



PERFECT

WEEKLY
CURRENT AFFAIRS

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SEVEN IMPORTANT ISSUES

1. SOCIAL MEDIA: CONNECTING AND MOBILISING THE SOCIETY

Why in News?

With the occurrence of Bulandshahar violence and the use of social media platforms like Facebook and WhatsApp in spreading the news of hatred and arousing the community has once again led to think about the role of social media in polarizing society, also how to make it a benign medium and can be used as an empowerment tool.

Introduction

When we talk about social media, the first thing that strikes in our mind is Facebook or Twitter, but social media is very broader than this. Social media includes web-based and mobile technologies used to turn communication into interactive dialogue. It blends technology, telecommunications and social interaction and provides a platform to communicate through words, pictures, films and music. (Social media is a medium that connects people and gives them voice. This voice is growing louder. It is a welcome sign.) Social media helps in connecting people with social networking sites through which now they can stay far and yet remain connected. For example Instagram, Twitter, Facebook, Skype, YouTube and the like are used quite frequently. Similarly, other social media like Blogs create a platform to post comment on any event which needs to be publicized also can be utilized as an awareness promotional technique for customer's adoption as well as for promotions.

These media has a competitive edge over other popular public media like Television because there is a time gap between social event occurrence and the time it is being broadcasted. Social media blurred the boundaries between people and they become more aware and better informed. Along with its potential to bring people together, social media also holds immense promise as a tool for social change.

But like every coin has two sides, so as social media. Let us discuss the various facets of social media.

Blessings and Banes

Social media is a platform for the people to interact with each other and present their opinions and convey their thoughts via virtual communities and networks like Facebook, Twitter etc. Their usage primarily depends upon individual interests. Whether this incredible power of the social media is a blessing or a bane is a big question.

Social media since its inception has always been serving its purpose of communication and interaction. It is because of social media that we communicate and interact today with people miles away from us. The internet and the social networking sites not only help us communicate with one another but they also provide us with all the necessary information concerning all kinds of topics.

It is a huge opportunity for the company, especially the Startups where they had to spend a lot of money on

advertising previously. With the sudden outburst of social networking, changed the entire perception, thus they can initiate their business with less cost or no cost at all. Online business gives an opportunity to understand their customer well, even helps to boost their brand name and to reach many people. Now with every passing day, every passing hour, people's usage of the internet and social media, has been increasing at a higher pace. Thus Digital Marketing is a new field which is under huge progression. Optimization of the search engine has begun to extend rather localizing to the particular area, which has proved to be the best entity for business.

People are now surfacing with a whole lot of new ideas which would have sounded crazy initially, but later it turned into a huge brand and the people started it have become millionaires and billionaires in no time like Google, Facebook and Twitter. Thereby it has tremendously increased the living standard individually. People are able to express their views openly and understand other views which help the people to join for a particular cause. We have recently seen many successfully executed campaigns over social media that have made the right impact. #BlackLivesMatter, #HeForShe, #MeToo, #GiveltUp for LPG subsidy are some prominent examples.

Another application of social media could be to effectively utilize the vast diversity of human resource that India has which is still lying untapped.

For instance, in Volunteer for a Better India, somebody announces a medical camp in a locality on a date and others join. Likewise, somebody announces a tree plantation or a cleaning drive and people support the initiative with their time or resources.

Even the authorities are closely monitoring all online sites, which are helpful for them to get to know the mood of the people, to catch the suspects as well. It can help in preventing and investigating cybercrime, can meet the parents with their lost children, disaster rehabilitation efforts, empowering the citizens about their rights and many more. As we know that social media is the voice of the people so it has the capacity to influence the outcome of the political issues.

Having discussed some of the boons, let's go into the negative side of it.

Nowadays people are involved so much in the virtual world of social media they tend to forget about the real world. The valuable personal and face to face interaction, i.e. the social life of the people is weakening. Many a time people spend time talking to people on Facebook than to someone sitting next to them because of which interaction between the family members in their own house has been reduced.

People have lots of friends in online media, some of whom they might have never met in real life, i.e. strangers, which in turn may be a threat to some. We all know that the here we can openly give our views, but certain people have misused this social media as their right to abuse and bully another person.

Hacking into the personal information creates a real problem nowadays, they fake the Id's, get bank details, etc. Some of the fake news has created lots of unrest in the society. The Celebrities are the regular victims of such fake news. Person's life has become an open book to anyone who

is interested in getting the personal information about a person have become much reachable, in short, a person's privacy is compromised.

Many a times, terrorist organizations use social media platform like Facebook or Whatsapp to spread their vicious ideologies and also to recruit personnel and for their funding. Similarly many political parties also use these platforms viciously to spread hatred against particular community or caste to pick up some petty political brownie points. Menace of fake news, hate speech, morphed photographs etc are some attributes of dark side of social media which is seen increasingly as a factor responsible for polarizing society.

Let us analyse this issue in detail:

Social Media and its Contribution in Polarizing Society

The Threat is Real

1.49 billion people on average log onto Facebook daily; every second, on average, around 6,000 tweets are tweeted on Twitter; and since its inception, over 40 billion photographs have been posted on Instagram. We live in a world where we aren't only consumers of information but creators as well, which gives us a misplaced sense of control. It is misplaced because we live today on social media in filter bubbles and echo chambers and our experiences are dictated by algorithms. As a result we find ourselves to be more rigid versions of our former selves. Social media sites are more than willing to play abettors. Twitter, for example, will routinely prompt you to follow people who hold a viewpoint that is similar to yours. Social media creates and services needs, which could be the narcissistic impulses encouraged by Instagram or the strengthening of deep-rooted biases on Twitter and Facebook.

Fake news is an industry today and finds great resonance with people. Its rise corresponds with a growing distrust in the mainstream media. Fake news has now even slipped into traditional media outlets and is often circulated by prominent individuals. This has contributed to the echo chamber phenomenon. People seek "informed" opinions through filters only from people they trust and look for news that confirms their world view. This results in people cultivating rigid opinions of issues that they would have probably been more willing to discuss in the past.

A study carried out by Aalto University, Finland, this year on increasing polarisation on social media found that factors like user homophily (users in a social system tend to bond more with ones who are similar to them than to ones who are dissimilar) and algorithmic filtering have created this cycle of enforcing and reinforcing belief systems and ensuring that we don't open our minds to diverse opinions.

It's only a Medium

Blaming social media for all ills saying that it has made it possible for divisive and fake news to travel faster and holding the view that social media has an inherent bias towards evil. We are ignoring the fact that it was social media only through which #MeToo stories have found an outlet. There are many stories of lost children being found, dogs being adopted and money being raised for various causes on social media. Still, people love to say that social media is mainly responsible for the violent, regressive society of 2018. It is true that social media was used to garner support for a man who burnt a Muslim man on video in Rajasthan, but it was the same social media that was also used to raise funds for the parents of a child who was gang-raped and murdered in Kathua in Jammu and Kashmir. What does all of this say about social media? That it is only a tool.

It's easy to blame technology because it is the new element in an old equation. The printing press was seen as trouble by the Ottomans. The speed at which books could be printed and distributed aroused suspicion. Ironically, the first Greek printing house set up in 1627 printed a booklet targeting Jews. Books were only a medium, just like social media. Banning books and blaming social media are results of the same flawed logic.

Currently, Facebook is being blamed for fuelling the 'yellow vests' unrest in France. Facebook Live videos, local events and constant updates turned unorganised outpouring into a national-level protest. Fake videos and images of violence were the tools that were used to incite protesters. But to blame social media for the unrest is as senseless as blaming pamphlets for the French Revolution.

Conclusion

The enabling effect of social media in India has been no different from what is has been in other countries, both developing and developed. It has given millions of people a platform to voice their opinions, it has given thousands of artists an opportunity to showcase their art to a global audience, it has given a platform to hundreds for news and other content. It has even provided citizens and governments a platform where they can engage in dialogue.

However, it is now increasingly being blamed for breeding toxicity, promoting polarisation, amplifying disinformation, birthing malicious intentions and swaying elections.

Earlier when we used to post something on Facebook and we were sure that all our friends would be able to see it and react. Today, our post is reaching only a handful of friends and followers, due to changing and evolving algorithms, unless we are willing to pay. At all times, all our reactions and actions are being monitored by social media platforms so that they can strengthen their algorithms and analyse our behaviours. Artificial intelligence and machine learning are predicting our next move and exposing us to select content, advertising and messaging.

While we can thank our phone for reminding us where we parked our car, we can also be sceptical of the data it is collecting to profile us. How do we know for sure what data are being made available to other companies, for vested interests and for social, political or commercial gains?

Algorithms must be created to identify trigger topics and find diverse opinions that might otherwise be kept out. While the democratisation of discourse that social media has brought about is undeniable and most welcome, we are getting trapped in narrower world views that are seeping

into not only voter behaviour but everyday personal interactions. This is something we must be alarmed about. We need to be more cautious on social media platforms before sharing any content. We need to inculcate the value of 'verifying before sharing'.

With all these evils associated with social media, it still can be seen as a tool for empowerment, especially for a country like India where 70% of the population is yet to get online and leverage the opportunities it has to offer. While social media is definitely facing the global challenges of information bombardment (both factual and fake), it is also enabling communities to access their rights and voice their opinion. Hopefully, in times to come, people will learn to take more responsibility for what they share and our social media platforms will regain their lost trust.

General Studies Paper- I

Topic: Effects of globalization on Indian society.

Topic: Social empowerment, Communalism, Regionalism & Secularism.

General Studies Paper- III

Topic: Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security; money-laundering and its prevention.



2. TUBERCULOSIS: NEEDS URGENT GLOBAL RESPONSE

Why in News?

World leaders in the UN General Assembly reaffirmed their commitment to end the global tuberculosis epidemic by 2030, unanimously adopted a political declaration, titled "United to End Tuberculosis: An Urgent Global Response to a Global Epidemic", committed them to accelerate national and collective actions, investments and

innovations in fighting the preventable disease.

Introduction

Decades of global neglect have resulted in tuberculosis (TB) becoming the leading cause of adult deaths in most of the global South — it kills nearly two million people a year. This is shocking given that TB is curable and preventable. Each day, thousands of

people with TB die, often because of inequitable access to quality diagnosis and treatment. In addition, the rapid emergence of drug-resistant forms of TB (DR-TB) in many countries brings a fresh set of needs including new and comprehensive diagnostic tests and second-line TB drugs and health systems trained a new to manage DR-TB.

The high-level meeting on TB is a tremendous and unprecedented step forward by governments and all partners engaged in the fight against TB. It follows on from a very successful Ministerial Conference on Ending TB in Moscow on 16-17 November, 2017 which resulted in famous, Moscow Declaration, a high-level commitments from Ministers and other leaders from 120 countries to accelerate progress to end TB.

Through the Political Declaration adopted at a high level meeting on the issue, heads of State and Government recognised that TB disproportionately affects developing regions and countries. They pledged to provide leadership, acknowledging that multidrug-resistant strains can reverse gains made in combating the disease, which remains among the top 10 causes of death worldwide.

Elimination, which means reducing the number to one case per million people per year, will be impossible without universal, equitable access to affordable, quality TB diagnostics and treatment for anyone who needs it. Much to the disappointment of global civil society, issues around access to diagnostics and drugs have been considerably diluted in the most recent draft of the Political Declaration.

Critical facts such as, countries may avail of the various flexibilities under the Trade-Related Aspects of Intellectual Property Rights (TRIPS); countries may invoke the Doha Declaration to compulsorily license drugs for use in public health emergencies; option to de-link the pricing of new TB drugs from the costs incurred in their research and development has been omitted. Thus the latest draft is a watered-down version of the original that actively committed to upholding access to affordable generics for all.

India has fought to retain its status as a maker and distributor of generic medicines, thereby protecting the

right to health of people in developing countries. Indian patent law contains important provisions that help protect and promote public health goals — for example, by overcoming bids by big pharma to evergreen patents of old drugs, through compulsorily licensing for certain drugs, and by permitting pre- and post-grant opposition to patents to challenge unfair patenting practices by big pharma.

India not only accounts for a fifth of the world's TB burden, it also has the largest number of people living with multidrug-resistant TB. In March, Prime Minister Narendra Modi said India would eliminate TB by 2025, ahead of the global targets. These targets cannot be achieved without access to affordable, quality diagnostics/ drugs. Unless India assumes a leadership role to restore every possible option to protect universal access to TB drugs in the Political Declaration, 2018 may end up being just another brick in the wall.

Knowing Tuberculosis and Measures for its Prevention

The incidence rate of tuberculosis (TB) in India is estimated at 200-300 cases per 100,000 population per year. As a comparison, in Western Europe it is five per 100,000 per year. Infection with TB bacilli is the necessary cause of TB, a disease that mimics other diseases, confusing doctors and delaying diagnosis. Cough and blood in sputum occur only in lung TB. Symptoms as simple as headache can be an indicator of brain TB. TB can affect the lungs, brain, bones, joints, liver, intestines or for that matter any organ and can progress slowly or kill in weeks. Pelvic TB is the commonest cause of female infertility in India.

India's estimated annual TB burden is 28 lakh, 27% of the global total; our population is only 18%. Every day 1200 Indians die of TB, implying, 10 in every three minutes. No other

disease or calamity has such Himalayan magnitude.

In designing TB control three processes must be understood: infection, progression, transmission. Infection occurs when TB bacilli are inhaled. Bacilli may stay in the lungs or travel to other organs.

Infection is lifelong, with bacilli lying dormant. This phase is "latent TB", diagnosed by a tuberculin skin test (TST). The "annual rate of TB infection" (ARTI) is about 1%. Cumulatively, 40% to 70% of us are living with latent TB. Progression occurs when bacilli become active, multiply and cause pathology; now we have "active TB". Only when active TB affects the lungs do bacilli find an exit route to the atmosphere, necessary for transmission.

Transmission and infection are ends of a tunnel. If no one spits in public places and if everyone practises cough and sneeze etiquette (covering one's mouth and nose when coughing or sneezing), the TB affected will also fall in line. A person with lung TB disseminates TB bacilli over several weeks. By the time treatment stops dissemination, unfortunately, all his close contacts would have been already infected. This is why TB treatment has not brought down the TB burden.

To block transmission, treatment should begin as soon as a symptom shows up. Revised National Tuberculosis Control Program (RNTCP) guidelines — for testing only after two weeks of cough — result in the loss of precious lead time. Progression can be retarded through the biomedical method, i.e. drug treatment of latent TB. Experts recommend an age window of 5-10 years when all children must be screened with TST. Those with latent TB must be treated to prevent progression. The spin-off is in getting annual data on ARTI to track the trajectory of decline. A yearly 5% reduction of ARTI is achievable and in 20 years we can be

on a par with Western Europe in terms of infection incidence.

Multi Drug-Resistant TB: A Growing Concern

Over the last few decades, the emergence of TB strains that are resistant to first-line medication has alarmed doctors and public health experts. Some forms of drug-resistance — especially to the two first-line drugs (referred to as multidrug-resistant TB or MDR-TB) — require a longer duration of therapy that is more expensive and toxic. Therefore, MDR-TB and other advanced forms of drug resistance have the potential to undermine global TB elimination efforts. These concerns are particularly relevant for India which has the world's largest TB epidemic and the largest number of individuals with MDR-TB.

On World TB Day this year (March 24), the Government of India released the country's first national TB drug-resistance survey— an important effort that substantially advances our understanding of the epidemic. It found that 6% of patients seeking care in the government sector have MDR-TB; this includes 3% of patients diagnosed with TB for the first time and 12% of patients with a prior history of TB treatment. Recent modelling studies predict that the percentage of patients with MDR-TB in India is only likely to rise over the next two decades.

Drug susceptibility testing (DST) is used to determine if a patient has MDR-TB, thereby enabling prompt diagnosis and treatment. In previous years, the government had restricted use of DST to patients at higher risk for MDR-TB (those with a history of TB treatment). As a result, patients diagnosed with TB for the first time had to fail the first-line regimen before being screened with DST, resulting in prolonged delays in diagnosis. Last year, the government introduced universal DST in 19 States. It needs to be rapidly rolled out in the

States with the highest TB burden if there is to be a meaningful impact in India's MDR-TB epidemic.

Further, strict adherence to medication can lower the chances of developing drug resistance and reduce TB deaths. The MDR-TB drug regimen is demanding and can have severe side-effects (loss of appetite and hearing loss) if patients are not closely monitored. Enhanced counselling and access to patient support groups may help patients stick to their treatment. In addition, innovative treatment-monitoring technologies such as digital pillboxes may assist in improving patient outcomes.

While the national drug resistance survey was a laudable effort, the findings of the survey are limited by the fact that it was conducted using a sample of a little over 5,000 patients from the public sector. This is a significant shortcoming as about 50% to 60% of patients in India are being treated in the private sector. Recent studies have found very poor quality of TB care in the private sector. It is quite common for patients to first consult a private or informal health-care provider when they develop symptoms, which has been shown to increase delays in diagnosis. Also, patients often do not have access to support systems that are in place in the public health system and as a result are more likely to default on their treatment. Engaging with the private sector is therefore crucial to address the challenge of drug resistant TB (DR-TB). Innovative models for private sector engagement in Mumbai, Patna (Bihar), and Mehsana (Gujarat) have proven to be successful in connecting with large numbers of private providers and increasing notifications to the TB programme. These models can serve as a starting point for conducting a drug resistance survey in the private sector and extending universal DST to the private sector.

Need of an Human Rights Based Approach

An emergent and disturbing arsenal of surveillance technologies has caught the attention of international and domestic policy makers and threatens to detract from an effective response to TB that is anchored in human rights and has a human touch. For example, a plan in India is to implant microchips in people in order to track them and ensure they complete TB treatment. There are also seemingly endless technological tweaks to the Directly Observed Treatment, short course (DOTS) strategy, which requires patients to report every day to a health authority, who watches them swallow their tablets. Now, governments use, or plan to soon use, a strategy of video, tablets, phones and drones to carry the old DOTS strategy into the technology era. This thinking envisions a TB response that is not with and for people who have TB but rather against suspects who must be targeted, tracked, traced and, above all, never trusted.

An obsession with new gadgets in disease management — in the context of a disease that could be eliminated in a relatively inexpensive way through human-rights based interventions — is strange. We cannot beat TB through a response rooted in control and coercion. We can only beat TB using an approach anchored in human rights. Such an approach focuses on creating health systems that foster trust, partnership and dignity. Therefore three interventions to which the funding for surveillance technology should be redirected, can be suggested.

The first is new treatment. In contrast to the dozens of whirring and chirping surveillance gizmos are bedaquiline and delamanid, the only new TB drugs to have come to the market in 50 years. These drugs are far more effective against drug-resistant

TB than prevailing treatments made up of toxic drugs and painful injections that only work about half the time and often cause disability and psychosis. New guidelines by the World Health Organization (WHO) recommend the use of bedaquiline and delamanid against drug-resistant TB. But to date, only about 30,000 people have received the new drugs; while over 500,000 people get sick with drug-resistant TB every year. International institutions, donors and countries need to focus and collaborate on the urgent production and distribution of affordable generics of bedaquiline and delamanid. Meanwhile, we must escalate from all levels pressure on companies such as Johnson and

Johnson and Otsuka to drop their prices to a dollar a day for each medication so that their exorbitant prices no longer exclude the vast majority of people from accessing the drugs.

The second is the human touch. Employ and deploy community health-care workers. Many domestic TB policies envision community health-care workers as the backbone of the response, yet, in practice, these front-line workers remain shockingly underused. In sufficient numbers equipped with proper training and dignified conditions of employment they would lead the response by bringing care to those furthest from the reach of traditional health-care systems.

The last is accountability. The TB response can only be as good as the health-care systems through which it is implemented and health-care systems are only as good as the structures that hold them to account. Community-based structures such as “clinic committees” ensure accountability while also fostering partnership and trust between communities and their health-care systems. Grassroots civil society and community-based organisations can also help in ensuring it.

Conclusion

To outsmart TB bacilli, we must intercept infection, progression and transmission. While TB bacilli are efficient in all three, our weapons against them are blunt. Our only chance of victory is by the concerted use of all interventions be it biomedical, technological or socio-behavioural. There is no glamour in this long-drawn-out battle.

All of us, the public, health-care professionals, Health Ministry policy planners and implementers, must form a united battlefront. Beginning with schools, public education on TB and its prevention must replace ignorance and misconceptions. Any further delay may convert a controllable disease into an uncontrollable one, because of increasing frequency of resistance to drugs against TB.

