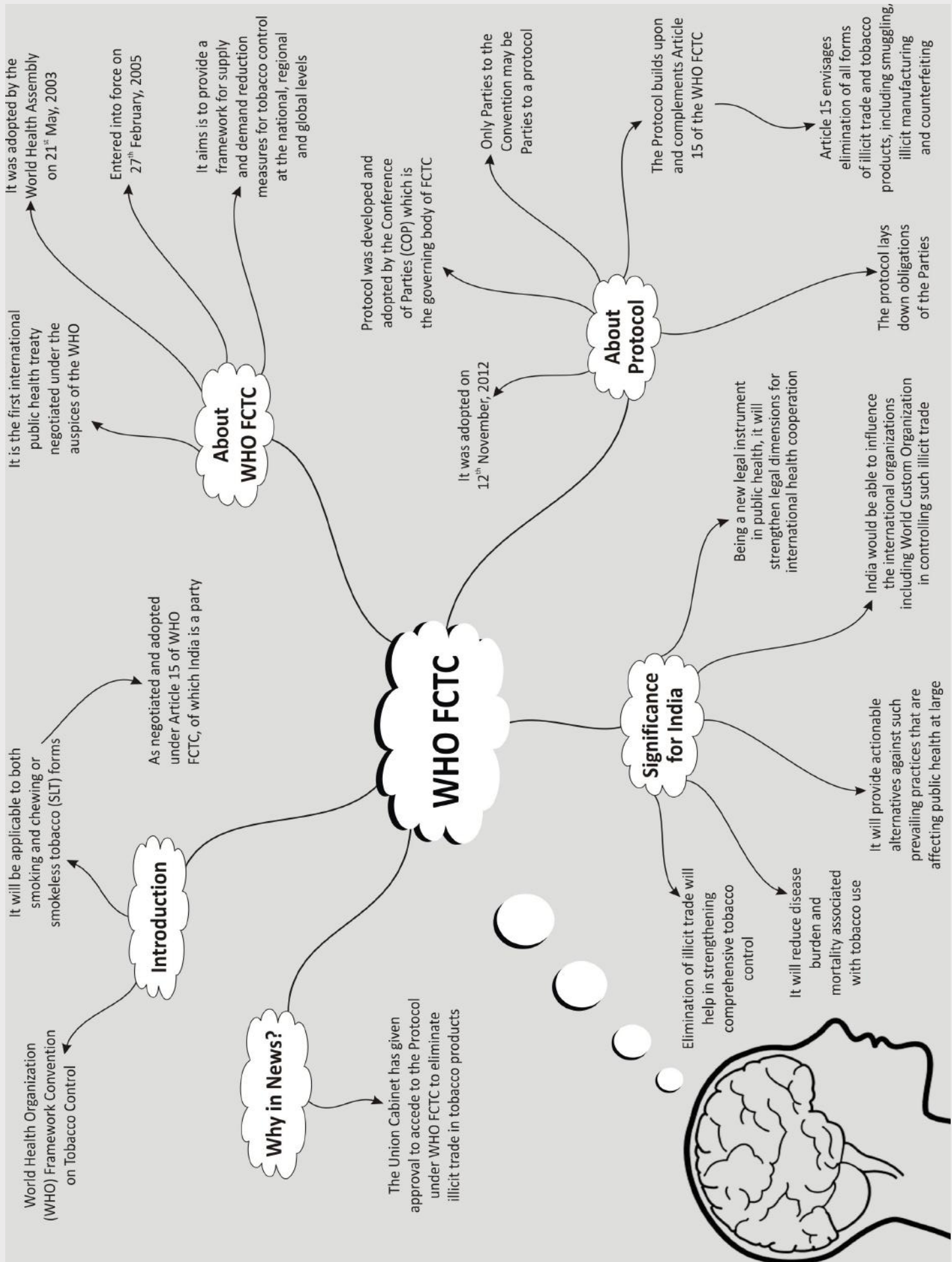


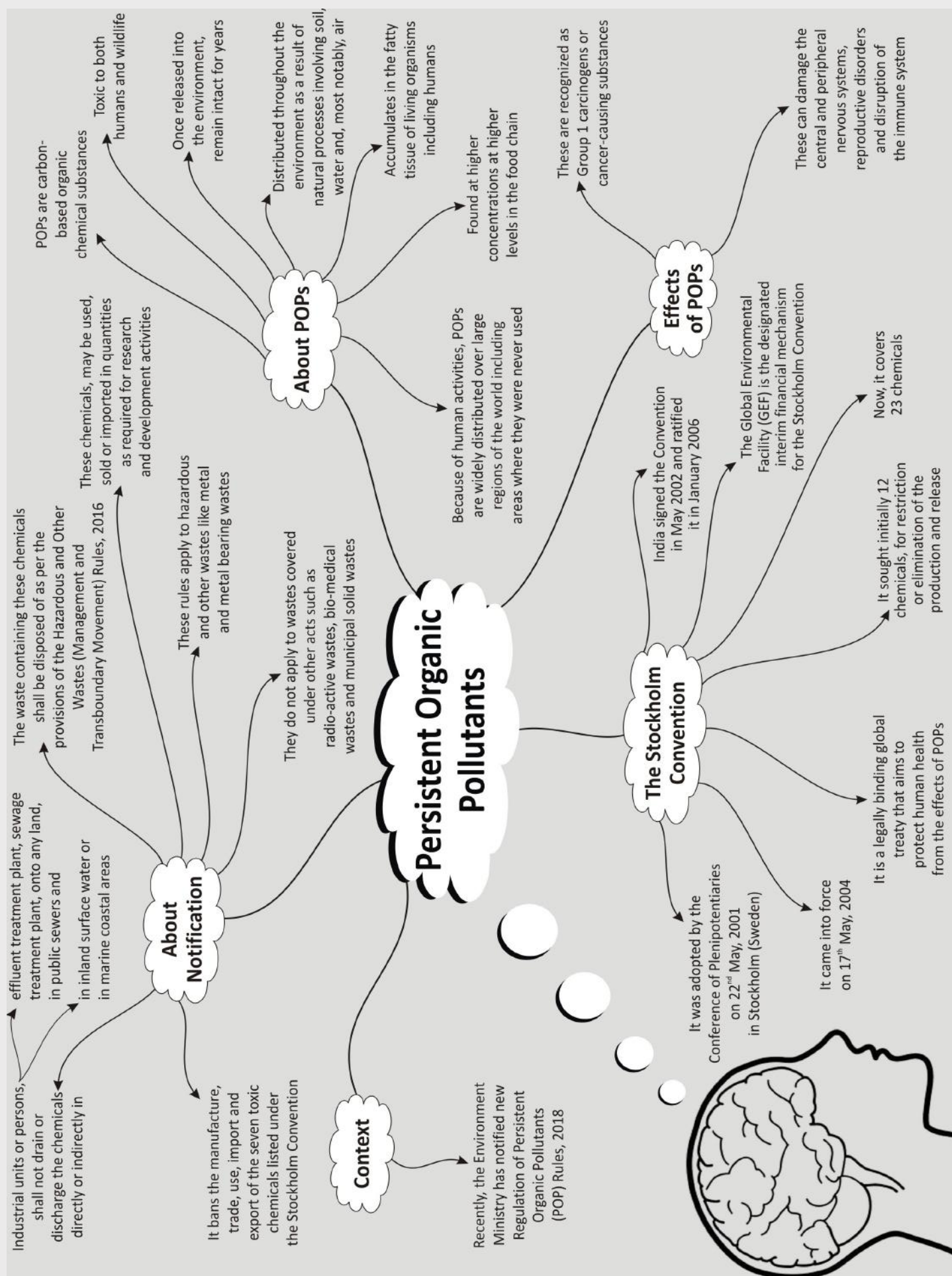
SEVEN BRAIN BOOSTERS

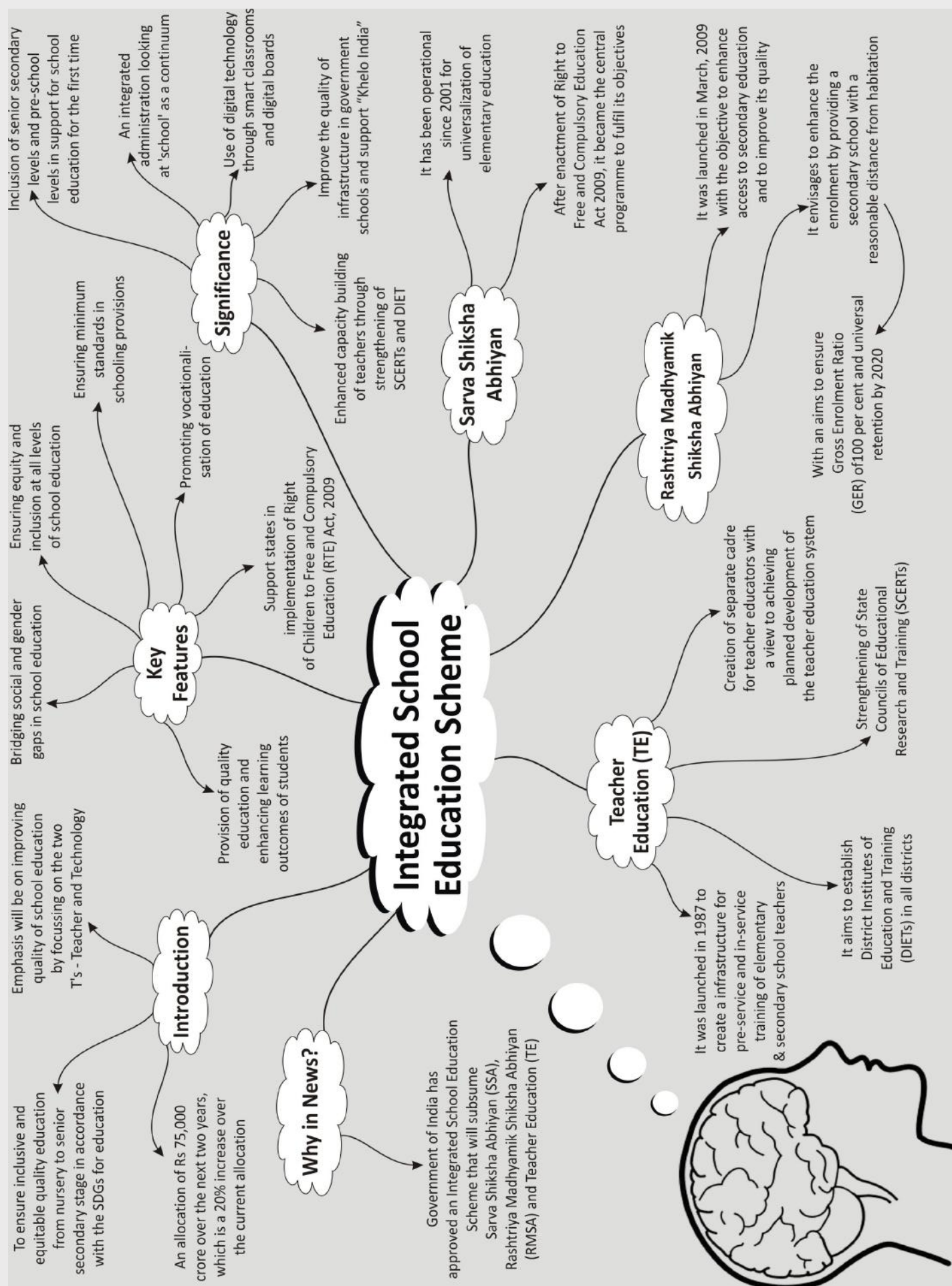


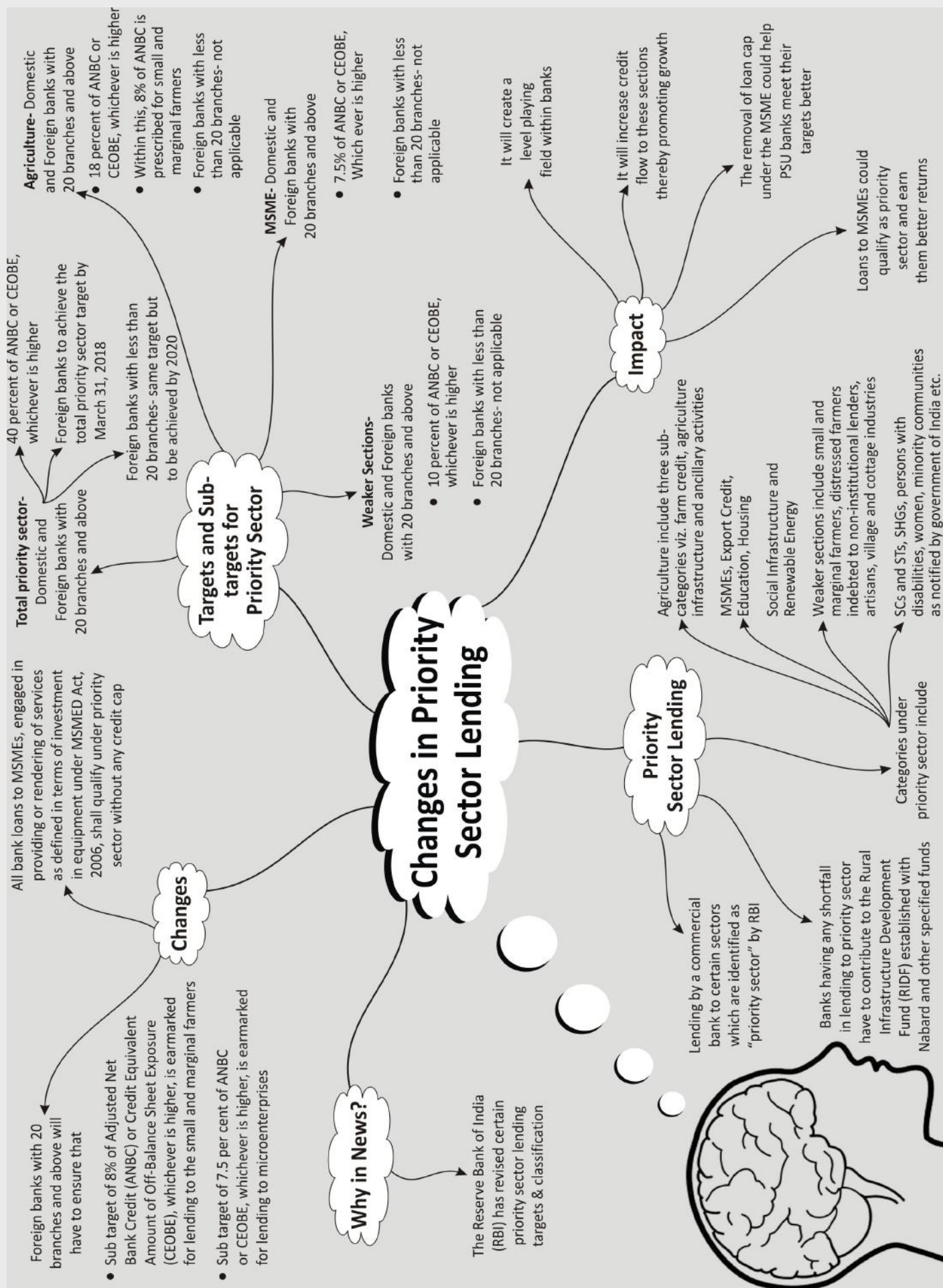












SEVEN MCQ's WITH EXPLANATORY ANSWERS

(Based on Brain Boosters)

The Draft National Telecom Policy-2018

Q1. Which of the following statements is/are correct regarding the newly drafted National Telecom Policy-2018?

1. It accepted Telecom Regulatory Authority of India's (TRAI) recommendations on a new framework to set up PDOs for providing public Wi-Fi hotspots.
2. It aims to enhance the contribution of the digital communications sector to 8% of India's GDP by 2022.
3. It aims to harness the power of emerging digital technologies, including 5G, AI, IoT, Cloud and Big Data for future use.

Select the correct answer using the code given below:

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

Answer: (d)

Explanation: All statements are correct. The draft policy has outlined missions which it aims to achieve by 2022 such as creating 4 million additional jobs in the digital communications sector, apart from enhancing the contribution of the digital communications sector to 8% of India's gross domestic product (GDP) from less than 6% in 2017. And propel India, under which the government aims to harness the power of emerging digital technologies, including 5G, artificial intelligence (AI), Internet of Things (IoT), etc.

