

PERFECT 7

Weekly Current Affairs

An Initiative of Dhyeya IAS



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An Understanding

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DHYEYA IAS : AN INTRODUCTION



Vinay Kumar Singh
Founder & CEO

The guiding philosophy of the institute, throughout, has been creation of knowledge base. Dhyeya IAS inculcates human values and professional ethics in the students, which help them make decisions and create path that are good not only for them, but also for the society, for the nation, and for the world as whole. To fulfill its mission in new and powerful ways, each student is motivated to strive towards achieving excellence in every endeavor. It is done by making continuous improvements in curricula and pedagogical tools. The rigorous syllabi not only instills in them, a passion for knowledge but also attempts to teach them how to apply that knowledge in real-life situations. The programmes lay emphasis on well-rounded personality development of the students and also in inculcating the values of honesty and integrity in them.



Q.H. Khan
Managing Director

Dhyeya IAS is an institution that aims at the complete development of the student. Our faculty are hand-picked and highly qualified to ensure that the students are given every possible support in all their academic endeavors. It is a multi-disciplinary institution which ensures that the students have ready access to a wide range of academic material. Our brand of education has broad horizons as we believe in exposure. Our students are encouraged to widen their knowledge base and study beyond the confinements of the syllabus. We aim to lend a gentle guiding hand to make our students recognize their inner potential and grow on their own accord into stalwarts of tomorrow's society.

PERFECT 7 : AN INTRODUCTION



Kurban Ali
Chief Editor

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

Please do visit our website www.dhyeyaias.com and our youtube channel for regular and updated information on current affairs.



Ashutosh Singh
Managing Editor

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

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

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

Your suggestions and popular demands always motivate us and keep our morale high.

May this version of 'Perfect 7' instill a new energy and a new spirit in you. We wish that the bond of affection between you and Dhyeya IAS reaches at a new height.



Send us your suggestions, comment, views and feedback for guiding us on

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PREFACE



Dhyeya family has decided to bring a new colourful and vibrant version of '**Perfect 7**' – a panacea for current affairs, which will add positive and dynamic energy in your preparation.

'**Perfect7**' is an outstanding compilation of current affairs topics as per the new pattern of Civil Services Examination (CSE). It presents weekly analysis of information and issues (national and international) in the form of Articles, News Analysis, Brain Boosters, PIB Highlights and Graphical Information, which helps to understand and retain the information comprehensively. Hence, '**Perfect 7**' will build in-depth understanding of various issues in different facets.

'**Perfect7**' is our genuine effort to provide correct, concise and concrete information, which helps students to crack the CSE. This magazine is the result of the efforts of the eminent scholars and the experts from different fields. '**Perfect 7**' is surely a force multiplier in your effort and plugs the loopholes in the preparation.

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

Omveer Singh Chaudhary

Editor
Dhyeya IAS

As a proud jewel of Dhyeya IAS, '**Perfect 7**' now comes in a new coloured avatar. '**Perfect 7**' is a quintessential part of your preparation strategy for Civil Services Examination. A regular and manageable dose of current affairs will now reach you in new format, making it more reader friendly. Our humble attempt to serve you is surely rewarded by your appreciations. It encourages us to innovate and provide the best as per our ability.

A dedicated team of experts at Dhyeya IAS toils night and day to make your dream of Civil Services come true. I heartily thank and express my gratitude to the esteemed readers and all the people involved in making this magazine a shining star in the galaxy of Dhyeya IAS.

Rajat Jhingan

Editor
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7 IMPORTANT ISSUES

01

Global Hunger Index 2020 : An Understanding

Why in News?

- ◆ The latest edition of Global Hunger Index (GHI) has been released by Concern Worldwide and Welthungerhilfe.

About Index

- ◆ The GHI is a tool for comprehensively measuring and tracking hunger at global, regional, and national levels.
- ◆ GHI scores are based on the values of four component indicators:
 - ◆ undernourishment (share of the population with insufficient caloric intake);
 - ◆ child wasting (share of children under age five who have low weight for their height, reflecting acute under nutrition);
 - ◆ child stunting (share of children under age five who have low height for their age, reflecting chronic under nutrition); and
 - ◆ Child mortality (mortality rate of children under age five, partly reflecting the fatal mix of inadequate nutrition and unhealthy environments).
- ◆ Based on the values of the four indicators, the GHI determines hunger on a 100-point scale where

0 is the best possible score (no hunger) and 100 is the worst. Each country's GHI score is classified by severity, from low to extremely alarming.

- ◆ GHI scores are comparable only within each year's report, not between different years' reports.
- ◆ High-income countries and those with very low populations were excluded from evaluation.