General Studies Paper-II

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

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India's TB burden

Cases in 2017

Total cases	18,27,959
On treatment	79%
TB in children	6%
Private sector notification	29%
DR-TB Cases	38,605
XDR cases	2,666
On treatment	35,950



State-wise list of TB cases

	TB	DR-TB	XDR
Uttar Pradesh	3,11,041	9,138	619
Maharashtra	1,92,458	8,465	879
Rajasthan	1,05,953	2,402	196
Gujarat	1,49,061	2,266	179
Delhi	65,893	1,074	163
Bihar	96,489	1,848	165

3. UNACCOUNTED MONEY IN POLITICAL FUNDING

Why in News?

Earlier this year, the Union government launched donations through electoral bonds — a financial instrument for citizens to make anonymous donations to political parties. Till date, over Rs 10 billion has been donated by citizens through electoral bonds and most of the donations (around 40 percent) came in October — ahead of the recently concluded assembly elections

in Chhattisgarh, Madhya Pradesh, Mizoram, Rajasthan and Telangana. In an interview to The Quint, former Chief Election Commissioner OP Rawat holds that electoral bonds can be a threat to democracy due to its anonymity and opaqueness.

Introduction

In the hallowed portals of the world's largest democracy, there is an unseen, all pervasive ghost, that has most

political parties in a vice-like grip: unaccounted money. In fact, it is accepted as normal that although parties will always aver to the contrary, most of them run in collusion with the black economy, a fact endorsed by global monitoring agencies, including the Global Integrity Report.

Earlier, not only the principal but means also, by which parties collected vast amounts of unaccounted money

was the misuse of Section 29-C of the Representation of People's Act (RPA). This provision allowed parties not to declare the name of donors who contribute less than Rs 20,000. As a result – according to the Association of Democratic Reforms – as high as 85% of donors to Congress and BJP, the two largest political parties, were faceless people who had contributed up to Rs 19,999.

The Election Commission (EC) has made countless proposals for electoral reform, to which no government has responded adequately. One such proposal was to reduce the financial ceiling of faceless donations from Rs 20,000 to Rs 2,000. Now, through an amendment of the Income Tax (IT) Act, the ceiling has been lowered to Rs 2,000. But the efficacy of this 'reform' is questionable, because parties can get away by simply saying that their unaccounted money is the result of multiple donations of less than Rs 2,000 instead of a larger sum. Moreover, two new developments are a cause of great concern. One is 'Electoral Bond Scheme' and the other one is amendment in 'Foreign Contribution Regulation Act, 2010'. This article will analyse these developments and issues pertaining to it.

Electoral Bond Scheme

Government introduced an 'Electoral Bond Scheme' in January 2018, purportedly with a view to cleansing the prevailing culture of political sponsorship.

What is It?

An electoral bond is designed to be a bearer instrument like a Promissory Note — in effect, it will be similar to a bank note that is payable to the bearer on demand and free of interest. It can be purchased by any citizen of India or a body incorporated in India.

The bonds will be issued in multiples of Rs. 1,000, Rs. 10,000, Rs. 1

lakh, Rs. 10 lakh and Rs. 1 crore and will be available at specified branches of State Bank of India. They can be bought by the donor with a KYC-compliant account. Donors can donate the bonds to their party of choice which can then be cashed in via the party's verified account within 15 days.

What are the Other Conditions?

Every party that is registered under section 29A of the Representation of the Peoples Act, 1951 and has secured at least one per cent of the votes polled in the most recent Lok Sabha or State election will be allotted a verified account by the Election Commission of India. Electoral bond transactions can be made only via this account.

The bonds will be available for purchase for a period of 10 days each in the beginning of every quarter, i.e. in January, April, July and October as specified by the Central Government. An additional period of 30 days shall be specified by the Central Government in the year of Lok Sabha elections.

Analysis

The stated objective of electoral bonds is to reduce opacity in political funding in the country. The information on how much a political party gets funding and how does it spend it — has never been in public domain. Some efforts like making donations via cheques have not resulted into desired outcomes and the share of anonymous funding of political parties is still in vogue. The electoral bonds scheme is meant to change this. First, it will bring transparency in political funding as the names of the donors will be maintained by the banks. Second, secrecy of the donors will help more people to take this route which otherwise make them wary of attack by the opposition parties. Third and most importantly it will take India towards digital and cashless economy. Fourth, it will be a step towards bringing reforms

in political funding. But the key element in this scheme is that electoral bonds will not bear the name of the donor, nor can the beneficiary party be revealed. In other words, the whole process will be anonymous. Moreover, the value of donations can be unlimited. Prior to 2017, Section 182 of the Companies Act, 2013, stipulated that a company can donate only up to 7.5% of its average profit of the last three years and must disclose this amount and the beneficiary political party.

Now, through the electoral bonds, there is no limit to the amount companies can donate and the requirement for such firms to have existed for the last three years on a profit-making basis has also been deleted. The implication is that even loss-making companies or shell companies can be used to purchase electoral bonds. Essentially, then, corporate entities — and individuals — can now funnel unlimited amounts to a political party through electoral bonds, anonymously. Additionally, the requirement that a corporation ought to have been in existence for at least three years before it could make donations — a system that was meant to stop shell companies from being created with a view purely to siphoning money into politics — has also been removed.

Moreover, under Section 13A of the IT Act, companies contributing through electoral bonds will not even be required to keep records of such donations and if no records are mandatorily maintainable, no questions can presumably be asked by IT authorities. Even more, the Representation of the People Act, 1951 (RPA) Act has been amended to exempt parties to inform EC of any amount received above Rs 2,000, if made through electoral bonds. The result is complete financial opacity: EC cannot name the donors and the IT department, even if questioned under

the RTI Act, can claim confidentiality granted to assesses.

The government claims that since these bonds are purchased through banking channels the scheme will eliminate the infusion of black money into electoral funding. But not only is this argument palpably false, as a simple reading of the scheme's terms shows us, the programme also virtually endorses corruption in political funding. Consider, for example, the fact that the scheme allows for complete anonymity of the donor. Neither the purchaser of the bond nor the political party receiving the donation is mandated to disclose the donor's identity. Therefore, not only, say, the shareholders of a corporation will be unaware of the company's contributions, but the voters too will have no idea of how and through whom, a political party has been funded.

The scheme suffers from at least two foundational defects. One, that it was incorporated on the back of a series of amendments made to legislation, including the Representation of the People Act, the Income Tax Act and the Companies Act, which were introduced in the form of a money bill. And two, that the scheme flouts a number of fundamental rights.

Article 110 of the Constitution allows the Speaker to classify a proposed legislation as a money bill, only when the draft law deals with all or any of the subjects enlisted in the provision. These subjects comprise a set of seven features, including items such as the imposition of a tax, the regulation of the borrowing of money by the government, the custody of the Consolidated Fund of India, the appropriation of money out of the consolidated fund and any matter incidental to the subjects explicitly mentioned in Article 110. Hard as we might try, though, it's impossible to see how the provisions pertaining to the

electoral bond scheme could possibly fall within any of these categories. The Finance Act, through which these amendments were introduced, therefore did not deal with only those matters contained in Article 110.

The scheme is equally destructive in its subversion of the fundamental rights to equality and freedom of expression. There's no doubt that the Constitution does not contain an explicitly enforceable right to vote. But implicit in its guarantees of equality and free speech is a right to knowledge and information. Our courts have nearly consistently seen "freedom of voting" as distinct from the right to vote, as a facet of the right to freedom of expression and as an essential condition of political equality. In the absence of complete knowledge about the identities of those funding the various different parties, it's difficult to conceive how a citizen can meaningfully participate in political and public life.

The institutionalizing of equality through the principle of one person one vote and through the creation of the universal adult franchise, was critical to building India's democratic structure. When the power of that vote is diluted through opacity in political funding, democracy as a whole loses its intrinsic value.

Amendment in Foreign Contribution Regulation Act(FCRA) , 2010

A second development came 'hidden' in the amendments to the Finance Bill

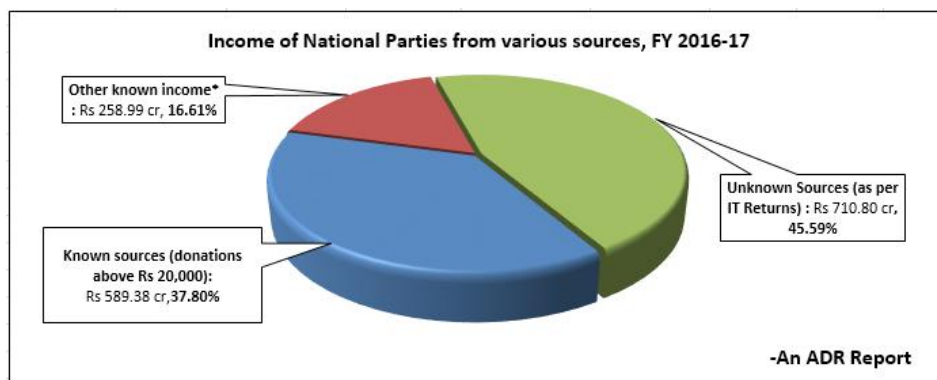
of 2018, which was passed without discussion due to the din in Lok Sabha. This relates to the Foreign Contribution Regulation Act, 2010, which has been amended to exempt from scrutiny foreign funds received by political parties with retrospective effect from 1976. The reason behind this controversial amendment is as clear as day.

The Delhi high court had in 2014 indicted both Congress and BJP for receiving foreign funds from the firm Vedanta and its subsidiaries, in violation of the existing FCRA Act and the RPA Act that specifically prohibits parties from accepting contributions from a foreign source. The court asked the government and EC to act against the two political parties.

In response, the government has amended the FCRA Act itself and exempted from scrutiny all foreign funding to parties retrospectively from 1976. Furthermore, the amended Companies Act now allows any foreign company registered in India to make contributions through bonds to political parties, overruling legitimate doubts about who or where its real owners are, or what its source of funding is.

Steps towards Transparent Political Funding

This is the first time the government has acknowledged that there is non-transparency of political funding. Transparent method of political funding is vital for the system of free



and fair elections and even after 70 years of independence the country has not been able to evolve transparent funding to political parties. Like we expect the vegetable vendor and the auto driver to accept payments digitally the same should be followed by political parties. The corruption in political funding is against the moral and ethical principles.

In order to make our whole election process more transparent, the next step could be that every rupee donated to political parties should be accounted through digital transactions. State funding of elections have been discussed several times and several committees have recommended and the most talked about committee is the Indrajit Gupta Committee of 1999. It said that the state funding to elections will be feasible when there is internal democracy with the political parties. The report pitched for the need to devise appropriate framework for regulation of political parties before state funding of elections is attempted. There should be state funding of political parties based on their performance not state funding of elections. Say for every vote the political party is given Rs 100,

so that the total amount will be more than the money the political parties have raised through corruption and dubious means. Donating to a National Electoral Fund and the details of the donors will be kept secret. By donating to the National Electoral Fund, it will be like donating to the nation and not to any political party. From this fund the money can be distributed to the political parties based on their performance and the percentage of votes they obtain so that there will be complete transparency. There can be tax benefit for those who donate to the fund.

Conclusion

The Preamble of the Constitution declares India to be a Democratic Republic. Democracy is the basic feature of the Indian Constitution. Democracy is sustained by free and fair elections. Only free and fair elections to the various legislative bodies in the country can guarantee the growth of a democratic polity. Thus, the Supreme Court has time and again asked the legislature and the election commission to bring about reforms in the process of election funding to prevent the influx

of black money in the election process. Successive governments have promised electoral reforms and have setup committees to look into the matter. It is imperative that the authorities enforce these reforms and cleanse our electoral process of the vicious circle of corruption and black money that threatens the very foundation of our democracy. Unless drastic and radical steps are taken to cleanse public offices by the government, political parties and people at large, corruption will continue to corrode the vitals of the country.

General Studies Paper- II

Topic: Salient features of the Representation of People's Act.

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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4. NEW WORLD ORDER: MIRAGE OR REALITY

Why in News?

The passing of George H.W. Bush, the 41st President of the United States, from 1989 to 1993, is an occasion to contextualise the current turbulence in the world, especially in liberal democracies. Three events — the first Gulf War, the fall of the Berlin Wall and the dissolution of the Soviet Union — that occurred on his watch set in motion a global churn that remains with us.

Introduction

Although, it was his predecessor, Ronald Reagan, who gave a rhetorical flourish to America's pursuit of global dominance in the 1980s with his depiction of the Soviet Union as the "evil empire" and his call to "break that wall". Bush, his Vice President and then successor, was not known for any rousing oratory, but one phrase he coined, a "new world order", turned out to be defining, initially for its triumph

and now for its decline. Bush, famous for his skittishness about "the vision thing"—laid out an ambitious vision for the post-Cold War world. Although the Berlin Wall had fallen just over a year earlier, he still looked forward to a unipolar world led by the United States. For Bush, the triumph of democratic ideas in Eastern Europe and Latin America and the continuing struggle for freedom elsewhere all around the world all confirm the wisdom of USA

founders. When Saddam Hussein's Iraq invaded Kuwait, he said, "What is at stake is more than one small country; it is a big idea: a new world order, where diverse nations are drawn together in common cause to achieve the universal aspirations of mankind—peace and security, freedom, and the rule of law." According to him, The New world Order is a new era, freer from the threat of terror, stronger in the pursuit of justice and more secure in the quest for peace.

Bush, the last World War veteran to become U.S. President, represented a bygone era. He sought the middle ground and consensus in domestic and international politics, built alliances, restrained his words in moments of triumph, had an introspective streak on the U.S. economic model and tried to appreciate the aspirations of other countries.

A Brief Background

An era ended when the Soviet Union collapsed on Dec. 31, 1991. The confrontation between the United States and the Soviet Union defined the Cold War period. The collapse of Europe framed that confrontation. After World War II, the Soviet and American armies occupied Europe. Both towered over the remnants of Europe's forces. The collapse of the European imperial system, the emergence of new states and a struggle between the Soviets and Americans for domination and influence also defined the confrontation. There were, of course, many other aspects and phases of the confrontation, but in the end, the Cold War was a struggle built on Europe's decline.

Many shifts in the international system accompanied the end of the Cold War. In fact, 1991 was an extraordinary and defining year. The Japanese economic miracle ended. China after Tiananmen Square

inherited Japan's place as a rapidly growing, export-based economy, one defined by the continued pre-eminence of the Chinese Communist Party. The Maastricht Treaty was formulated, creating the structure of the subsequent European Union. A vast coalition dominated by the United States reversed the Iraqi invasion of Kuwait.

Insights into Post-Cold War Period

Three things defined the post-Cold War world. The first was U.S. power. The second was the rise of China as the center of global industrial growth based on low wages. The third was the re-emergence of Europe as a massive, integrated economic power. Meanwhile, Russia, the main remnant of the Soviet Union, reeled while Japan shifted to a dramatically different economic mode.

The post-Cold War period, has mostly been dominated by the rise of globalization (as well as nationalism and populism in reaction) enabled by the commercialization of the internet and the growth of the mobile phone system. The ideology of postmodernism and cultural relativism has according to some scholars replaced modernism and notions of absolute progress and ideology.

The period has seen the United States become by far the most powerful country in the world and the rise of China from a relatively weak developing country to a fledgling potential superpower. Reacting on the rise of China, the United States has strategically sought to "rebalance" the Asia-Pacific region. It has also seen the merging of most of Europe into one economy and a shift of power from the G7 to the larger G20. Accompanying the North Atlantic Treaty Organisation (NATO) expansion, Ballistic Missile

Defenses (BMD) were installed in East Europe. These marked important steps in the military globalization.

From Order to (Dis)order

Out of the "colossal wreck" of Bush's vision of a geopolitical system dominated by the United States a new world order has indeed begun to emerge, but it bears little resemblance to what President Bush Sr. imagined 25 years ago. Nothing has gone as planned. The "liberal democracies" that were supposed to serve as the backbone of the New World Order have become progressively less liberal, as terror attacks have sown fear everywhere and led to restrictions on civil liberties and heightened surveillance of citizens. They have also grown less attached to democracy.

Analyzing U.S. President Donald Trump's 'un-American' policies, a closer look at the larger context of his actions, articulations and their potential implications indicates the onset of a whole new world order, one that we may not necessarily like. The unsettling symptoms of a new world dis-order have been around for some time. We are witnessing the gradual demise of the post-Cold War world order, one that we often complained about, for a number of legitimate reasons and yet clung to, especially after the Soviet alternative turned out to be a disappointment.

The Age of Uncertainties

We live in an age of myriad uncertainties. Political and geostrategic developments around the world today could potentially dispel some of our age-old certainties, values we hold dear and potentially throw the international system, as we know it, off balance. Not that international politics was ever a truly virtuous space laden with noble intentions.

The Western attempts at remaking the world weren't born out of altruism or charity, we know, but geopolitical considerations. We have witnessed those double standards and hypocrisies in play ever since the beginning of the contemporary world order, created in the interests and image of the victors of the World War II. Of late, we also saw the increasing moral, intellectual and institutional decadence of the transatlantic world order, which left out large chunks of humanity from its often self-serving institutions, including the United Nations. And yet, the curious thing is that an imperfect world order is often better than the absence of any order: we need order, predictability and norms for our collective survival, even as we attempt to reform them.

American Isolationism 2.0

While the world's "indispensable nation" may not go back to the days of interwar isolationism, there is a strong tendency in the U.S. today to shift focus inwards and be suspicious of free trade, multilateralism, military alliances and overseas commitments. Because, as Mr. Trump evocatively puts it, "The wealth of our middle class has been ripped from their homes and then redistributed all across the world."

This neo-isolationist fad in Washington is reflected in the decisions of the Trump administration. The U.S. withdrawal from the Trans-Pacific Partnership agreement (TPP); Paris climate negotiations; renegotiating the North American Free Trade Agreement; undermining its self-created institutions like World trade organization (WTO), International Monetary Fund (IMF) and even United Nations (UN); trade wars with European Union (EU), China etc; renegotiating defense pacts with its allies are some of the few steps towards this direction.

If the U.S. takes a back seat, others with divergent visions of order, stability and power politics might step in.

One major reason why there is stiff resistance to Mr. Trump's neo-isolationist policies in the U.S. is precisely because it has been a major beneficiary of its global engagement. 'Fixing democracies abroad' helped its geopolitical interests, peace-building led to the creation of soft power, the Washington Consensus ensured American primacy in the international financial institutions and NATO kept Europe together and Russia at bay. For the U.S. to claim now that it was being too charitable globally is disingenuous. Its global engagement had a strategic rationale behind it, even as it did help maintain a certain order in the world, despite our disagreements with it.

Rise of China

China, a country that barely figured in Bush's 1991 anticipation of a 'New World Order'. Since then, however, China's rapid economic growth has made its presence on the global stage impossible to ignore. With economic power has come global political influence and increased assertiveness. China is daily flexing its muscles in the economic sphere. The Chinese economy has grown at an average of 10% per year, raising per capita GDP almost 49-fold, from \$155 to nearly \$7,950 since 1978. It is the biggest trading partner of the world's major economies, including the U.S., Germany, Japan, South Korea etc. China is the largest investor in most Asian, Arab, African and Latin American countries. Clearly the Chinese have judged that their moment has arrived. President Xi Jinping said at the 19th Communist Party Congress in October 2017, "The Chinese nation, with an entirely new posture, now stands tall and firm in

the East." He also proclaimed, "It will be an era that sees China moving closer to centre stage and making greater contributions to mankind."

China's Belt and Road Initiative is the most ambitious, but also probably, the most rapacious, connectivity project in history. And it surrounds India through the China Pakistan Economic Corridor in Pakistan; the indebtedness of Sri Lanka, symbolised by the handover of the Hambantota port to China for 99 years; the defiance shown by the Maldives in making whole islands available to China; and Nepal talking about "balancing" relations with India and China. Already dominant in Asia, China now seeks parity with the U.S.A., calling it "a new type of Great Power Relations".

Turbulences in Global Order

These transformations in the international system herald the triumphant return of realpolitik, riding roughshod over collective security institutions, alliance commitments and normative considerations. It is not that hard-nosed strategic calculations didn't matter earlier, but they were hidden behind the niceties of diplomacy and humanitarianism. The difference today is that there is neither an attempt to check the limits of realpolitik nor are there any normative claims.

This systemic uncertainty is accompanied by a dangerous mix of global terrorism, nuclear proliferation, changing climate, challenge of hybrid warfare and worldwide demographic, societal and environmental stress.

Slow growth across the developed world has put pressure on the welfare regimes that flourished in the half-century after World War II, providing the economic basis for social peace and enhanced international cooperation.