It also accepted Telecom Regulatory Authority of India's (TRAI) recommendations on a new framework to set up PDOs, similar to public call offices (PCOs), for providing public Wi-Fi hotspots. These "pay-as-you-go" PDOs will buy data from telecom or internet service providers and resell sachet-sized data packs starting at Rs2.

DNA Profiling

Q2. The term 'DNA Profiling' is sometimes seen in news. Consider the following statements in this regard:

1. Blood, bones, hair with root, saliva, semen, teeth and tissue can be used to study the DNA.
2. The draft DNA Based Technology (Use and Regulation) Bill, 2017 proposed a centralised DNA data bank at national level.

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. Blood, bones, hair with root, saliva, semen, teeth and tissue can also be used to study the DNA.

Statement 2 is not correct. The draft DNA Based Technology (Use and Regulation) Bill, 2017 proposed National DNA Data Bank and Regional DNA Data Banks (for the states). The data banks will be responsible for storing DNA profiles received from the accredited laboratories.

Criminal Law (Amendment) Ordinance, 2018

Q3. With reference to the 'Criminal Law (Amendment) Ordinance, 2018', consider the following statements:

1. The ordinance makes the provision of no anticipatory bail can be granted to a person accused of applicable to rape of girls of age less than 16 years.
2. Article 123 of the Constitution empowers the President to promulgate ordinances during the recess of Parliament.

Which of the statements given above is/are correct?

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

Answer: (c)

Explanation: Both statements are correct. The Union Cabinet approved an ordinance to allow courts to award death penalty to those convicted of raping children up to 12 years of age. It has also been decided to put in place a number of measures for speedy investigation and trial of rape cases. For instance, no anticipatory bail can be granted to a person accused of rape of girls of age less than 16 years, minimum punishment of 20 years rigorous imprisonment and maximum death penalty/life imprisonment for committing rape on a girl aged below 12 among others.

Article 123 of the Constitution empowers the President to promulgate ordinances during the recess of Parliament. He can promulgate an ordinance only when both the Houses of Parliament are not in session or when either of the two Houses of Parliament is not in session.

WHO FCTC

Q4. What is the purpose of acceding to the Protocol under World Health Organization (WHO) Framework Convention on Tobacco Control?

1. To eliminate illicit trade in tobacco products.
2. To reduce disease burden and mortality associated with tobacco use.
3. To provide actionable alternatives against prevailing practices those are affecting public health at large.

Select the correct answer using the code given below:

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

Answer: (d)

Explanation: The Union Cabinet has given approval to accede to the Protocol under World Health Organization (WHO) Framework Convention on tobacco control to eliminate illicit trade in tobacco products. Accession to such treaty will provide actionable alternatives against such prevailing practices that are affecting public health at large. Elimination of illicit trade in tobacco products through strengthened regulation will help in strengthening comprehensive tobacco control, leading to reduction in tobacco use which in turn, will result in reduction in disease burden and mortality associated with tobacco use.

Persistent Organic Pollutants

Q5. Consider the following statements:

With reference to the harmful effects of Persistent Organic Pollutants (POPs) on health and environment

1. They are resistant to environmental degradation.
2. They can cause global warming.
3. They can undergo bioaccumulation

Which of the statements given above is/are correct?

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

Answer: (a)

Explanation: Statement 1 and 3 are correct. Persistent Organic Pollutants (POPs) are organic chemical substances, that is, they are carbon-based. They possess a particular combination of physical and chemical properties such that, once released into the environment, they can remain intact for exceptionally long periods of time (many years); become widely distributed throughout the environment as a result of natural processes involving soil, water and, most notably, air; accumulate in the fatty tissue of living organisms including humans and are found at higher concentrations at higher levels in the food chain; and are toxic to both humans and wildlife.

Statement 2 is not correct. POPs do not cause global warming.

Integrated School Education Scheme

Q6. With reference to the 'Integrated School Education Scheme', consider the following statements:

1. It will subsume Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and Teacher Education (TE).
2. The main emphasis of this scheme is on improving quality of school education by focussing on the two T's - Teacher and Technology.