The success of the European Union in providing 'peace and security, freedom and the rule of law' has been threatened by economic slowdown, wage stagnation and growing inequality. Populist and nationalist movements have emerged in a number of countries. Withdrawals of UK from European Union, crumbling Greece economy are some of the symptoms of larger disease.

Mr. Trump and his neo-isolationist policies would further damage Europe's grand post-national project, already under siege by the rise of nationalism and lack of consensus on key issues. The rise of EU as a political, economic and security actor would have been unthinkable without the American military imprimatur. Hence, mixed messages from the U.S. about NATO could harm the collective security architecture of Europe.

Large-scale migration has historically been a major force in reshaping world order. The very attractiveness of the liberal democracies that was supposed to animate the New World Order, has enticed hundreds of thousands of people from Afghanistan to South Asia to sub-Saharan Africa to flee their troubled homelands for the relative sanctuary of the West. The disappointment and repression that followed the Arab Spring and above all the atrocities of the Assad regime in Syria have uprooted thousands more and destabilized the entire region.

Implications on India

Of course, all this turbulence affects India in numerous ways. But we



should not allow the dominance and shrill outcry of the West, amplified by the English language media, to distort our perspective. India has taken numerous initiatives to hedge the adverse consequences of the changes underway. In the security arena, it has built closer relations with the West through the Quadrilateral Security Initiative (QUAD), defence collaborations and weapons purchases from the U.S., Israel and France and joint military exercises with Association of South East Asian Nations (ASEAN) countries. Under (PM) Modi, relations with West Asian countries have become strategic – witness the exchanges with Israel, Saudi Arabia and the UAE, but also with Iran. India has entered into close cooperation with Central Asian countries against terrorism and joined Asian security organisations like the Shanghai Cooperation Organisation.

Our higher global profile should help us face confidently the major changes underway. Although we are used to operating in the existing West-dominated global order, it has not necessarily worked in our favour. We are better positioned to influence the new institutions that are being created because we are a member of many of them, such as G20, BRICS, Asian Infrastructure Investment Bank and New Development Bank. Also, in our favour are the size of our economy at \$2.85 trillion, the attractions of our large market, including as buyers of energy resources and the high quality of our professional services and skilled labour. These attributes will at least put us on the rule-makers' table, if not yet in a position to determine every outcome.

Conclusion

The world today bears little resemblance to the unipolar global

system of cooperating liberal democracies that President Bush envisioned in 1991. Nevertheless, it would not be quite accurate to say that the contemporary world order is the opposite of what Bush imagined. The United States is still the dominant power but now in a multipolar system the ineffectiveness of the substantial American advantage in military assets and spending has been repeatedly demonstrated. Europe, whose alignment with the U.S. President Bush all but took for granted, is hamstrung by internal difficulties and facing possible disintegration in the wake of Brexit. Less powerful but still nimble players such as Russia and Turkey are testing the limits of American forbearance, while China is increasingly uninhibited about asserting a leadership role in the Far East. The pious wish of a New World Order has proved to be a mirage, and the American overconfidence that it inspired has turned into its opposite. Distracted by terrorism, we have lost sight of broader strategic challenges. The current uncertainty about the true nature of the new global order has encouraged Russian adventurism, neglect of less developed countries and a largely ad hoc policy in response to Chinese assertiveness. The world has consequently become a more dangerous place.

General Studies Paper- II

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

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



5. SUSTAINABILITY OF GM CROPS

Why in News?

According to research paper 'Modern Technologies for Sustainable Food and Nutrition Security', authored by leading agriculture scientist M.S. Swaminathan and P. C. Kesavan, which describes Bt cotton as a 'failure'. It said genetically engineered Bt cotton has failed to provide livelihood security for farmers.

An Introduction: Debate over Bt Cotton in India

Cotton is a crop of very high economic value because of its widespread demand in the textile industry, representing 38% of the fiber market. The uses of the cotton fiber and its seeds are widespread, ranging from clothing, upholstery, cosmetics, packaging to cottonseed-oil, paper, electrical equipment and livestock feed. As an important cash crop, the loss of hundreds of acres worth of harvest due to attack by pests proves to be a big loss to farmers as well as the industry. It also leads to waste of precious resources like soil, water and labor.

Even though India's total cotton production ranks 3rd internationally behind China and the U.S., the acreage under cotton cultivation in India is about 25% of all agricultural land, the highest of any country. One main reason is that the production of cotton per hectare is very low and India ranks 70th in the world in the kg/hectare production of cotton. The reduced productivity of Indian cotton is often attributed to intense and diverse pest pressure and the lack of irrigation infrastructure. The hope was that the introduction of Bt Cotton would largely

take care of the main pest problems and reduce the use of pesticides.

The use of BT cotton in India has raised a lot of controversy even before its official introduction in India. It all began when Monsanto partnered up with an Indian seed company MAHYCO in 1993 in a bid to introduce Bt cotton seeds in India. After a slow start with the government of India's Department of Biotechnology, a 50-50 joint venture called MAHYCO-Monsanto Biotech (MMB) was formed in 1998. They managed to acquire permission for field testing of Bt cotton seeds countrywide, and in 2001, they finally approached the Genetic Engineering Advisory Committee (GEAC) for the commercial release of Bt cotton varieties. GEAC withheld large scale cultivation and MMB was told to do more field trials for another year.

Bt cotton is an insect-resistant transgenic crop designed to combat the bollworm. Bt cotton was created by genetically altering the cotton genome to express a microbial protein from the bacterium *Bacillus thuringiensis*. In short, the transgene inserted into the plant's genome produces toxin crystals that the plant would not normally produce which, when ingested by a certain population of organisms, dissolves the gut lining, leading to the organism's death.

Bt cotton has great promise as it is resistant to one of the major pests that decreases crop yield. The seeds are resistant to the American bollworm but are not completely resistant to all pests, a fact that is not known by all farmers. If they do not have additional pest control strategies, even a Bt crop

may be lost to pests. The situation is greatly worsened by counterfeit seed on the market that does not contain the Bt gene, so is susceptible to the bollworm and has no yield benefit. Even worse, if farmers do not know to spray pesticide on their counterfeit Bt fields, they may lose the entire crop to pests.

Research Paper's View on GMO

The paper 'Modern Technologies for Sustainable Food and Nutrition Security' has reviewed the crop development in India and transgenic crops — particularly Bt cotton, the stalled Bt brinjal as well as DMH-11, a transgenic mustard hybrid. The paper explained that there is no doubt that genetically modified organism, or GMO Bt cotton has failed in India. It has failed as a sustainable agriculture technology and has, therefore, also failed to provide livelihood security for cotton farmers who are mainly resource-poor, small and marginal farmers". The precautionary principle (PP) has been done away with and no science-based and rigorous biosafety protocols and evaluation of GM crops are in place.

Swaminathan emphasized that genetic engineering technology is supplementary and must be need based. Only in very rare circumstance (less than 1%) may there arise a need for the use of this technology. M.S. Swaminathan said that it is not as if the Green Revolution failed in its immediate objectives; it had delivered more than its expectations, i.e. it freed India from imports and made us self-sufficient. Therefore, it provided the much needed 'breathing space'

to develop holistic strategies for sustainable agriculture.

Though, we require independent, rigorous oversight of GE crops, without the least hint of any conflict of interest; persons of proven competence in genetic toxicology and safety analyses, able economists who are familiar with and will prioritize rural livelihoods, and the interests of resource-poor small and marginal farmers rather than serve corporate interests and their profits.

Further, Swaminathan emphasised that genetic engineering was unsuitable for crops that face 'biotic stresses' (such as damage from insects) and was more amenable to making crops resistant from abiotic stressors such as temperature and salinity.

Criticism to Research Paper's View

The Principal Scientific Adviser to the Government of India, K. Vijay Raghavan, has said, this paper is "deeply flawed". It has the potential to mislead the public and the political system. GM crops have reduced pesticide use, increased yields and profits and cause no health hazards.

Bt cotton is not a failure in India. The yields hovering around 300 kg/ha at the time of introduction of Bt cotton (2002) have increased to an average of over 500 kg/ha, converting India from a cotton-importing country to the largest exporter of raw cotton. There was a small dip for a couple of years and the yield has now increased to over 550 kg/ha.

It is unfortunate that farmer distress is being wrongly attributed to Bt cotton failure. Farmers continue to grow Bt cotton. The development of resistance can be tackled through practices like Integrated Pest Management and by stacking Bt genes to fight secondary pests. The priority is

to accelerate development of Bt cotton varieties that can be packed densely in fields and increase the yields to over 800 kg/ha, as is the case with other countries.

GM mustard (DMH-11) is a technology to create mustard hybrids. Being a self-pollinator, mustard is difficult to hybridise through conventional methods. Genetic modification allows different parents to be combined easily, helping yields go up substantially. The herbicide glyphosate is only used for selection of hybrids and is not meant for farmer fields. In any case, reports on the probable carcinogenic potential of the herbicide have not been accepted by major science academies. Yield data can only be assessed in farmers' fields.

The moratorium on Bt brinjal is the most unfortunate step taken by the government in 2010 and has crippled the entire field of research and development with transgenic crops. Bangladesh has used India's data to successfully cultivate Bt brinjal, despite all the negative propaganda. Reports indicate that as many as 6,000 Bangladeshi farmers cultivated Bt brinjal in 2017.

India has one of the strongest regulatory protocols for field trials of GM crops. Many scientists have been part of the monitoring processes, and it is an insult to the integrity of our scientists to indict the Review Committee on Genetic Manipulation and the Genetic Engineering Approval Committee as lacking in expertise and having vested interests.

GMO Regulations – Biosafety

Under Biosafety Research programme main emphasis is given to facilitate the implementation of biosafety procedures, rules and guidelines under Environment (Protection) Act 1986 and Rules 1989 to ensure safety from the use of Genetically Modified

Organisms (GMOs) and products thereof in research and application to the users as well as to the environment. A three tier mechanism comprising Institutional Biosafety Committees (IBSC) at the Institute/company; the Review Committee on Genetic Manipulation (RCGM) in the Department of Biotechnology; and the Genetic Engineering Approval Committee (GEAC) in the Ministry of Environment & Forests (MoE&F) for granting approval for research and development activities on recombinant DNA products, environmental release of genetically engineered (GE) crops and monitoring and evaluation of research activities involving recombinant DNA technology has been established.

As of now, the functioning of the GEAC and RCGM has rightly come under severe criticism due to endemic conflicts of interest, lack of expertise in GMO risk assessment protocols, including food safety assessment, the assessment of their environmental impacts, the lack of 'need' for expensive transgenic technology and which must include a socio-economic assessment of their farming impacts on resource-poor small and marginal farmers, etc. which is also absent.

Has the Introduction of Bt Cotton worsened Poverty, Debt and Farmer Suicides in India?

The factors surrounding the socio-economic problems being faced by farmers and how these problems may be affected by Bt cotton are discussed below:

1. Economic Effects: Can people afford the technology?

65-70% of India's population works in agriculture. Many of these people are poor farmers working on a small plot of land, mostly by hand and other

basic farming methods, machines and technology. Many are grappling with the problems of illiteracy and feeding a large family with the limited land they own. The mechanisms to obtain low-interest loans without collateral, including microfinance, are not yet established in very rural areas of India. In such a setting, the only source of loans is the local money-lenders who charge exorbitant interest rate for their services, up to 100-120% per annum. A small farmer who buys expensive seeds and pesticides gambles on having to high enough yields that he will be able to pay back a loan with interest while still making enough to live on. This is very risky when yields are variable, there is no irrigation and there is only a minimal concept of crop insurance. In summary, the restricted flow of capital to small farmers plays a big role in the use of Bt technology.

2. Social Effects: Can people use the technology?

Illiteracy is a rampant problem among the poorest sections of society in India. The proper use of Bt is not explained to the farmers and they are not educated enough to find out on their own. They are unable to adopt the technology in ways that will supply the highest yields in the safest ways. For example, farmers do not know that additional pesticides may be needed to combat pests that are not susceptible to Bt. They do not know to plant non-Bt refuges to combat insect resistance or to plant 5 rows of non-Bt cotton around their fields to prevent pollen flow to nearby non-Bt fields. There is no enforcement machinery in place in India to ensure proper implementation. The lack of education and of enforcement has led to apprehension about Bt, including unfounded rumors about things like cattle dying when

they eat Bt cotton plants. An additional problem is that people have left behind traditional knowledge that had been used in farming, including pest control strategies, instead of integrating Bt into already existing systems.

3. Socio-economic Effects: What happens when a crop fails?

India's agriculture is mainly rain-fed and low-tech. If a farmer loses his crop due to drought or other extraneous factors, there is no mechanism to help pay back loans and interest. This can lead to the farmer committing suicide. Though the government may on paper have some mechanism of supporting a farmer whose crop has failed, many farmers are not compensated due to corruption, bureaucracy and the sheer volumes of farmers that need help.

4. Socio-ecological Effects: Is the seed pure?

In order for Bt cotton to be effective, the plants in a field must all contain the Bt gene, because plants without the gene are not resistant to bollworm. Counterfeit seed that contains either some or no Bt seed is sold by unscrupulous or unknowing seed dealers at prices lower than those offered by Mahyco-Monsanto and under the same technology name. One source of counterfeit seed is to collect seed produced by Bt plants. Since the seeds may be fertilized by pollen from non-Bt plants, the resulting seed will not all contain the gene. Farmers do not spray pesticide on their counterfeit Bt fields, so may lose the entire crop to pests. This misleads farmers about the efficacy of the technology.

Conclusion

In the hierarchy of human needs, food is absolutely the most basic. As the human population was increasing at an accelerated rate with concomitant

depletion of natural resources during the 18th century, Malthus was greatly concerned about the sustainability of food availability. Despite the fact that the human population has been burgeoning, a total collapse in food supply has not yet happened. This is because of new technologies emerging from time to time to boost agricultural productivity and preventing the onset of the Malthusian scourge. However, none of these technologies, including the Green Revolution of the 1960s, has been truly sustainable largely because of their adverse environmental and social impacts. It is expected that the Evergreen Revolution which eliminates the negative attributes of the Green Revolution would be more sustainable.

Because of all the complicating socio-economic factors in a developing country like India, including trade laws, seed prices, counterfeit seeds and high interest, as well as the high pest pressures that already exist, it is difficult to determine the role that the introduction of Bt cotton played. The low acceptance level of GM technology by the public makes it more difficult to tease out the many factors, since Bt has already been publically blamed as the cause. More thorough and unbiased ground-level research will have to be done to get a clear picture of whether Bt technology has really caused all the adverse effects on the lives of farmers or if surrounding social, political and economic factors are responsible.

General Studies Paper- III

Topic: Issues related to direct and indirect farm subsidies and minimum support prices; Public Distribution System-objectives, functioning, limitations, revamping; issues of buffer stocks and food security; Technology missions; economics of animal-rearing.



6. WORLD SOIL DAY: BE THE SOLUTION TO SOIL POLLUTION

Why in News?

World Soil Day is observed annually on 5th December to focus attention on the importance of healthy soil and advocating for the sustainable management of soil resources. Organised by the United Nations, the theme for this year's World Soil Day is - 'Be the Solution to Soil Pollution'.

Vice President of India M Venkaiah Naidu has called upon people to take pledge to maintain the purity of soil. In a tweet, Mr Naidu said, it is the duty of every human being to protect the most critical component of nature. He said, it is time that people should move towards nature and organic farming and must learn to protect the purity of soil and mother earth. He advised people to learn to love and live with nature and stop playing with it.

Introduction

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

“Land and soils constitute the foundation for sustainable agricultural development, essential ecosystem functions and food security,” according to the UN Food and Agriculture Organization (FAO). They are key to sustaining life on Earth. According to the FAO, the world's topsoil could be completely eroded within the next 60 years if current soil degradation rates continue. While Farmers' rights, compensation for farm produce,

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

Understanding Soil Quality

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

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

People have different ideas of what a quality soil is. For people active in production agriculture – it may mean highly productive land, sustaining or enhancing productivity, maximizing profits, or maintaining the soil resource for future generations; For consumers, it may mean plentiful, healthful and inexpensive food; For naturalists, it may mean soil in harmony with the landscape and its surroundings; For the environmentalist, it may mean

soil functioning at its potential in an ecosystem with respect to maintenance or enhancement of biodiversity, water quality, nutrient cycling and biomass production.

Major Functions of Soil
Regulating Water Soil helps control where rain, snowmelt and irrigation water goes. Water and dissolved solutes flow over the land or into and through the soil.
Sustaining Plant and Animal Life The diversity and productivity of living things depends on soil.
Filtering Potential Pollutants The minerals and microbes in soil are responsible for filtering, buffering, degrading, immobilizing and detoxifying organic and inorganic materials, including industrial and municipal by-products and atmospheric deposits.
Cycling Nutrients Carbon, nitrogen, phosphorus, and many other nutrients are stored, transformed and cycled through soil.
Supporting Structures Buildings need stable soil for support and archeological treasures associated with human habitation are protected in soils.

Soil Quality is how well soil does what we want it to do. Understanding soil quality means assessing and managing soil so that it functions optimally now and is not degraded for future use. It is not an end in itself, the ultimate purpose of researching and assessing soil quality is not to achieve high aggregate stability, biological activity, or some other soil property. The purpose is to protect and improve long-term productivity, water quality, and habitats of all organisms including people.

Soil Health Card (SHC), a government of India's scheme, meant to give each farmer soil nutrient status

of his/her holding and advice him/her on the dosage of fertilizers and also the needed soil amendments, that s/he should apply to maintain soil health in the long run, is a commendable step in this direction.

Who is Responsible for Degradation of Soil Quality?

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

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

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

Looking into the Details of Major Factor

Pesticides

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

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

Chlorinated Organic toxins

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

Herbicides

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

Inorganic Fertilizers

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

Industrial Pollution

The incorrect way of chemical waste disposal from different types of industries can cause contamination

of soil. Human activities like this have led to acidification of soil and contamination due to the disposal of industrial waste, heavy metals, toxic chemicals, dumping oil and fuel, etc.

Inferior Irrigation Practices

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

Solid Waste

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

Urban Activities

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

Some lesser known polluters of soil

A report by the Food and Agriculture Organization (FAO) of the United Nations synthesised all the available scientific research on soil pollution and brought to the fore certain lesser known sources that have been polluting the soil for years now.

Nuclear Testing

Atmospheric testing of nuclear weapons and radiological events like

the Chernobyl accident leave behind radionuclides in higher concentrations. “Due to the nuclear fallout after the catastrophic Chernobyl accident, radionuclides will be present in soils for centuries. More than 50 years will be needed to reach a reduction of 50 per cent of the radionuclides. These radionuclides, if deposited in the soil, can be easily absorbed by plants, making them available for further redistribution within the food chain.

Remnants of War

Modern warfare saw non-degradable and chemical weapons affecting soils, not just for years, but for centuries after the conflict had ended. Wartime and test-firing, too, can degrade the soil.

Soil near Road

Not only the pollutants released from internal combustion engines pollute soil, but also activities like vehicles splashing water off roads during rainy season at a place with poor drainage system. Activities linked to transportation in and around urban centres constitute one of the main sources of soil pollution. Soils near roads have high levels of heavy metals, polycyclic aromatic hydrocarbons and other pollutants.

Implication of Degrading Soil Quality

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

The report, which is a synthesis of existing scientific research on soil pollution, identifies six soil-related human health risks and three of them are linked to soil pollution. These are soil contaminated with dangerous

elements (for example, arsenic, lead and cadmium), organic chemicals like PCBs (polychlorinated biphenyls) and PAHs (polycyclic aromatic hydrocarbons) or pharmaceuticals such as antibiotics or endocrine disruptors.

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

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

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

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

Towards Healthy Soils

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

Many farmers are gradually shifting to polycropping from the prevalent monoculture being practised since generations, which has greatly impacted soil health. The concept of permaculture integrates traditional and new practices in which all the things required in farming are produced in the farm itself, resulting in food self-sufficiency. One of the core issues that permaculture tackles is that of resources. Using design, we focus on conservation and proliferation of a given resource, be it sunlight, water and soil.

There is no doubt that modern agricultural practices like monoculture make the soil vulnerable. It leads to the depletion of soil nutrients and creates a huge imbalance. Soil nutrient deficiency is one of the biggest hurdles Indian agriculture is facing right now. Intensification has led to over reliance on chemical fertilisers. Our soil lacks micronutrients like iron and manganese. The food we grow also

lacks these and, hence, we are also deficient in nutrients. The usage of urea is still very high and few farmers use organic fertilisers.

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

Conclusion

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

hectare-productivity. In order to tackle the issues of climate change as well as global health and food security, every eater—from policymakers, academics and scientists to eaters and consumers—needs to recognize the interconnected nature of all these systems.

General Studies Paper- III

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



7. BEACH POLLUTION: AS BIGGER THREAT AS OCEAN

Why in News?

In addition to air and water pollution, India can now add one more category to its pollution worries: beach pollution. The National Centre for Coastal Research (NCCR) conducted a qualitative analysis of the litter on six different beaches on the Eastern and Western coasts. It found that plastic litter from tourism alone accounted for 40%-96% of all beach litter.

Introduction

India is bounded by sea on three side's viz. the Arabian Sea in the west, the Bay of Bengal in the east and the Indian Ocean in the South. India has a long coastline of 7,517 km, contributing to ecological richness, biodiversity and economy. The coastal zone of the country with its wetlands, lagoons, mangroves, seagrass beds, coral reefs and shallow bays, creeks and estuaries is rich in natural resources. But the pollution in such coastal areas is causing severe threat to its biodiversity. Coastal waters receive large amounts of nutrients and pollutants from different point and nonpoint sources through bays and estuaries. Excess supply of nutrients in coastal

waters may have detrimental effects, leading to hypoxia and anoxia from eutrophication.

Coastal zones play an important role in socio-economic development; meantime they suffer increasing stress from human activities. About 60% of the world's people live within 100 km of the coastline and are highly dependent on all kinds of coastal ecosystem services. Rapidly urbanizing and industrializing coastal areas face serious ecosystem pressure, especially those with relatively weak water circulation, reflected by lower pH and dissolved oxygen, high levels of nutrients and petroleum hydrocarbons in seawater.

Every year thousand tons of garbage composed of plastics, glass, metals, sanitary, clothes etc. reach the oceans and plastics contribute a major portion (~ 60%) of the total garbage that finds its pathway to the ocean every year. Recently, a number of studies have reported an increase in the number of killings of marine animals (birds, turtles, mammals etc) due to plastic ingestion and strangling by abandoned (ghost) fishing nets.

National Centre of Coastal Research

National Center of Coastal Research (NCCR) under the Ministry of Earth Science, aims to apply scientific tools and techniques in addressing problems like erosion and ecosystem changes and Coastal Ocean Monitoring and Prediction System programme aiming to monitor the levels of marine pollutants in the seas around India. It has been proposed to give a major fillip to the socially relevant scientific programmes such as seawater quality monitoring, prediction of levels of pollutants, ecosystem modelling, and marine ecotoxicology.

Key Highlights

The Major findings of the report are:

- ◆ It found that plastic litter from tourism alone accounted for 40%-96% of all beach litter. At Chennai's Elliot's Beach, for instance, plastics left by tourists accounted for 40% of all the litter, while at Gopalpur in Odisha, it was as high as 96%. As for the other four beaches, plastics formed 66% of the overall litter on Fort Kochi Beach, 60% at Karnataka's Karwar beach, 87% at Visakhapatnam's R.K. Beach, and 81% at Andaman Island's Rangachang beach.

- ◆ After tourism, fishing was the next biggest source of litter. While fishing nets were a major contributor, the processing of fish on the beach also produced a lot of litter.
- ◆ At Fort Kochi, fishing litter accounted for 22% of the total, followed by Elliot's Beach at 15%, and Karwar beach at 10%. Also, the proportion of biomedical litter was high in urban areas, such as Elliot's Beach and Fort Kochi Beach.

Coastal Pollution

The definition of coastal pollution by the World Health Organization goes like this "The introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects such as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities."

Types of Coastal Pollution

Some of the coastal pollutions affecting the coastal ecosystems of India are described as follows.

Algae: Algae exist naturally in the water, but can become numerous when excess nutrients are present. This is often caused by runoff from agriculture or residential practices (like fertilizing our lawn or using household products). Algae can be green, yellowish-brown, or red. It might look like moss, thick stringy mats, or a floating slimy scum. Sometimes it looks like a blue-green algae bloom (which is extremely toxic).

Sewage: Sewage might be in the water because of a leak, of Combined Sewer Overflow (CSO) or bypass from a sewage treatment plant. Generally, sewage is more likely to be in the water if there has been an extreme weather

event – like a heavy rainfall or snowmelt – because this can overwhelm systems and cause sewage to be diverted into the water. It causes bacteria like *E. coli* to become extremely elevated. Bacteria in the water are likely to make us sick: think gastrointestinal illness like vomiting and diarrhea, skin rashes, eye and ear infections and low-grade fever.

Plastics Pollution: Microplastics get into our watersheds in two main ways: when beauty and hygiene products get washed down the drain, or when larger pieces of plastic get broken down by waves. Microplastics sit in the water column, attract toxins and eventually get ingested by fish, birds, and/or humans. Microplastics damage aquatic creatures, as well as turtles and birds. They block digestive tracts, diminish the urge to eat, and alter feeding behavior, all of which reduce growth and reproductive output. Their stomachs stuffed with plastic, some species starve and die.

Oil: Oil in the water is mainly caused by spills from industry, but can also come from ships, drains and dumping. During the period between 1970s and 2011, there were about 79 major and minor oil spill incidents in Indian waters spilling quintals of oil into coastal ecosystem.

Marine Litter in India

Marine Litter (ML) is defined as waste created by humans that has been discharged into coastal or marine environments, resulting from activities on land or at sea. ML comprises of various material types, and can be classified into several distinct categories.

- ◆ Plastics, covering a wide range of synthetic polymeric materials, including fishing nets, ropes, buoys and other fisheries- related equipment; consumer goods, such as plastic bags, plastic packaging, plastic toys; tampon applicators; nappies; smoking- related items,

What is Blue flag?

The 'Blue Flag' is a certification by the Copenhagen-based Foundation for Environmental Education (FEE) that a beach, Marina or sustainable boating tourism operator, meets its stringent standards. The standards were established by the FEE in 1985. To achieve the Blue Flag standards, a beach had to strictly comply with 33 environment and tourism-related conditions.

The 'blue flag' is a globally recognised eco-label awarded to beaches and marinas that adhere to strict environmental and safety norms. The iconic 'blue flag' is one of the world's most recognised voluntary eco-labels awarded to beaches, marinas and sustainable boating tourism operators. In order to qualify for the 'blue flag', a series of stringent environmental, educational, safety and accessibility criteria must be met and maintained.

Central to the ideals of the 'blue flag' programme is the aim of connecting the public with their surroundings and encouraging them to learn more about their environment. As such, environmental education activities must be offered and promoted in addition to a permanent display of information relevant to the site in terms of biodiversity, ecosystems and environmental phenomena.

such as cigarette butts, lighters and cigar tips; microplastic particles.

- ◆ Metal, including drink cans, aerosol cans, foil wrappers and disposable barbeques.
- ◆ Glass, including bottles and bulbs.
- ◆ Processed timber, including pallets, crates and particle boards.
- ◆ Paper and cardboard, including cartons, cups and bags.
- ◆ Rubber, including tyres, balloons and gloves.
- ◆ Clothing and textiles, including shoes, furnishings and towels.
- ◆ Tar balls, including oil residues.

Impact of Marine Litter

Marine Life

Plastic pollution is the most widespread problem affecting the marine environment. It also threatens ocean health, food safety and quality,

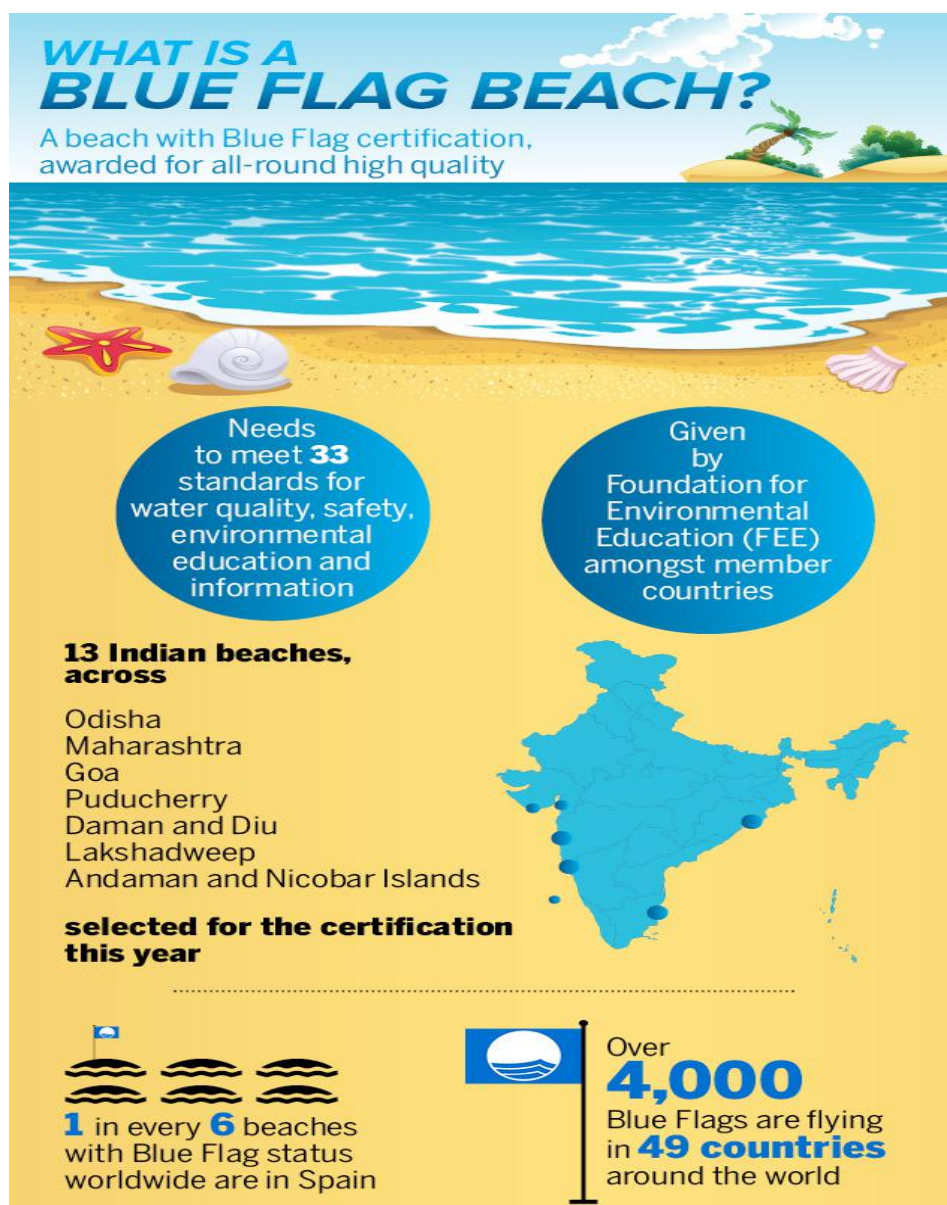
human health, coastal tourism, and contributes to climate change. The most visible and disturbing impacts of marine plastics are the ingestion, suffocation and entanglement of hundreds of marine species. Marine wildlife such as seabirds, whales, fishes and turtles, mistake plastic waste for prey and most die of starvation as their stomachs are filled with plastic debris. They also suffer from lacerations, infections, reduced ability to swim and internal injuries. Floating plastics also contribute to the spread of invasive marine organisms and bacteria, which disrupt ecosystems.

Economic

Measuring the full economic cost of marine litter is complex due to the wide range of economic, social and environmental impacts, the range of sectors impacted by marine litter and the geographic spread of those affected. As regards economic costs it is important to differentiate between actual economic costs linked to expenditure (e.g. costs of cleanup of beaches; costs associated with damage to or loss of fishing gear or obstruction of motors; eventual cost of hospitalisation from marine debris related health impacts), economic costs of loss of output or revenue (e.g. loss of revenue from fish or loss of income from tourism) and assessment of welfare costs in economic terms (e.g. health impacts from marine debris; assessing the economic value of loss of cultural values such as recreation or landscape aesthetics).

Fisheries and Aquaculture

The fishing sector is more commonly viewed as a source of marine litter, but it is also subject to economic costs itself. Direct economic impacts faced by the sector arise from the need to repair or replace gear that has been damaged or lost due to encounters with marine litter; repairing vessels with tangled



propellers, anchors, rudders, blocked intake pipes, etc.; loss of earnings due to time diverted to deal with marine litter encounters; and loss of earnings from reduced or contaminated catches resulting from marine litter encounters including ghost fishing.

Ecological /Environment

As regards ecosystem degradation, it is useful to differentiate between impacts on biodiversity (species and habitats) and the impact on the ecosystem services flowing from the ecosystem (e.g. provisioning services such as food provision, regulating services such as water and waste purification; and cultural services such as tourism and recreation).

Tourism, Recreation, Rafting, Surfing etc.

Plastic waste damages the aesthetic value of tourist destinations, leading to decreased tourism-related incomes and major economic costs related to the cleaning and maintenance of the sites. Direct costs include the collection, transportation and disposal of litter and administrative costs such as contract management. Ensuring that beaches are clean, attractive and safe for visitors is prioritised by municipalities when the economic case for protecting the local economy and tourism industry justifies the costs of removing the litter.

India's Present Initiatives and Future Strategies

Government of India has already initiated a program i.e., phasing out single use plastic shopping bags and promoting the usage of cotton/jute cloth bag. Beach cleaning is an effective way to reduce and prevent litter from being washed into the seas. As part of the clean coast program, beach cleaning activities, educating school kids, raising awareness among public are being actively pursued. In this regard, our efforts are being directed towards transforming from the traditional waste management practices to more sustainable waste management practices following 3R- Reduce, Reuse and Recycle concept.

Under the aegis of the Swachh Bharat Abhiyan (Clean India Mission) campaign, government of India is working enthusiastically on various aspects of pollution. Since 1990s, coastal locations near major settlements and industries are being monitored for various water, sediment and biological parameters of ecological relevance.

The activities on the monitoring of marine litter and micro-plastics are meagre and have been initiated recently along the Indian coastline and coastal waters to have a scientific understanding on the type, source, process and distribution of marine litter that would be supportive to frame a "Marine Litter Policy" for India. To tackle the problem, the Centre is coming up with a National Marine Litter Policy and city-based National Centre for Coastal Research will provide data required to frame the guidelines.

With prime objective of enhancing standards of cleanliness, upkeep and basic amenities at beaches, the Ministry of Environment, Forest and Climate Change has launched a pilot project in December 2017 for beach cleanup and development, also striving for the "Blue Flag" Certification for such identified beaches. Under the pilot programme, each of the coastal State/UT was requested to identify/nominate a beach, to be funded through the ongoing Integrated Coastal Management Programme. All the coastal States have nominated the pilot beaches in their receptive territories including Goa.

Odisha's Chandrabhaga beach has become Asia's first beach to get a Blue Flag certification. Twelve more beaches in the country are being developed by the Society for Integrated Coastal Management (SICOM), an Environment Ministry's body working for the management of coastal areas, in accordance with the Blue Flag standards.

Way Forward

In most cases, the solid wastes reach to the coast through nearby waterways, rivers, creeks etc from the land and overflow the beaches, making the beaches unhygienic and hazardous. In addition to that, the usage of the beach by local dwellers and visitors and other social factors make the problem worse. Manual cleaning of beaches, engaging people is cumbersome, expensive and sometimes next to impossible. With the increased use of plastic, the concept of 3Rs- reduce, recycle and reuse needs to be adopted through a stringent action plan.

Although, a number of coastal cleanup awareness programs are being undertaken recently by few organizations, NGOs etc., however, lack of solid waste management facilities is the major hindrance in most of the places. Similarly, recycling efforts of solid waste in most of the places /cities are either inadequate or lacking. Thus, segregation and processing of solid waste at household level is highly essential, which can be achieved through public participatory approach, awareness activities, educating at school and college levels and through print and audio-visual media. Installation of debris booms, fin deflectors at upstream and bridges along river ways will definitely help in reduction of solids wastes entering into the coastal waters.

To combat marine litter issues institutional strengthening, capacity building, public awareness and a continuous review of the monitoring, innovation and improvement of the activities needs to be addressed in a timely manner. Strategic planning and development of integrated waste management plans at local, city, regional and national level. Community participation, collaboration with industries, non-governmental organisations and other development partners is a key to ensure the successful implementation of the different response options. Also India needed to start blue-flagging its beaches.

General Studies Paper- III

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



SEVEN SUBJECTIVE QUESTIONS WITH MODEL ANSWERS

Social Media: Connecting and Mobilising the Society

Q1. 'Along with its potential to bring people together, social media is also contributing in polarising society.' Critically analyse.

Hints:

- ◆ With the occurrence of Bulandshahar violence and the use of social media platforms like Facebook and WhatsApp in spreading the news of hatred and arousing the community has once again led to think about the role of social media in polarizing society, also how to make it a benign medium and can be used as an empowerment tool.
- ◆ When we talk about social media, the first thing that strikes in our mind is facebook or Twitter, but social media is very broader than this. Social media includes web- based and mobile technologies used to turn communication into interactive dialogue. It blends technology, telecommunications and social interaction and provides a platform to communicate through words, pictures, films and music. Social media is a medium that connects people and gives them voice.
- ◆ These media has a competitive edge over other popular public media like Television because there is a time gap between social event occurrence and the time it is being broadcasted. Social media blurred the boundaries between people and they become more aware and better informed. Along with its potential to bring people together, social media also holds immense promise as a tool for social change.
- ◆ Blaming social media for all ills saying that it has made it possible for divisive and fake news to travel faster, and holding the view that social media has an inherent bias towards evil. We are ignoring the fact that it was social media only through which #MeToo stories have found an outlet. There are many stories of lost children being found, dogs being adopted, and money being raised for various causes on social media. Still, people love to say that social media is mainly responsible for the violent, regressive society of 2018.

- ◆ Earlier when we used to post something on Facebook and we were sure that all our friends would be able to see it and react. Today, our post is reaching only a handful of friends and followers, due to changing and evolving algorithms, unless we are willing to pay. At all times, all our reactions and actions are being monitored by social media platforms so that they can strengthen their algorithms and analyse our behaviours. Artificial intelligence and machine learning are predicting our next move and exposing us to select content, advertising and messaging.
- ◆ With all these evils associated with social media, it still can be seen as a tool for empowerment, especially for a country like India where 70% of the population is yet to get online and leverage the opportunities it has to offer. While social media is definitely facing the global challenges of information bombardment (both factual and fake), it is also enabling communities to access their rights and voice their opinion. Hopefully, in times to come, people will learn to take more responsibility for what they share and our social media platforms will regain their lost trust.

Tuberculosis: Needs Urgent Global Response

Q2. 'We cannot beat TB through a response rooted in control and coercion. We can only beat TB using an approach anchored in human rights.' Discuss.

Hints:

- ◆ Decades of global neglect have resulted in tuberculosis (TB) becoming the leading cause of adult deaths in most of the global South — it kills nearly two million people a year. This is shocking given that TB is curable and preventable. Each day, thousands of people with TB die, often because of inequitable access to quality diagnosis and treatment.
- ◆ An emergent and disturbing arsenal of surveillance technologies has caught the attention of international and domestic policy makers and threatens to detract from an effective response to TB that is anchored in human rights and has a human touch.

- ◆ An obsession with new gadgets in disease management — in the context of a disease that could be eliminated in a relatively inexpensive way through human-rights based interventions — is strange. We cannot beat TB through a response rooted in control and coercion. We can only beat TB using an approach anchored in human rights. Such an approach focuses on creating health systems that foster trust, partnership and dignity. Therefore three interventions, to which the funding for surveillance technology should be redirected, can be suggested.
- ◆ The first is new treatment. In contrast to the dozens of whirring and chirping surveillance gizmos are bedaquiline and delamanid, the only new TB drugs to have come to the market in 50 years. But to date, only about 30,000 people have received the new drugs; while over 500,000 people get sick with drug-resistant TB every year. International institutions, donors and countries need to focus and collaborate on the urgent production and distribution of affordable generics of bedaquiline and delamanid.
- ◆ The second is the human touch. Employ and deploy community health-care workers. Many domestic TB policies envision community health-care workers as the backbone of the response, yet, in practice, these front-line workers remain shockingly underused.
- ◆ The last is accountability. The TB response can only be as good as the health-care systems through which it is implemented and health-care systems are only as good as the structures that hold them to account. Community-based structures such as “clinic committees” ensure accountability while also fostering partnership and trust between communities and their health-care systems. Grassroots civil society and community-based organisations can also help in ensuring it.
- ◆ To outsmart TB bacilli, we must intercept infection, progression and transmission. While TB bacilli are efficient in all three, our weapons against them are blunt. Our only chance of victory is by the concerted use of all interventions be it biomedical, technological or socio-behavioural. There is no glamour in this long-drawn-out battle.