Which of the statements given above is/are correct?

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

Answer: (c)

Explanation: Both statements are correct. The Cabinet Committee on Economic Affairs approved the proposal of an integrated scheme on school education by subsuming the Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and Teacher Education (TE) from April 1, 2018 to March 31, 2020. The vision of the scheme is to ensure inclusive and equitable quality education from nursery to senior secondary stage in accordance with the Sustainable Development Goal for Education and improving quality of school education by focussing on the two T's - Teacher and Technology.

Changes in Priority Sector Lending

Q7. Recently the Reserve Bank of India (RBI) has revised certain priority sector lending targets & classification. Consider the following statements in this regard:

1. RBI has removed loan limits of Rs. 5 crore and Rs. 10 crore per borrower to MSMEs in the services sector for classification under priority sector norms.
2. Foreign banks will have to follow 8% sub-target for lending to the small and marginal farmers.

Which of the statement given above is/are correct?

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

Answer: (c)

Explanation: Both statements are correct. RBI has removed loan limits of Rs. 5 crore and Rs. 10 crore per borrower to MSMEs in the services sector for classification under priority sector norms. Currently, banks have to earmark 40% of their loans to certain sectors, including MSMEs, important to the economy. This will encourage banks to extend more loans to MSMEs.

The RBI has however told foreign banks with 20 or more branches to adhere to the priority sector sub-targets for farm loans and loans to micro enterprises to make the rule equal with other banking entities. This will be applicable from 2018-19.



SEVEN IMPORTANT FACTS FOR PRELIMS

1. Which North-east state launched 'Go to Village' mission recently?

- *Manipur*

2. India has developed a new model to forecast the reach of which natural disaster?

- *Tsunami*

3. Which country will host the 15th Asia Media Summit (AMS-2018)?

- *India*

4. Which state became the first Indian state to provide digitally-signed land record receipts?

- *Maharashtra*

5. First organised census has begun in India to estimate the number of which rare mammal species?

- *Indus Dolphin*

6. Which country will host the multi-nation counter-terrorism exercise "Peace Mission 2018"?

- *Russia*

7. The joint military exercise "Harimau Shakti 2018" started between India and which other country?

- *Malaysia*

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SEVEN PERFECT QUOTES

(IMPORTANT FOR ESSAY AND ANSWER WRITING)

"The unexamined life is not worth living"

- *Socrates*

"If you would be a real seeker after truth, it is necessary that at least once in your life you doubt, as far as possible, all things."

- *Rene Descartes*

"What we have to learn to do, we learn by doing."

- *Aristotle*

"Mind is ever the ruler of the universe."

- *Plato*

"The gift of truth excels all other gifts."

- *Gautama Buddha*

"In a law a man is guilty when he violates the rights of others. In ethics he is guilty if he only thinks of doing so."

- *Immanuel Kant*

"It is easy to hate and it is difficult to love. This is how the whole scheme of things works. All good things are difficult to achieve; and bad things are very easy to get."

- *Confucius*

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SEVEN PRACTICE QUESTIONS FOR MAIN EXAM

Answer each of the following questions in 200 words:

- Q1. India, France and Australia are well placed to share data to form a common operating picture of the Indian Ocean. Discuss how the term “the Paris-Delhi-Canberra axis” is reflecting an Indo-Pacific “geo-strategic reality in making”.
- Q2. What do you understand by dust storms and how dust storms are formed? Discuss the impact of climate change in the formation of dust storms?
- Q3. Examine the reasons behind India's unease with Hague Convention on the "Civil Aspects of International Child Abduction".
- Q4. What do you understand by hybrid instruments? Discuss why there is a need to have a wider choice of hybrid instruments that would provide flexibility in terms of control and holding.
- Q5. Critically examine how the proposed Higher Education Evaluation and Regulation Authority (HEERA) aims to transform higher education in India.
- Q6. "Social values are more important than economic values". Discuss this statement with examples in the context of inclusive growth of a nation.
- Q7. What do you understand by mobile communication on aircraft (MCA) and onboard connectivity (OBC)? Discuss their benefits and various concerns associated with these technologies.

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