Unaccounted Money in Political Funding

- Q3. Recently, former Chief Election Commissioner OP Rawat held that electoral bonds can be a threat to democracy due to its anonymity and opaqueness. Critically analyse electoral bond scheme in this context.**

Hints:

- ◆ Government introduced an 'Electoral Bond Scheme' in January 2018, purportedly with a view to cleansing the prevailing culture of political sponsorship. An electoral bond is designed to be a bearer instrument like a Promissory Note — in effect, it will be similar to a bank note that is payable to the bearer on demand and free of interest. It can be purchased by any citizen of India or a body incorporated in India.
- ◆ The stated objective of electoral bonds is to reduce opaqueness in political funding in the country. First, it will bring transparency in political funding as the names of the donors will be maintained by the banks. Second, secrecy of the donors will help more people to take this route which otherwise make them wary of attack by the opposition parties. Third and most importantly it will take India towards digital and cashless economy. Fourth, it will be a step towards bringing reforms in political funding.
- ◆ But the key element in this scheme is that electoral bonds will not bear the name of the donor, nor can the beneficiary party be revealed. In other words, the whole process will be anonymous. Moreover, the value of donations can be unlimited. Prior to 2017, Section 182 of the Companies Act, 2013, stipulated that a company can donate only up to 7.5% of its average profit of the last three years, and must disclose this amount and the beneficiary political party.
- ◆ The scheme suffers from at least two foundational defects. One, that it was incorporated on the back of a series of amendments made to legislation, including the Representation of the People Act, the Income Tax Act and the Companies Act, which were introduced in the form of a money bill. And two, that the scheme flouts a number of fundamental rights.
- ◆ The scheme is equally destructive in its subversion of the fundamental rights to equality and freedom of expression. There's no doubt that the Constitution does not contain an explicitly enforceable right to vote. But implicit in its guarantees of equality and free speech is a right to knowledge and information. In the absence of complete knowledge about the identities of those funding the various different parties, it's difficult to conceive how a citizen can meaningfully participate in political and public life.
- ◆ A second development came 'hidden' in the amendments to the Finance Bill of 2018, which was passed without discussion due to the din in Lok Sabha. This relates to the Foreign Contribution Regulation Act, 2010, which has been amended to exempt from

scrutiny foreign funds received by political parties with retrospective effect from 1976. The reasons behind this controversial amendment is as clear as day.

- ◆ Democracy is sustained by free and fair elections. Only free and fair elections to the various legislative bodies in the country can guarantee the growth of a democratic polity. Thus, the Supreme Court has time and again asked the legislature and the election commission to bring about reforms in the process of election funding to prevent the influx of black money in the election process. Successive governments have promised electoral reforms and have setup committees to look into the matter. Unless drastic and radical steps are taken to cleanse public offices by the government, political parties and people at large, corruption will continue to corrode the vitals of the country.

New World Order: Mirage or Reality

Q4. The world today bears little resemblance to the unipolar global system of cooperating liberal democracies that President Bush envisioned in 1991. Comment.

Hints:

- ◆ The passing of George H.W. Bush, the 41st President of the United States, from 1989 to 1993, is an occasion to contextualise the current turbulence in the world, especially in liberal democracies. Three events — the first Gulf War, the fall of the Berlin Wall and the dissolution of the Soviet Union — that occurred on his watch set in motion a global churn that remains with us.
- ◆ Out of the “colossal wreck” of Bush’s vision of a geopolitical system dominated by the United States a new world order has indeed begun to emerge, but it bears little resemblance to what President Bush Sr. imagined 25 years ago. Nothing has gone as planned. The “liberal democracies” that were supposed to serve as the backbone of the New World Order have become progressively less liberal, as terror attacks have sown fear everywhere and led to restrictions on civil liberties and heightened surveillance of citizens. They have also grown less attached to democracy.
- ◆ Analyzing U.S. President Donald Trump’s ‘un-American’ policies, a closer look at the larger context of his actions, articulations and their potential implications indicates the onset of a whole new world order, one that we may not necessarily like. The unsettling symptoms of a new world dis-order have been around for some time. We are witnessing the gradual demise of the post-War

world order, one that we often complained about, for a number of legitimate reasons and yet clung to, especially after the Soviet alternative turned out to be a disappointment.

- ◆ China, a country that barely figured in Bush’s 1991 anticipation of a New World Order. Since then, however, China’s rapid economic growth has made its presence on the global stage impossible to ignore. With economic power has come global political influence and increased assertiveness. China’s Belt and Road Initiative is the most ambitious, but also probably, the most rapacious, connectivity project in history.
- ◆ These transformations in the international system herald the triumphant return of realpolitik, riding roughshod over collective security institutions, alliance commitments and normative considerations. It is not that hard-nosed strategic calculations didn’t matter earlier, but they were hidden behind the niceties of diplomacy and humanitarianism. The difference today is that there is neither an attempt to check the limits of realpolitik nor are there any normative claims.
- ◆ The world today bears little resemblance to the unipolar global system of cooperating liberal democracies that President Bush envisioned in 1991. Nevertheless, it would not be quite accurate to say that the contemporary world order is the opposite of what Bush imagined. The United States is still the dominant power but now in a multipolar system in which the ineffectiveness of the substantial American advantage in military assets and spending has been repeatedly demonstrated. Europe, whose alignment with the U.S. President Bush all but took for granted, is hamstrung by internal difficulties and facing possible disintegration in the wake of Brexit. Less powerful but still nimble players such as Russia and Turkey are testing the limits of American forbearance, while China is increasingly uninhibited about asserting a leadership role in the Far East. The pious wish of a New World Order has proved to be a mirage and the American overconfidence that it inspired has turned into its opposite.

Sustainability of GM Crops

Q5. A research paper published recently, co-authored by leading agriculture scientist M.S. Swaminathan, describes Bt cotton as a ‘failure’ in India. Discuss it in the context of development of transgenic crops in India and its implications.

Hints:

- ◆ A research paper co-authored by leading agriculture scientist M.S. Swaminathan, which describes Bt cotton

as a 'failure' in India. It has failed as a sustainable agriculture technology and has, therefore, also failed to provide livelihood security for cotton farmers who are mainly resource-poor, small and marginal farmers.

- ◆ Cotton is a crop of very high economic value because of its widespread demand in the textile industry. For such an important cash crop, the loss of hundreds of acres worth of harvest due to attack by pests proves to be a big loss to farmers as well as the industry. It also leads to waste of precious resources like soil, water and labor. Bt cotton is an insect-resistant transgenic crop designed to combat the bollworm. Bt cotton was created by genetically altering the cotton genome to express a microbial protein from the bacterium *Bacillus thuringiensis*.
- ◆ Swaminathan emphasized that genetic engineering technology is supplementary and must be need-based. Only in very rare circumstance (less than 1%) may there arise a need for the use of this technology. M.S. Swaminathan said that it is not as if the Green Revolution failed in its immediate objectives; it had delivered more than its expectations, i.e. it freed India from imports and made us self-sufficient. Therefore, it provided the much needed 'breathing space' to develop holistic strategies for sustainable agriculture.
- ◆ It is unfortunate that farmer distress is being wrongly attributed to Bt cotton failure. Farmers continue to grow Bt cotton. The development of resistance can be tackled through practices like Integrated Pest Management and by stacking Bt genes to fight secondary pests. The priority is to accelerate development of Bt cotton varieties that can be packed densely in fields and increase the yields to over 800 kg/ha, as is the case with other countries.
- ◆ Despite the fact that the human population has been burgeoning, a total collapse in food supply has not yet happened. This is because of new technologies emerging from time to time to boost agricultural productivity and preventing the onset of the Malthusian scourge. However, none of these technologies, including the Green Revolution of the 1960s, has been truly sustainable largely because of their adverse environmental and social impacts. It is expected that the Evergreen Revolution which eliminates the negative attributes of the Green Revolution would be more sustainable.
- ◆ Because of all the complicating socio-economic factors in a developing country like India, including trade laws, seed prices, counterfeit seeds and high interest, as well as the high pest pressures that already exist, it is

difficult to determine the role that the introduction of Bt cotton played. The low acceptance level of GM technology by the public makes it more difficult to tease out the many factors, since Bt has already been publically blamed as the cause. More thorough and unbiased ground-level research will have to be done to get a clear picture of whether Bt technology has really caused all the adverse effects on the lives of farmers or if surrounding social, political, and economic factors are responsible.

World Soil Day: Be the Solution to Soil Pollution

Q6. What do you understand by 'soil quality'? According to the FAO, the world's topsoil could be completely eroded within the next 60 years if current soil degradation rates continue. Discuss how healthy soils are vital for the future of the food system, health, ecosystem and human well-being.

Hints:

- ◆ World Soil Day is observed annually on 5th December to focus attention on the importance of healthy soil and advocating for the sustainable management of soil resources. Organised by the United Nations, the theme for this year's World Soil Day is - 'Be the Solution to Soil Pollution'.
- ◆ Soil quality is the capacity of a specific kind of soil to function, within natural or managed ecosystem boundaries, to sustain plant and animal productivity, maintain or enhance water and air quality and support human health and habitation. Understanding soil quality means assessing and managing soil so that it functions optimally now and is not degraded for future use.
- ◆ Soil pollution and soil erosion are the two major termites responsible for hollowing the quality of soil. Soil pollution refers to anything that causes contamination of soil and degrades the soil quality. It occurs when the pollutants causing the pollution reduce the quality of the soil and convert the soil inhabitable for microorganisms and macro organisms living in the soil.
- ◆ Soil contamination or soil pollution can occur either because of human activities or because of natural processes. However, mostly it is due to human activities. The soil contamination can occur due to the presence of chemicals such as pesticides, herbicides, ammonia, petroleum hydrocarbons, lead, nitrate, mercury, naphthalene, etc in an excess amount.

- ◆ Researches have shown that heavy metals mostly enter the food chain through absorption by plant roots. It goes on to add that, for humans, food is the main source of cadmium, which is one of the most toxic elements for humans as it can “penetrate through the placenta during pregnancy, damaging membranes and DNA and disrupting the endocrine systems and can induce kidney, liver and bone damage”. Thousands of chemicals, which are commercially produced on a large scale, plastic and electronic waste, as well as untreated wastewater, can all become a source of soil pollution, paving the way for the pollutants to enter the food chain with serious consequences for the human health and well-being and for the planet.
- ◆ When it comes to combating climate change, a focus on soil health will solve this for us to some extent. If we can design agricultural production systems that are using biologically-based practices to regenerate soil, we will sequester more carbon (i.e. build soil organic matter). This will also reduce nitrous oxide emissions by reducing use of nitrogen fertilizer. These systems seem to be more resilient against climatic uncertainty.
- ◆ Food systems today are being viewed through a narrow and distorting lens called per-hectare-productivity. In order to tackle the issues of climate change as well as global health and food security, every eater—from policymakers, academics and scientists to eaters and consumers—needs to recognize the interconnected nature of all these systems.
- ◆ causing severe threat to its bio-diversity. Coastal waters receive large amounts of nutrients and pollutants from different point and nonpoint sources through bays and estuaries. Excess supply of nutrients in coastal waters may have detrimental effects, leading to hypoxia and anoxia from eutrophication.
- ◆ Plastic waste damages the aesthetic value of tourist destinations, leading to decreased tourism-related incomes and major economic costs related to the cleaning and maintenance of the sites. Direct costs include the collection, transportation and disposal of litter and administrative costs such as contract management.
- ◆ Plastic pollution is the most widespread problem affecting the marine environment. It also threatens ocean health, food safety and quality, human health, coastal tourism and contributes to climate change.
- ◆ As regards ecosystem degradation, it is useful to differentiate between impacts on biodiversity (species and habitats) and the impact on the ecosystem services flowing from the ecosystem (e.g. provisioning services such as food provision, regulating services such as water and waste purification; and cultural services such as tourism and recreation).
- ◆ The Union Ministry of Environment, Forest and Climate Change has launched pilot project ‘Blue Flag’ to develop and enhance standards of cleanliness on beaches. Its purpose is to enhance standards of cleanliness, upkeep and basic amenities at beaches. Under the pilot project, each of coastal state/UT was requested to identify and nominate a beach, which is to be funded through ongoing Integrated Coastal Management Programme (ICMP).
- ◆ Odisha’s Chandrabhaga beach has become Asia’s first beach to get a Blue Flag certification. Twelve more beaches in the country are also working for the management of coastal areas, in accordance with the Blue Flag standards.
- ◆ To combat marine litter issues institutional strengthening, capacity building, public awareness and a continuous review of the monitoring, innovation and improvement of the activities needs to be addressed in a timely manner. Community participation, collaboration with industries, non-governmental organisations and other development partners is a key to ensure the successful implementation of the different response options. Also India needed a national marine litter policy to control and manage waste on land and prevent its entry into the marine environment.

Beach Pollution: As Bigger Threat As Ocean

Q7. In addition to air and water pollution, India can now add one more category to its pollution worries: beach pollution. Discuss why India needed a national marine litter policy to control and manage waste on land and prevent its entry into the marine environment.

Hints:

- ◆ The National Centre for Coastal Research (NCCR) conducted a qualitative analysis of the litter on six different beaches on the Eastern and Western coasts. It found that plastic litter from tourism alone accounted for 40%-96% of all beach litter. After tourism, fishing was the next biggest source of litter. While fishing nets were a major contributor, the processing of fish on the beach also produced a lot of litter.
- ◆ The coastal zone of the country with its wetlands, lagoons, mangroves, seagrass beds, coral reefs and shallow bays, creeks and estuaries is rich innatural resources. But the pollution in such coastal areas is



SEVEN IMPORTANT NATIONAL & INTERNATIONAL NEWS

NATIONAL

1. The Dam Safety Bill, 2018

The Dam Safety Bill, 2018 was introduced in Lok Sabha by the Minister of Water Resources, River Development and Ganga Rejuvenation, on December 12, 2018. The Bill provides for the surveillance, inspection, operation and maintenance of specified dams across the country. It aims to provide a robust legal and institutional framework under Central and state governments for the safety of dams.

Applicability of the Bill

The Bill applies to all specified dams in the country. These are dams with:

- (i) Height more than 15 metres, or
- (ii) Height between 10 metres to 15 metres and subject to certain additional design and structural conditions.

Key Points

- ◆ The Bill provides for constitution of a National Committee on Dam Safety which shall evolve dam safety policies and recommend necessary regulations as may be required for the purpose.
- ◆ The Bill provides for establishment of National Dam Safety Authority as a regulatory body which shall discharge functions to implement the policy, guidelines and standards for dam safety in the country.
- ◆ The Bill provides for constitution of a State Committee on Dam Safety by state government.

Need

Over the last fifty years, India has invested substantially in dams and

related infrastructures and ranks third after USA and China in the number of large dams. 5254 large dams are in operation in the country currently and another 447 are under construction. In addition to this, there are thousands of medium and small dams.

Significance

The provisions of the Dam Safety Bill, 2018 will empower the dam safety institutional set-ups in both the Centre and States and will also help in standardizing and improving dam safety practices across the country. The Dam Safety Bill, 2018 addresses all issues concerning dam safety including regular inspection of dams, Emergency Action Plan, comprehensive dam safety review, adequate repair and maintenance funds for dam safety, Instrumentation and Safety Manuals. ■

2. First Deep Submergence Rescue Vehicle

The Indian Navy has inducted its first Deep Submergence Rescue Vehicle (DSRV) System at the Naval Dockyard in Mumbai. With this, India joins a select league of navies with the sovereign capability in fly away configuration to search, locate and rescue crew from a disabled submarine. At present, the US, China, Russia and a few other countries have the capabilities to deploy DSRVs.

- ◆ DSRV is used to rescue crew members stranded in submarines that get disabled. The DSRV crew carried out remotely operated vehicle operations at a depth of

over 750 metres and side scan sonar operations at a depth of over 650 metres.

- ◆ The Indian Navy in March 2016 had commissioned two DSRVs, the second will be deployed at the Eastern Naval Command in Visakhapatnam.
- ◆ Using a third-generation system, the DSRV is considered to be the most advanced system currently in operation globally.
- ◆ Though DSRVs are used for rescue of personnel in downed submarines, they are also deployed for various

other missions including to lay cables on the sea bed.

Background

The Indian Navy currently operates conventional submarines of the Sindhughosh, Shishumar, Kalvari classes as well as nuclear powered submarines. In August, 2013, a massive fire broke out on Sindhurakshak followed by a series of explosions, killing all 18 Navy personnel, including three officers. The 3,000-tonne submarine sank in the South Breakwater in Mumbai's naval dockyard within hours of the incident. ■

3. Nine States have Achieved 100% Household Electrification

According to the Ministry of Power, nine states have achieved complete household electrification under the 'Saubhagya scheme'. They are Madhya Pradesh, Tripura, Bihar, Jammu and Kashmir, Uttarakhand, Mizoram, Sikkim, Telangana and West Bengal. The Ministry had recently lowered the household electrification target by around 10 million homes, or about one-fourth of the earlier goal.

With this, 16 States in the country now have 100 per cent household electrification. Many more State like Maharashtra, Uttarakhand, Himachal Pradesh, Arunachal Pradesh, Chhattisgarh etc. are left with small

number of un-electrified households and expected to achieve saturation any time.

Achievement of 100% household electrification in the country would be a major milestone in the direction to achieve 24x7 power for all. The government is committed to ensure 24x7 accesses to electricity for all by 31st March 2019.

The States completing 100% household electrification by 31st December 2018 will also receive additional grant of 15% of the project cost (5% for special category States) sanctioned under Saubhagya scheme.

About Saubhagya Scheme

Saubhagya – 'Pradhan Mantri Sahaj Bijli Har Ghar Yojana' was launched in September, 2017 with the objective to provide access to electricity to all the remaining households in the country. The Minister informed that as many as 2.1 crore connections have been released under Saubhagya so far. Under Saubhagya free electricity connections to all households (both APL and poor families) in rural areas and poor families in urban areas will be provided. Rural Electrification Corporation (REC) has been designated as nodal agency for the Saubhagya scheme. ■

4. Revised Guidelines for Ground Water Extraction

The Central Ground Water Authority, Ministry of Water Resources, River Development and Ganga Rejuvenation on 12th December 2018 has notified revised guidelines for ground water extraction. These guidelines will be effective from 1st June 2019.

Key Features

The revised guidelines aim to ensure a more robust ground water regulatory mechanism in the country. One of the important features of the revised guidelines is the introduction of the concept of Water Conservation Fee (WCF). The WCF payable varies with the category of the area, type of industry and the quantum of ground

water extraction and is designed to progressively increase from safe to over-exploited areas and from low to high water consuming industries as well as with increasing quantum of ground water extraction.

Other salient features of the revised guidelines include encouraging use of recycled and treated sewage water by industries, provision of action against polluting industries, mandatory requirement of digital flow meters, mandatory water audit by industries, mandatory roof top rain water harvesting except for specified industries and measures to be adopted to ensure prevention of ground water contamination in premises of polluting industries/ projects.

As per the revised guidelines, exemption from requirement of NOC has been given to agricultural users, users employing non-energised means to extract water, individual households (using less than 1 inch diameter delivery pipe) and Armed Forces

Establishments during operational deployment or during mobilization in forward locations. Other exemptions (with certain requirements) have been granted to strategic and operational infrastructure projects for armed forces, defence and paramilitary forces establishments and government water supply agencies.

Need

India is the largest user of ground water in the world, extracting ground water to the tune of 253 bcm per year, which is about 25% of the global ground water extraction. Out of the total of 6584 assessment units, 1034 have been categorized as 'Over-exploited' 253 as 'Critical', 681 as 'Semi-Critical' and 4520 as 'Safe'. The remaining 96 assessment units have been classified as 'Saline' due to non-availability of fresh ground water due to salinity problem. ■



5. 'ENSURE' to connect with Direct Benefit Transfer (DBT)

The government of India has launched a portal ENSURE- National Livestock Mission-EDEG developed by NABARD and operated under the Department of Animal Husbandry, Dairying & Fisheries.

- ◆ Under the Mission's component called Entrepreneurship Development and Employment Generation (EDEG), subsidy payment for activities related to poultry, small ruminants, pigs etc. through Direct Benefit Transfer (DBT) goes directly to the beneficiary's account.
- ◆ In order to make it better, simpler and transparent, the NABARD has developed an online portal "ENSURE".

Benefits

- ◆ Under the new process, controlling officer/branch manager of the bank, after scrutinizing & sanctioning of proposal, uploads the subsidy claims in the portal.
- ◆ The subsidy will be approved within 30 days from the date of sanction of loan. Earlier, even after the loan approval, subsidy took a long time to reach the beneficiary's account.
- ◆ Through this process, the flow of information/funds will also be quicker and more accountable.



The burden of extra interest due to delay in the disbursement of the subsidy would now be reduced after the launch of the portal.

- ◆ Access from the portal will also be on real-time basis and list of beneficiaries can be easily prepared.

6. UN Panel of Auditors

Comptroller and Auditor General Rajiv Mehrishi has become the Vice-Chair of the UN Panel of Auditors. The United Nations Panel of Auditors consists of External Auditors of the United Nations and its agencies. The panel also elected the Comptroller and Auditor General of the UK as Chair of the Panel for another term (2019).

About Panel of External Auditors

The Panel of External Auditors of the United Nations, the Specialized Agencies and the International Atomic Energy Agency was established by the General Assembly Resolution of 5 December 1959. It is made up of: (a)



the members of the United Nations Board of Auditors; and (b) the external auditors of the Specialized Agencies of the United Nations and of the International Atomic Energy Agency.

Functions of Panel of External Auditor

- ◆ The main objectives of the Panel of External Auditors of the UN, the UN's specialised agencies and the International Atomic Energy Agency (IAEA) are to further the coordination of the audits for which its members are responsible and to exchange information on audit methods and findings.
- ◆ The Panel may submit to the executive heads of the organisations audited any observations or recommendations it may wish to make in relation to the accounts and financial procedures of the organisation concerned. The executive heads

of the participating organisations may also, through their auditors submit requests to the Panel for its opinion or recommendation on any matter within its competence.

- ◆ The United Nations Panel of External Auditors is a unique forum for the exchange of information and methodologies to further develop and improve the value and quality of the external assurance process. To support the delivery of high quality, standards based assurance, to ensure that reported financial information provides a transparent and accurate basis for the financial decisions made by the United Nations and its Specialized Agencies.
- ◆ Presently, the panel consists of 11 countries- India, Germany, Chile, Canada, France, Italy, Philippines, Ghana, Indonesia, Switzerland and UK.

7. SWIFT India

SWIFT India had appointed ex-SBI chief Arundhati Bhattacharya as the new chairman of its board. SWIFT India is a joint venture of top Indian public and private sector banks and SWIFT (Society for Worldwide Interbank Financial Telecommunication). Ms. Bhattacharya will succeed former banker M.V. Nair, who is stepping down after completing five years with the company.

SWIFT India

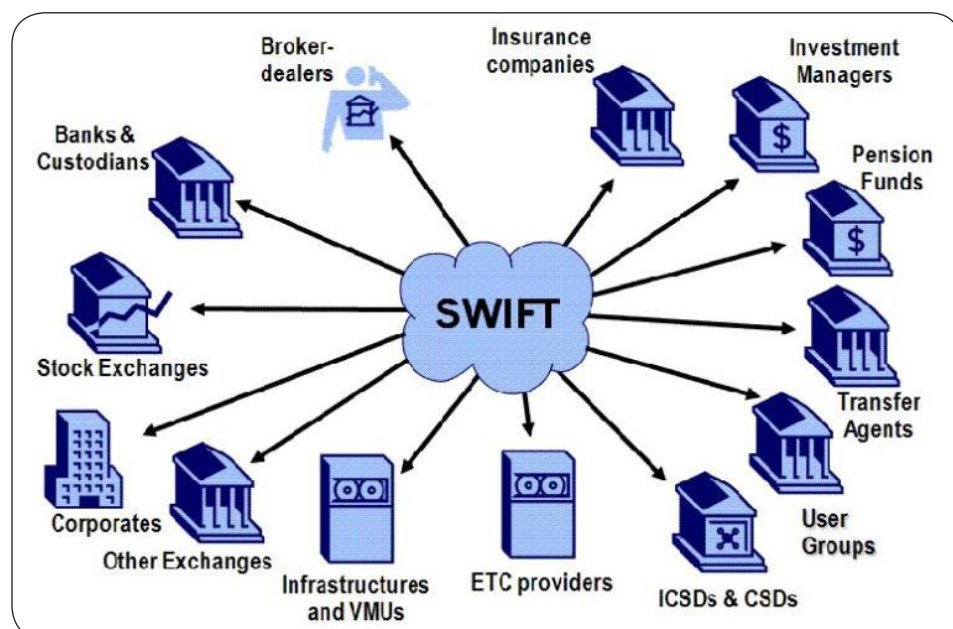
In 1973 SWIFT was founded on the principle that collaboration and

cooperation can solve big, common problems. Four decades on, the banking co-operative operates a financial messaging platform that brings together 10,500 financial institutions and corporations across more than 200 countries. SWIFT India Domestic Services Pvt Ltd ("SWIFT India" or "the Company"), founded on similar principles, is a financial messaging services provider formed by SWIFT SCRL and Indian banks, for the domestic Indian financial community and by the community.

The Society for Worldwide Interbank Financial Telecommunication (SWIFT)

SWIFT's messaging services are trusted and used by more than 11,000 financial institutions in more than 200 countries and territories around the world. Providing reliable, secure and efficient messaging services to our community of users, SWIFT is the backbone of global financial communication.

Since its inception, SWIFT has played a leading role, together with its community, in the standardisation that underpins global financial messaging and its automation. The use of standardised messages and reference data ensures that data exchanged between institutions is unambiguous and machine friendly, facilitating automation, reducing costs and mitigating risks. Through SWIFT, banks, custodians, investment institutions, central banks, market infrastructures and corporate clients, can connect with one another exchanging structured electronic messages to perform common business processes, such as making payments or settling trades.



INTERNATIONAL

1. Partners' Forum

The 2018 partner's Forum was hosted by the Government of India with the Partnership for Maternal Newborn and Child Health (PMNCH). It was centre on improving multisectoral action for results, sharing country solutions and capturing the best practices and knowledge within and among the health sector and related sectors. It also emphasized the importance of people-centred accountability bringing forward the voices and lived realities of women, children and adolescents through innovative programming and creative projects.

Partners' Forum has brought together 1,200 partners dedicated to the Every Woman Every Child (EWEC) movement and the achievement of the UN Secretary General's Global

Strategy for Women's, Children's and Adolescents' Health (Global Strategy).

Specific goals of the Partners' Forum include:

- ◆ Greater political momentum, sustaining attention to the "Survive-Thrive-Transform" agenda of the Global Strategy and its contribution to driving the Universal Health Coverage (UHC) and the 2030 Sustainable Development Goals (SDG). The voices of women, children and adolescents will be central to our messaging and framing.
- ◆ Knowledge exchange, through sharing of lessons learned and best practices to innovate and improve implementation strategies for results. The rigorously produced "Success Factors" case studies (selected from more than 300 partner-led proposals) will anchor this effort.
- ◆ Improved cross-sectoral collaboration through knowledge

exchange and joint advocacy strategies.

About Partners' Forum

- ◆ The Partnership was formed in September 2005, bringing together 80 members from three organizations, which included the Partnership for Safe Motherhood and Newborn Health, the Healthy Newborn Partnership and the Child Survival Partnership, with the mandate to strengthen alignment and consensus building to support the achievement of the Millennium Development Goals (MDGs), especially MDGs 4 and 5, calling for the reduction of under-five child mortality and maternal mortality.
- ◆ Now, PMNCH is an alliance of more than 1000 organizations in 192 countries from the sexual, reproductive, maternal, newborn, child and adolescent health communities, as well as health influencing sectors.

■



2. Political Resolve in Sri Lanka

A day after Mahinda Rajapaksa stepped down as Sri Lanka's prime minister and Ranil Wickremesinghe was sworn in as the new one. Wickremesinghe's reinstatement as prime minister is being seen as a possible end to the 51-day political uncertainty. As a close neighbour and true friend, India welcomes the resolution of the political situation in Sri Lanka. This is a reflection of the maturity demonstrated by all political forces

and also of the resilience of Sri Lankan democracy and its institutions. India remains committed to taking forward its people oriented development projects in Sri Lanka.

Background

Sri Lanka was thrown into a constitutional crisis on October 26 when President Sirisena surprisingly sacked Wickremesinghe. Sirisena then replaced him with Rajapaksa.

Wickremesinghe refused to step down saying his removal was illegal and that he has support of Parliament.

The Supreme Court ruled that President Maithripala Sirisena's decision to dissolve parliament ahead of its term was unconstitutional, in a setback for the embattled leader in his dispute with an ousted prime minister.

■

3. International Year of Millets

The Food and Agriculture Organisation (FAO) has approved India's proposal to observe an International Year of Millets in 2023. India has requested the inclusion of this proposal in the agenda of the 26th session of the Committee on Agriculture (COAG) meeting, scheduled during October 1-5, 2018 in Rome. In addition, the Council also approved India's membership to the Executive Board of the United Nations World Food Program (WFP) for 2020 and 2021.

Urgency to Drive Millets

Millets consist of Jowar, Bajra, Ragi and minor millets, together termed as nutri-cereals.

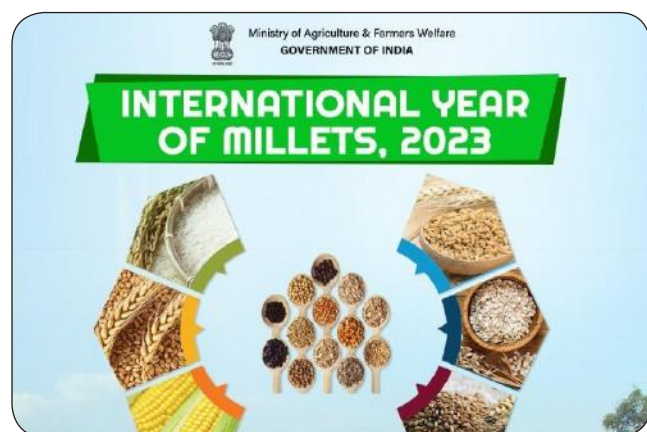
- ◆ Options to marginal farmers are very few and millets provide this in the drylands – 40% of the world's

land. The drylands are not the low hanging fruit and will take the longest to reach the SDGs, so need action now.

- ◆ Climate Change will see more extremes of droughts and higher temperatures. Millets will be more important as a solution for these farmers. Millets are basically the last crop standing in times of drought and withstand extreme high temperatures.
- ◆ Malnutrition and increasing non communicable diseases are critical and millets target some of the biggest needs directly, e.g.: anemia, calcium, zinc, folate and protein deficiency, and diabetes.
- ◆ Millets are highly nutritious, have a low carbon foot print and due to their resilience and survival with minimal water, are a good risk management strategy for the farmers. As a result millets tackle in unison some of the biggest global issues:
 - Poor diets and health.
 - Environment issues (e.g. climate change and water scarcity).

- Rural poverty.

- ◆ Millets were a traditional crop across much of Africa and Asia. It was also a staple. If millets are mainstreamed back as a staple they can have a major impact on the biggest global issues.
- ◆ Millets fit the current biggest global health food trends so important to capitalize on these now to drive the markets and R&D.
- ◆ The recent proposal will enhance global awareness to bring back these nutri-cereals to the plate, for food and nutrition security and for increasing production to face the challenges posed by climate change, globally.
- ◆ M.S. Swaminathan, popularly known as father of green revolution in India, had even suggested the Food and Agriculture Organisation (FAO) for declaring one year in the current decade as International Year of Millets and Under-utilised Crops. The FAO is specialised agency of the UN that leads international efforts to defeat hunger.



4. Nepal Banned Indian Currency of Higher Denominations

The Nepali government has banned the use of recently introduced Indian currency notes of Rs 2,000, Rs 500 and Rs 200 denominations in the country. The Nepali government has called on its people to refrain from keeping or carrying Indian bank notes higher than Rs 100. The ban is likely to impact Nepalese labourers working in India and Indian tourists visiting Nepal.

Background

In 2016, the Indian government had banned currency notes of Rs 500 and Rs 1,000 denominations as part of its demonetisation drive and printed new notes of Rs 500 and Rs 2,000. According to some estimates, a huge amount of banned Indian currency notes of Rs 500 and Rs 1,000 denominations are currently lying in Nepal.

Nepal and Bhutan have been pressing India to exchange currency worth millions of dollars they have in Indian bank notes that are no longer valid. The Indian government has stated that it is unlikely to accept demonetized Indian currency notes from Nepal and Bhutan.

5. World Health Day 2018 - Universal Health Coverage

International Universal Health Coverage Day (UHC Day) was observed on 12 December. It aimed to mobilize diverse stakeholders to call for stronger, more equitable health systems to achieve universal health coverage, leaving no one behind. It has become the annual rallying point for the growing global movement for Health for All.

The real idea behind the campaign is to ensure that each and every person regardless of their identity, their residence and their monetary status, should be able to access quality health service. Health services should be made available without suffering any kind of financial hardship. The aim is to achieve this vision of universal health coverage by 2030.

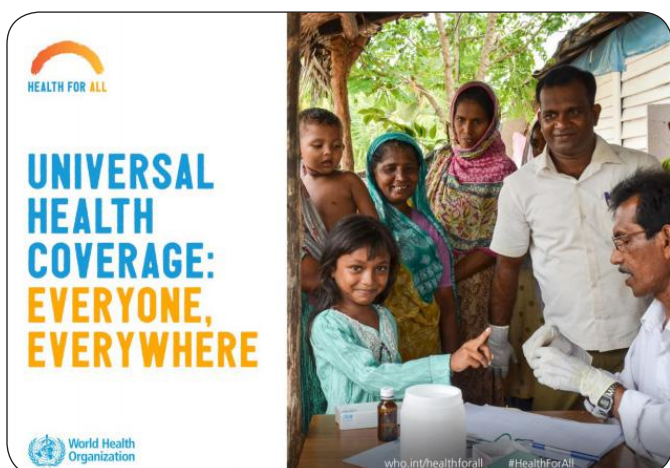
should go bankrupt when they get sick. All people should be able to get the health care they need without being pushed into poverty or giving up other life necessities to pay for it.

Good health transforms societies. When people are healthy, families, communities and economies can reach their full potential. 100+ low- & middle-income countries, home to three-quarters of the world's population, have taken steps toward universal health coverage.

'Health for All' is critical to the future we want by 2030. Achieving UHC will accelerate efforts to end extreme poverty, reduce burdens of infectious and noncommunicable diseases, promote economic growth and job creation, achieve gender equality and realize all of our Sustainable Development Goals. ■

Why Universal Health Coverage?

Health is a human right, not a privilege. Access to quality health services should never depend on your race, gender, age, ability, wealth or citizenship. Universal health coverage leaves no one behind. No one



6. Floating Nuclear Power Plant has Started Power Generation

Akademik Lomonosov, the world's first "floating" nuclear power plant (FNPP) for installation in remote areas, has been started and brought to 10 per cent of its capacity. Built by Russia's Rosatom State Atomic Energy Corporation Reactor of Unit-1 has successfully gone through the first stage of its power start-up, last week (December 10) in Murmansk of Russia.

Power start-up is a series of functional and safety tests to be conducted on Akademik Lomonosov's reactors, before connection to the grid. At the first stage the reactor was tested at 1-10% of its capacity and at the final stage it will be tested at 110%. During each stage, various operation modes are tested in order to ensure the safety of the power plant. Rosatom are also

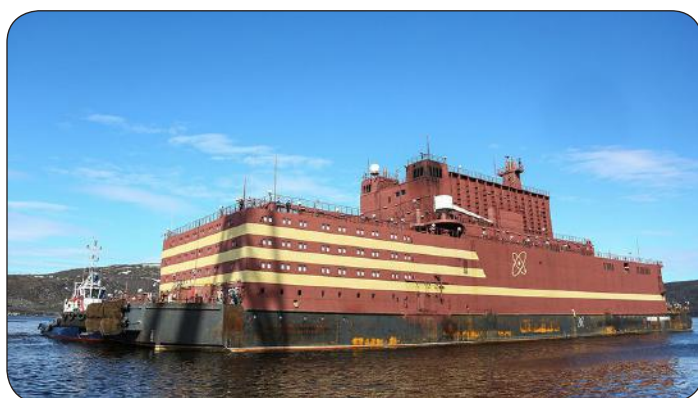
the equipment suppliers and consultants for the Kudankulam Nuclear Power Project in Tamil Nadu.

Background

A FNPP is basically a mobile, low-

capacity reactor unit, designed for operation in remote areas, isolated from the main power distribution system, or in places hard to access by surface. They are capable to maintain both uninterrupted power and desalinated water supply in remote areas. The Akademik Lomonosov has a total capacity of 70MW and is equipped with two reactors, each of 35MW. Its operational life span is 40 years, with the provision of extending up to 50 years.

Russia has already started working on second generation floating nuclear power plant, which will also have two reactors, but each with an increased capacity of 50 MW. In addition to having a greater power capacity, the plant will be smaller than its predecessors. ■



7. Climate talks Deliver 'Rule Book'

Nearly 200 countries, assembled in the city of Katowice in Poland agreed upon, and adopted, a rulebook to implement Paris Agreement, the landmark 2015 global pact to fight climate change.

The agreement over the 133-page rulebook received a mixed response from governments and observers. While welcoming the finalisation of the rulebook, India and many other developing countries rued the fact that the "balance" that they would have liked to see in the agreement was missing.

The rulebook contains the procedures, guidelines and institutional mechanisms through which the provisions of the Paris Agreement can be implemented.

Background

The Paris Agreement, which will start getting implemented from 2020, replacing the existing Kyoto Protocol, seeks to keep the rise in global average temperatures to well below 2 degree Celsius from pre-industrial levels.

Most nations wanted the findings of the Intergovernmental Panel on Climate Change (IPCC) to form a key part of future planning. It had highlighted the need to slash carbon

pollution by nearly half before 2030 in order to hit the 1.5°C target. But the U.S., Saudi Arabia, Russia and Kuwait objected, leading to watered-down wording.

Convention on Climate Change

COP24 is the informal name for the 24th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC is a "Rio Convention", one of three adopted at the "Rio Earth Summit" in 1992. The UNFCCC entered into force on 21 March 1994. Today, it has near-universal membership. The countries that have ratified the Convention are called Parties to the Convention. Preventing "dangerous" human interference with the climate system is the ultimate aim of the UNFCCC.

The Conference of the Parties (COP) is the supreme body of the UNFCCC Convention. It consists of the representatives of the Parties to the Convention. It holds its sessions every year. The COP takes decisions which are necessary to ensure the effective implementation of the provisions of the Convention and regularly reviews the implementation of these provisions.

Major Concern of Developing Countries

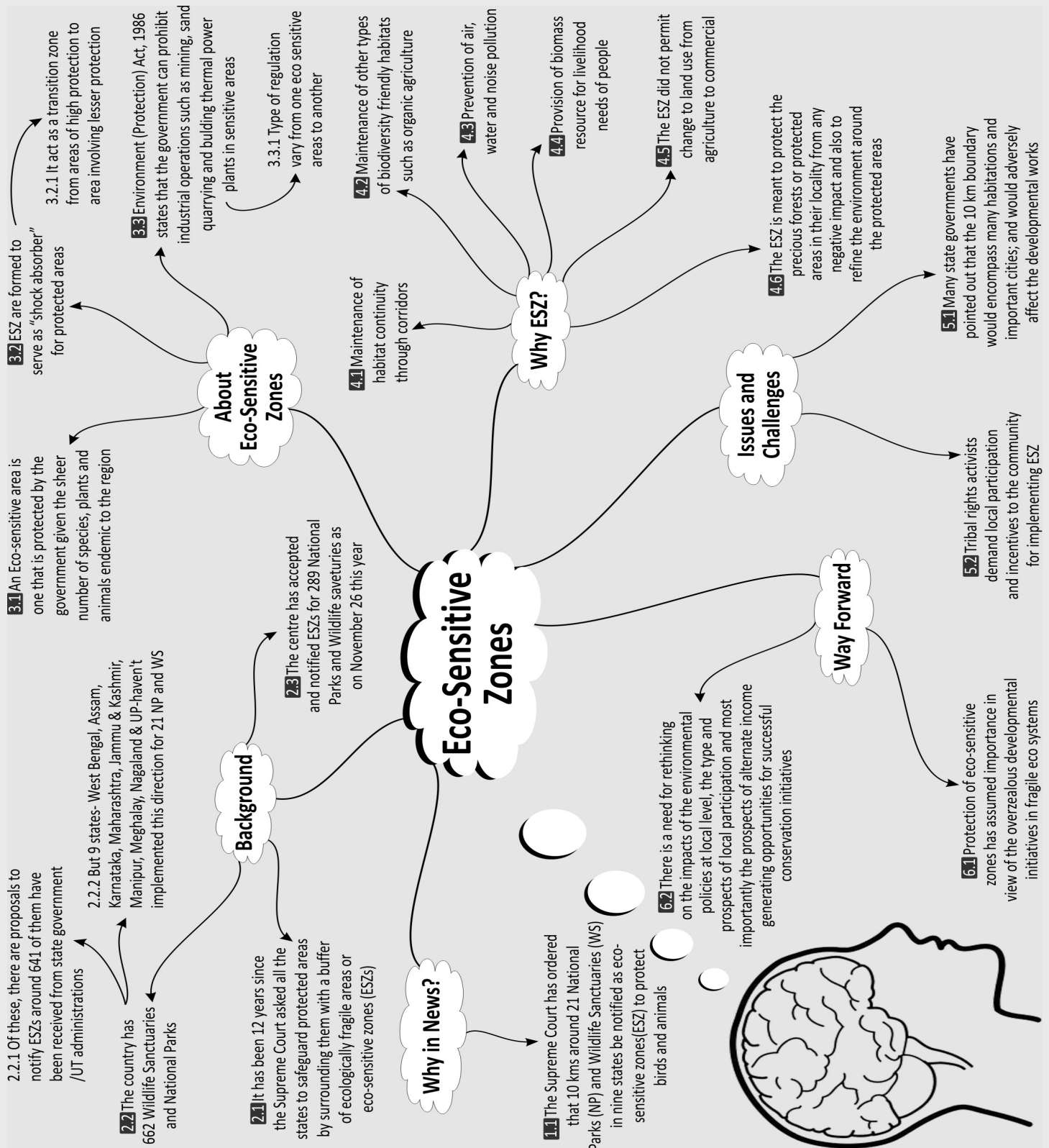
India wishes to express its strong reservation regarding the treatment of equity in the Global Stocktake (GST) decision. Equity is specifically mentioned in Article 14 of the Paris Agreement. It demands that the vulnerabilities, problems and challenges of the poor and marginalised be prioritised to ensure climate justice. India reiterated Paris commitment to the principle of common but differentiated responsibility and respective capabilities in the light of different circumstances to ensure climate justice to the poor and vulnerable people across the globe.

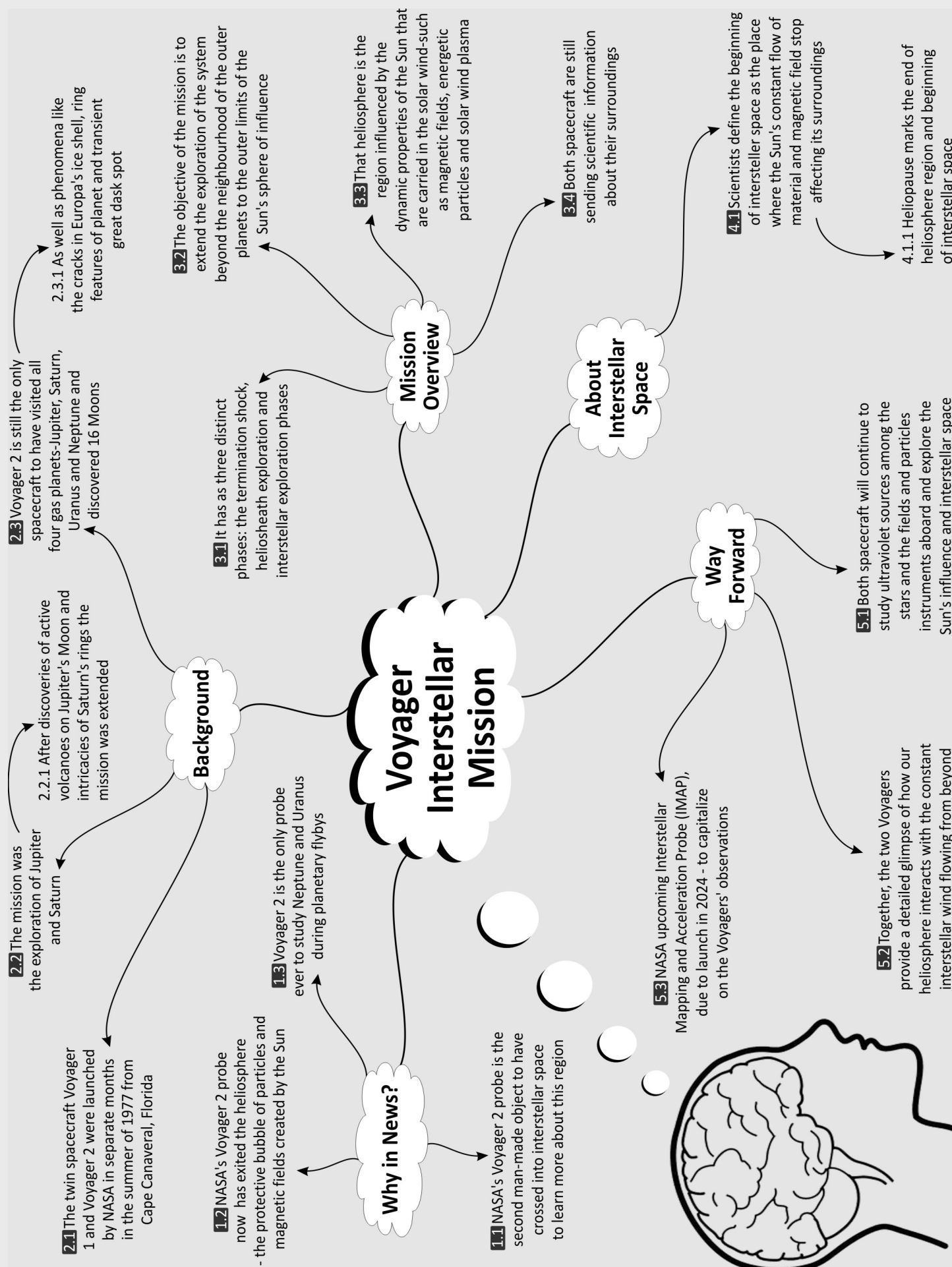
Brazil wanted a provision that would have allowed its unused carbon credits, earned in the existing carbon market mechanism under the Kyoto Protocol, to be transitioned to the new one being created under the Paris Agreement.

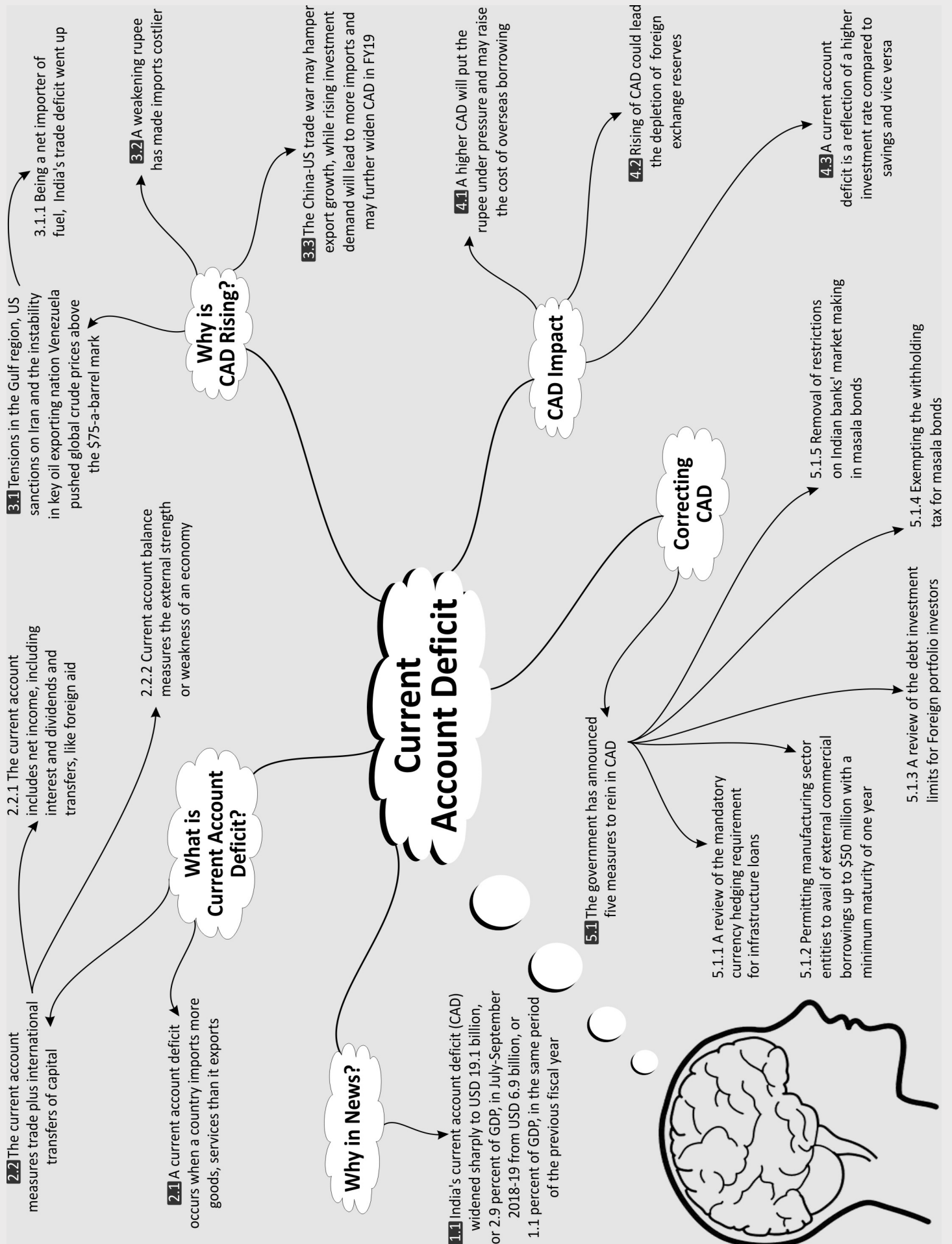
Developing nations had wanted more clarity from richer ones over how the future climate fight will be funded and pushed for so-called "loss and damage" measures.

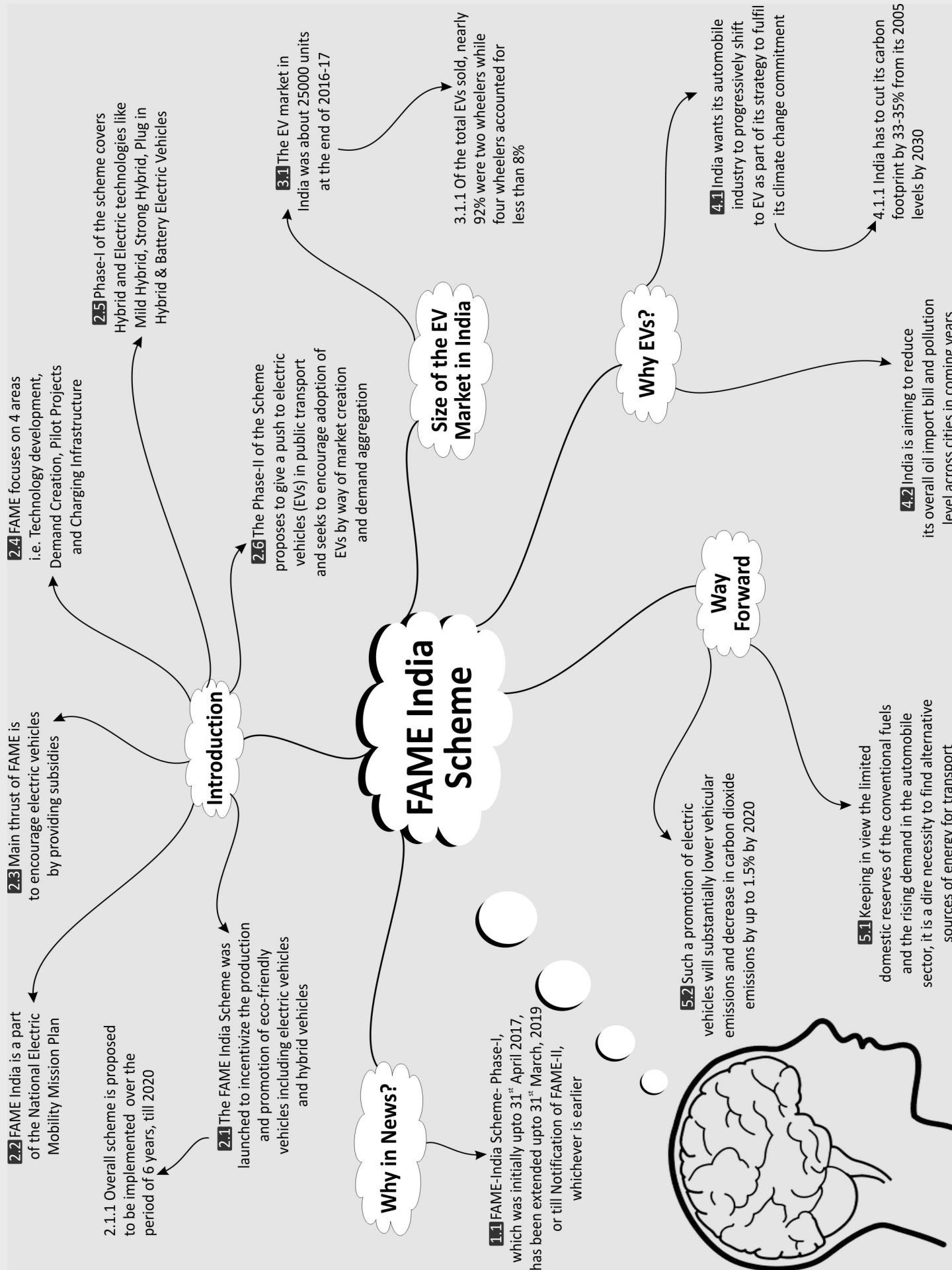
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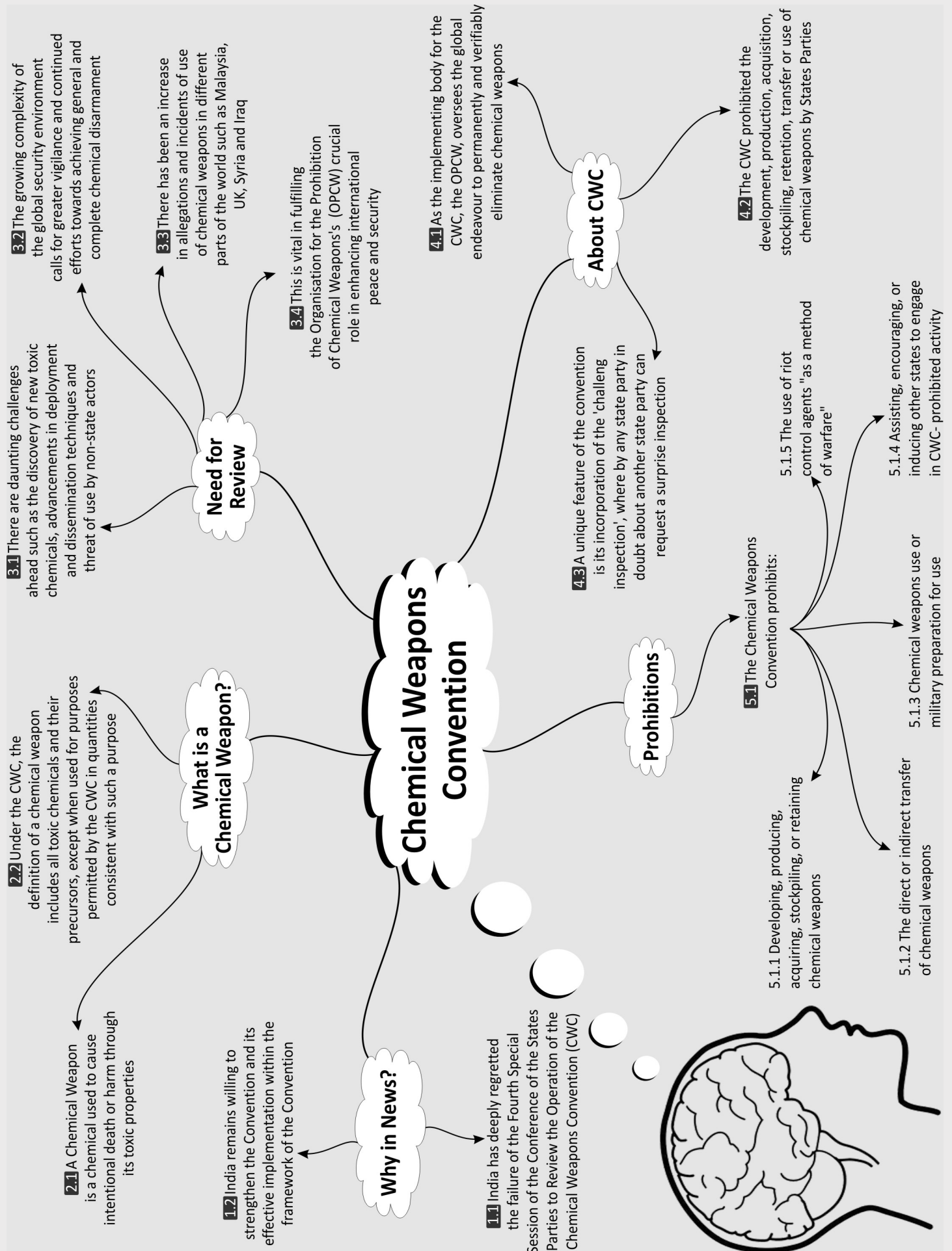
SEVEN BRAIN BOOSTERS

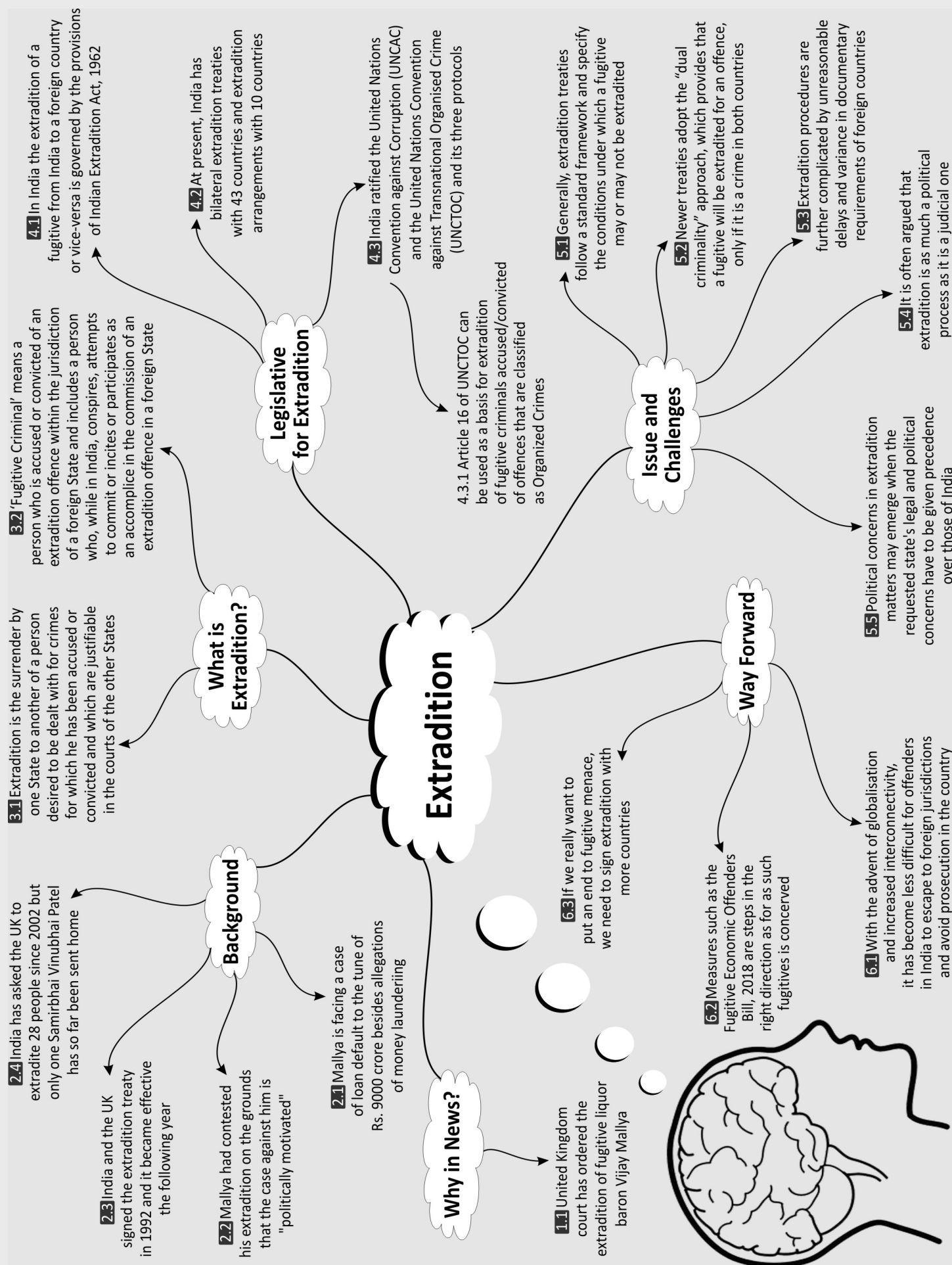


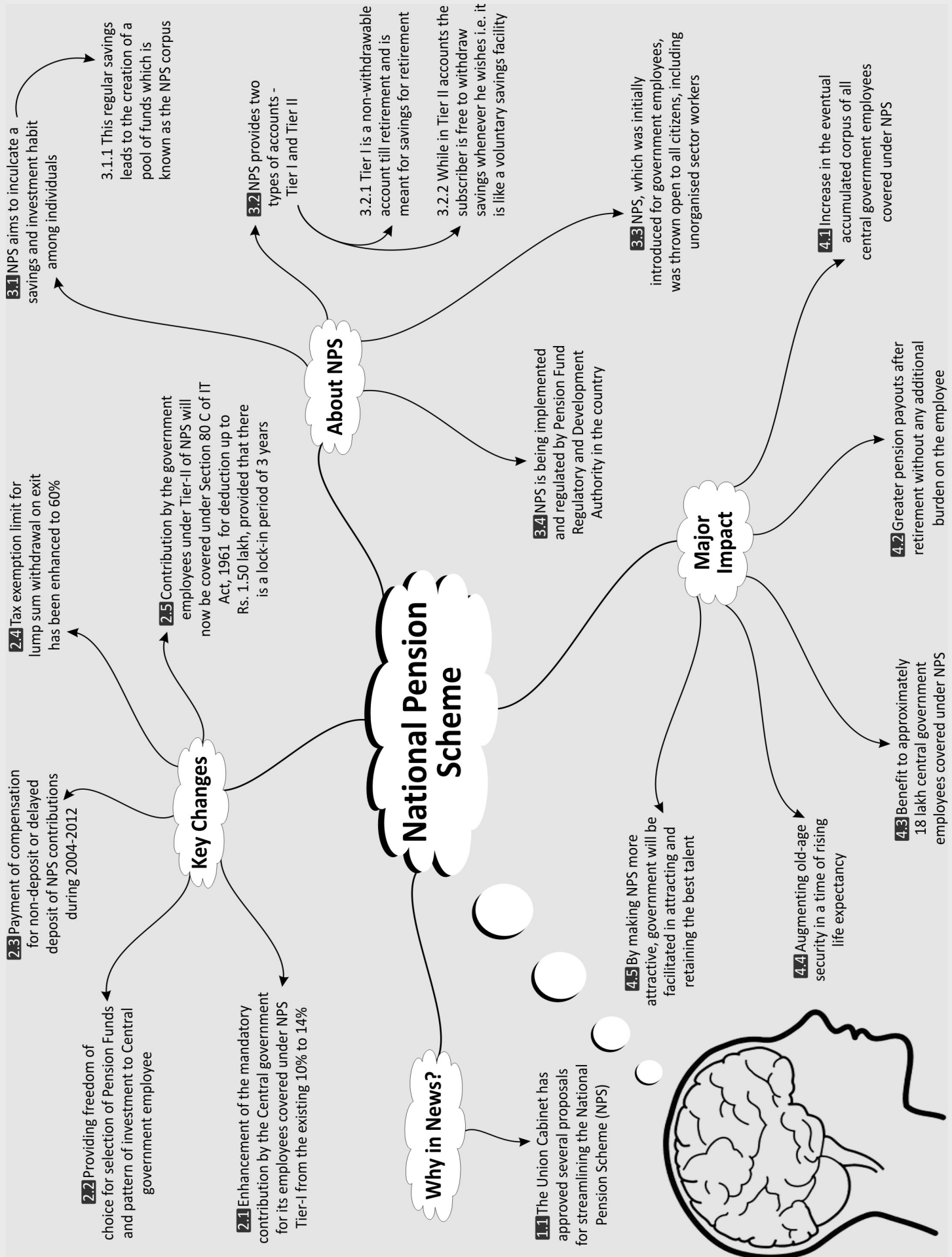












SEVEN MCQ's WITH EXPLANATORY ANSWERS (Based on Brain Boosters)

Eco-Sensitive Zones

Q1. Consider the following statements in respect Eco-sensitive zones (ESZ):

1. Under Environment (Protection) Act, 1986, government can prohibit industrial operations such as mining, sand quarrying, and building thermal power plants in sensitive areas.
2. Types of regulation vary from one eco-sensitive areas to another.
3. ESZ acts as a transition zone from areas of high protection to area involving lesser protection.
4. ESZ are formed to serve as "shock absorber" for protected areas, to minimise negative impact on the fragile ecosystem around.

Which of the statements given above is/are correct?

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

Answer: (d)

Explanation: All the statements are correct. Eco-sensitive zones are delineated to regulate specific activities on site specific basis. The Environment (protection) Rules, 1986 states that the Central Government can prohibit and restrict the location of industries and carrying on certain operations or processes on the basis of considerations like biological diversity of an area, maximum allowable limits of concentration of pollutants in an area, environmentally compatible land use and proximity to protected areas.

The purpose of declaring eco-sensitive zones around protected areas is for creating some kind of 'Shock Absorber' to the protected area. They would also act as a transition zone from areas of high protection to areas involving lesser protection. The width of eco-sensitive zone and type of regulation vary from one area to another.

Voyager Interstellar Mission

Q2. Consider the following statements:

1. The heliosphere is the vast, bubble-like region of space which surrounds and is created by the Sun.

2. Interstellar medium is the matter and radiation that exists in the space between the star systems in a galaxy.

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. Scientists define the beginning of interstellar space as the place where the sun's constant flow of material and magnetic field stop affecting its surroundings. This place is called the heliopause. It marks the end of a region created by our sun that is called the heliosphere.

The interstellar medium (ISM) is the matter and radiation that exists in the space between the star systems in a galaxy. This matter includes gas in ionic, atomic and molecular form, as well as dust and cosmic rays.

Current Account Deficit

Q3. Consider the following statements in respect of Current Account Deficit:

1. A current account deficit is when a country export more goods, services than it imports.
2. The current account includes net income, including interest and dividends and transfers, like foreign aid.
3. Current account balance measures the external strength or weakness of an economy.

Which of the statements given above is/are correct?

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

Answer: (d)

Explanation: Statement 1 is not correct. A current account deficit is when a country imports more goods and services than it exports. The current account measures trade plus transfers of capital.

Statement 2 and 3 are correct. The current account includes net income, such as interest and dividends, and transfers, such as foreign aid, although these components make up only a small percentage of the

total current account. The current account represents a country's foreign transactions and, like the capital account, is a component of a country's balance of payments.

FAME India Scheme

Q4. Consider the following statements in respect of 'FAME India' Scheme:

1. FAME India is a part of the National Electric Mobility Mission Plan.
2. Main objective of FAME is to encourage electric vehicles by providing subsidies.

Which of the statements given above is/are correct?

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

Answer: (d)

Explanation: Both statements are correct. FAME India is a part of the National Electric Mobility Mission Plan. Main thrust of FAME is to encourage electric vehicles by providing subsidies. The focus is for establishing the electric charging infrastructure and a policy framework to set realise more than 30% electric vehicles by 2030.

Chemical Weapons Convention

Q5. Consider the following statements in respect of Chemical Weapons Convention:

1. The CWC prohibited the development, production, acquisition, stockpiling, retention, transfer or use of chemical weapons by States Parties.
2. Organization for the Prohibition of Chemical Weapons is the implementing body for the Chemical Weapons Convention.

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. Organization for the Prohibition of Chemical Weapons is the implementing body for the Chemical Weapons Convention, with its 193 Member, oversees the global endeavour to permanently and verifiably eliminate chemical weapons. The CWC prohibited the development, production, acquisition, stockpiling, retention, transfer or use of chemical weapons by States Parties.

Extradition

Q6. Consider the following statements:

1. In India the extradition of a fugitive from India to a foreign country or vice-versa is governed by the provisions of Indian Extradition Act, 1962.
2. At present, India has bilateral extradition treaties with 50 countries and extradition arrangements with 20 countries

Which of the statements given above is/are correct?

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

Answer: (a)

Explanation: Statement 1 is correct. The Extradition Act, 1962 provides India's legislative basis for extradition. The Act consolidated the law relating to the extradition of fugitive criminals from India to foreign states.

Statement 2 is not correct: The government of India has entered into bilateral extradition treaties with 43 countries to bring speed and efficiency to the process of extradition. Besides, India has entered into.

National Pension Scheme

Q7. Consider the following statements in respect of 'National Pension Scheme':

1. Under the new changes, tax exemption limit for lump Sum Withdrawal exit has been enhanced to 60%.
2. NPS is being implemented and regulated by Pension Fund Regulatory and Development Authority.

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 recently approved a host of changes in National Pension Scheme. The Cabinet approved a proposal to make NPS fully tax-free on withdrawal. Subscribers will get full tax exemption on the 60% of the corpus that an investor is allowed to withdraw on maturity. along with this change, the government's contribution towards the pension scheme has been increased from the existing 10% to 14%. The employee's contribution remains unchanged at 10%.

NPS is being implemented and regulated by Pension Fund Regulatory and Development Authority in the country.



SEVEN IMPORTANT FACTS FOR PRELIMS

1. Who won 67th Miss Universe title for the year 2018?

–Miss Philippines Catriona Gray

2. Which state has become the first one to criminalize ‘sextortion’ of women?

–Jammu and Kashmir

3. Which player has won maiden BWF World Tour Finals Title for India?

–PV Sindhu

4. Who becomes the first english writer to win 54th Jnanpith Award?

–Amitav Ghosh

5. Who assumed charge as 25th Governor of the Reserve Bank of India (RBI)?

–Shaktikanta Das

6. What is the India’s rank in the 2019 Climate Change Performance Index?

–11th (last year 14th)

7. Which Indian sportswoman has been honoured with the ‘Meethoileima’ title by Manipur government?

–Mary Kom



SEVEN IMPORTANT DIGITAL INITIATIVES

1. SUGAMAYA PUSTAKALAYA

- ♦ “Sugamaya Pustakalaya” is an online library that makes accessible content available to print-disabled people. The library houses publications across diverse subjects and languages and multiple accessible formats. It has been created by Department of Empowerment of Persons with Disabilities (Divyangjan), Ministry of Social Justice and Empowerment in collaboration with member organizations of Daisy Forum of India (DFI) and powered by TCS Access. Books are available in accessible formats for people with visual impairment and other print disabilities. Over 2 lakhs books in diverse languages. Integrating libraries across India and the Globe, including the largest international library, ‘Bookshare’.
- ♦ Universities, school library, public libraries or any such institution can become a member of DFI or subscribe to the online library to offer the entire collection of the Sugamaya Pustakalaya to their members or students with print disabilities. Educational institutions can also contribute accessible format books produced for their students so that students from other educational institutions can access the same and avoid duplications of creation at multiple locations.

2. SWAYAM

- ♦ SWAYAM (Study Webs of Active–Learning for Young Aspiring Minds) is a programme initiated by government of India and designed to achieve the three cardinal principles of education policy viz., access, equity and quality. The objective of this effort is to take

the best teaching learning resources to all, including the most disadvantaged. SWAYAM seeks to bridge the digital divide for students who have hitherto remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy. This is done through an indigenous developed IT platform that facilitates hosting of all the courses taught in classrooms to be accessed by anyone, anywhere at any time. All the courses are interactive, prepared by the best teachers in the country and are available, free of cost to the residents in India.

- ♦ SWAYAM platform is indigenously developed by Ministry of Human Resource Development (MHRD) and All India Council for Technical Education (AICTE) with the help of Microsoft and would be ultimately capable of hosting 2000 courses and 80000 hours of learning: covering school, under-graduate, post-graduate, engineering, law and other professional courses. Categories of courses include - Engineering, Science, Humanities, Management, Language, Mathematics, Arts and Recreation, Commerce, General, Library and Education.

3. NIKSHAY

- ♦ To keep a track of the TB patients across the country, the government of India has introduced a system called NIKSHAY. The word is combination of two Hindi words 'NI' and 'KSHAY' meaning eradication of tuberculosis. NIKSHAY is a web enabled application, which facilitates monitoring of universal access to TB patients data by all concerned. The system

has been developed jointly by the Central TB Division of the Ministry of Health and Family Welfare and National Informatics Centre (NIC). NIKSHAY has two broad objectives. One is to create database of all TB patients including Multi-Drug Resistant cases across the country and to use this database for monitoring and research purposes at all levels so that TB can be eradicated from India in an effective manner.

- ◆ The innovative IT application of NIKSHAY makes it possible for the grassroot level healthcare providers to track every TB patient. The most significant feature of NIKSHAY is that it promotes using IT by Tuberculosis Unit (TU) level. In this way, it also contributes to reduction of the digital divide.

4. KHOYA PAYA

- ◆ Union government has launched KhoyaPaya web platform for people to directly report, track and upload information on missing children.
- ◆ KhoyaPaya is joint initiative of the Union Ministry of Women and Child Development (WCD) and the Department of Electronics and Information Technology (DeitY). The first-of-its-kind web portal will serve as a platform for people to not only report a missing child but also track the efforts towards his or her recovery. Khoya Paya website has three sections:
 - My child is missing- where citizens can report missing children.
 - I have sighted a child- where citizens can report sightings and whereabouts of missing children without wasting much time.
 - Search a missing child and the found children can also be reported on it.
- ◆ The reporting to the KhoyaPaya site can be done through text, photographs, videos and

other means of transmitting and uploading information.

5. CROP INSURANCE MOBILE APP

- ◆ Ministry of Agriculture & Farmers Welfare has launched mobile app "Crop Insurance" which will help the farmers not only to find out complete details about insurance cover available in their area but also to calculate the insurance premium for notified crops, coverage amount and loan amount in case of a loaned farmer.
- ◆ Government of India spends huge amounts in extending crop insurance to the farmers so as to provide them relief in case of unforeseen eventualities. Crop insurance is extended by both public and private insurance companies. States/UTs nominate insurance companies to extend insurance cover for different crops in districts/blocks. There is also a specific period during which farmers can avail this facility. Due to administrative and technical reasons much of this information is not able to reach to the farmers well in time to take advantage of these schemes.
- ◆ This Crop Insurance mobile app can be used to find out complete details about cover available but also to calculate the insurance premium for notified crops based on area, coverage amount and loan amount in case of a loanee farmer. It can also be used to get details of normal sum insured, extended sum insured, premium details and subsidy information of any notified crop in any notified area. There is also a provision that if any State desire to convert these mobile applications in their local language, they can easily do so by simply providing the names of few keywords in their language.

6. E-SAMPARK

- ◆ e-Sampark is a mechanism to connect the government directly with citizens across

India by running mailer, outbound dialing and SMS campaigns. The platform is used for sharing informational and public service messages. The concept of e-Sampark has been introduced to establish proactive communication by digitization of campaigns. The multi-faceted platform facilitates not only seamless communication between the government and citizens, but also maintains a database of contacts of the nodal officers, representatives and citizens. In addition, users can also view the previous campaigns conducted.

- ◆ For the citizens e-Sampark is a platform to establish transparency in governance by informing citizens about campaigns and policies formulated by the government. It aims to increase awareness among the citizens by sharing issues of national importance/public interest and government policies. For the government of India it provides a detailed online dashboard for the Ministries showing the analytics of their e-mailers. The e-Sampark database can be used by all Ministries to reach out to specific customised groups using mailers, outbound dialing and SMSes.
- ◆ e-Sampark platform is designed, developed and hosted by National Informatics Centre and Ministry of Electronics & Information Technology.

7. Crime and Criminal tracking network and system (CCTNS)

- ◆ The Crime and Criminal Tracking Networks and Systems, abbreviated to CCTNS, is a project under Indian government for creating a comprehensive and integrated system for effective policing through e-Governance. The system includes nationwide online tracking system by integrating more than 14,000 police stations across the country. The project is implemented by National Crime Records Bureau.
- ◆ CCTNS aims to integrate all the data and records of crime into a Core Application Software (CAS), which is presently spreading across 29 states and 7 union territories of India. It needs to integrate different software and platforms followed by different states and to digitise records of those states which have not digitised their police records. The project also involves training of police personnel and setting up of citizen portal to provide services to citizens.
- ◆ The Cabinet Committee on Economic Affairs (CCEA) also decided to implement interoperable Criminal Justice System (ICJS). It will be done through integrating CCTNS with e-Courts, e-prisons, forensics and prosecution, which are the key components of the Criminal Justice System.

SEVEN PRACTICE QUESTIONS FOR MAIN EXAM

Answer each of the following questions in 200 words:

- Q1. China is shifting its territorial status quo in its favour without facing any international pushback and it exposes the vulnerability of the current liberal world order. Discuss it in the context of reshaping of international relations.
- Q2. Indian cities are already beginning to run out of land on which to dump their waste and have begun throwing it in the backyards of smaller towns, suburbs and villages. Thus, garbage may soon become a flashpoint that sets off recurrent conflict across the urban landscape. Discuss why Indians should start demanding clean and healthy cities as a basic right and governments must step up and deliver that basic human need.
- Q3. The Lok Sabha has passed the 'The Transgender Persons (Protection of Rights) Bill, 2016 to give transgender persons equal rights and protection under law. Critically examine the provisions of the bill.
- Q4. Gig economy has created newer, much-needed avenues of employment in a young and growing country. What do you understand by gig economy? What is the status of employee in gig economy? Discuss why there is a need to balance employment opportunities with basic rights.
- Q5. After years of mismanaged politics J&K have plunged into its worst ever cycle of violence and confusion. Kashmir today is not merely volatile, but is drifting inexorably into anarchy. Comment.
- Q6. The moral foundation of judicial killing has been questioned and it has been judged untenable in many countries. Recently, Supreme Court upholds constitutional validity of death penalty. Critically analyze the constitutional validity of death penalty in the modern times.
- Q7. In the age of artificial intelligence (AI) and social media, India needs digital ambassadors to engage with governments and tech companies. Discuss it in the context of new era of technology.



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UPPCS Mains Test Series 2018



**02
Dec.**

Test-1 - (12:00Noon-3:00pm)

Modern India, India After Independence,
World History, History of Uttar Pradesh

**09
Dec.**

Test-2 - (12:00Noon-3:00pm)

Social Issues, Art & Culture ,
Uttar Pradesh (Social Issues, Art & Culture)

**16
Dec.**

Test-3 - (12:00Noon-3:00pm)

World Geography, Indian Geography,
Geography of Uttar Pradesh

**23
Dec.**

Test-4 - (12:00Noon-3:00pm)

Indian Polity, Constitution,
In special reference of Uttar Pradesh

**30
Dec.**

Test-5 - (12:00Noon-3:00pm)

Governance and Public Policy,
International Relation
In Special Reference of Uttar Pradesh

**06
Jan.**

Test-6 - (12:00Noon-3:00pm)

Indian Economy, Internal Security
in Special Reference of Uttar Pradesh

**13
Jan.**

Test-7 - (12:00Noon-3:00pm)

Science & Tech., Disaster Management,
Ecology & Environment

**20
Jan.**

Test-8 - (12:00Noon-3:00pm)

Ethics (Paper-I)
Ethics and Human Interface, Attitude,
E.I. and Thinkers with Case Study

**27
Jan.**

Test-9 - (12:00Noon-3:00pm)

Ethics (Paper-II)
Aptitude and Value of Civil Services, Ethics
in P.A., Probity in Govt. with Case Study

**03
Feb.**

Test-10 - (12:00Noon-3:00pm)

General Studies (Paper-I) Full Test

Test-11 - (3:30pm-6:30pm)

Hindi Full Test

**10
Feb.**

Test-12 - (12:00Noon-3:00pm)

General Studies (Paper-II) Full Test

Test-13 - (3:30pm-6:30pm)

Essay

**17
Feb.**

Test-14 - (12:00Noon-3:00pm)

General Studies (Paper-III) Full Test

Test-15 - (3:30pm-6:30pm)

Hindi Full Test

**24
Feb.**

Test-16 - (12:00Noon-3:00pm)

General Studies (Paper-IV) Full Test

Test-17 - (3:30pm-6:30pm)

Essay

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