Global Scenario – In General

- ◆ Nearly 690 million people are undernourished; 144 million children suffer from stunting, a sign of chronic undernutrition; 47 million children suffer from wasting, a sign of acute undernutrition; and in 2018, 5.3 million children died before their fifth birthdays, in many cases as a result of undernutrition.
- ◆ Worldwide hunger is at a moderate level, according to the 2020 GHI. Underlying this average are major challenges in particular regions, countries, and communities.
- ◆ Africa South of the Sahara and South Asia have the highest hunger and undernutrition levels among world regions, with 2020 GHI scores

of 27.8 and 26.0, respectively—both considered serious.

- ◆ According to 2020 GHI scores, 3 countries have alarming levels of hunger - Chad, Timor-Leste, and Madagascar.
- ◆ Hunger is also considered to be alarming in 8 countries - Burundi, Central African Republic, Comoros, Democratic Republic of the Congo, Somalia, South Sudan, Syria, and Yemen - based on provisional categorizations.
- ◆ The world is not on track to achieve the second Sustainable Development Goal - known as Zero Hunger for short - by 2030. At the current pace, approximately 37 countries will fail even to reach low hunger, as defined by the GHI Severity Scale, by 2030.
- ◆ Additional countries for which data were insufficient to calculate 2030 projections may also fall short of this goal. Furthermore, these projections do not account for the impacts of the COVID-19 pandemic, which may worsen hunger and undernutrition in the near term and affect countries' trajectories into the future.

India's Report Card

- ◆ In the index, India features behind Nepal (73), Pakistan (88), Bangladesh (75), Indonesia (70) among others. Out of the total 107 countries, only 13 countries fare worse than India including countries like Rwanda (97), Nigeria (98), Afghanistan (99), Liberia (102), Mozambique (103), Chad (107) among others.
- ◆ Seventeen nations, including China, Belarus, Ukraine, Turkey, Cuba and Kuwait, shared the top rank with GHI scores of less than five. The under-five mortality rate stood at 3.7 per cent.
- ◆ India's poor score comes almost entirely from the child stunting and wasting parameters. Almost 35% of Indian children are stunted, and although this is much better than the 54.2% rate of 2000, it is still among the world's worst.
- ◆ Also, 17.3% of Indian children under five are wasted, which is the highest prevalence of child wasting in the world. There is no change from two decades ago, when it was 17.1%. In fact, the situation improved to 15% in the 2010-14 data period, but worsened again by 2015-19.

India Hungry with Surplus Food

- ◆ At the time of the release of GHI 2019 report, the country had a food stock of more than 68 million tonnes (excluding un-milled paddy) in the central pool stored at different warehouses of Food Corporation of India.
- ◆ Till September 2020, the food stock went up to 70 million tonnes

(excluding un-milled paddy), which is enough to ensure that no one went hungry.

- ◆ The National Food Security Act, 2013 is in place to ensure food security for the most vulnerable communities. Ration distribution through fair price shops, mid-day meal programmes at schools, nutrition and maternity benefit programmes for children and pregnant mothers at anganwadis fall within the Act.
- ◆ Possible Reasons
 - ◆ The agriculture output from small and marginal holdings are either stagnant or declining due to reasons such as reduced soil fertility, fragmented lands or fluctuating market price of farm produce.
 - ◆ Relative income of one section of people has been on the decline. This has adverse effects on their capacity to buy adequate food, especially when food prices have been on the rise.
 - ◆ Third, the kinds of work a section of people have been doing are less remunerative or there is less opportunity to get remunerative works.
 - ◆ Public distribution system (PDS) of the state is not functioning well or is not accessible to everyone.

Policy Recommendations

- ◆ Make food systems work better for people and the planet
 - ◆ To support smallholder farmers in becoming sustainable and diversified producers, governments, donors, the private sector, and NGOs

must seek to improve those farmers' access to agricultural inputs and extension services, coupling local and indigenous agricultural knowledge with new technologies.

- ◆ Local and regional food markets should be strengthened, especially through support for farmers to organize themselves, fair farm-gate prices, and better links between rural and urban areas.
- ◆ Food should be priced not only by its weight or volume but also by its nutrient density, its freedom from contamination, and its contribution to ecosystem services and social justice. To achieve this, governments and stakeholders should educate the public about the importance of these attributes and require appropriate labeling. To curb the spread of agricultural pests and diseases, governments must promote sound biosecurity practices throughout value chains.
- ◆ All countries must promote, develop, and implement circular food economies—that is, economies that recycle resources and materials, regenerate natural systems, and eliminate waste and pollution.
- ◆ Improve how food systems are governed
 - ◆ Governments must hold food system actors legally accountable for respecting human rights and protecting the environment throughout their value chains as outlined in the UN Guiding Principles on Business and Human Rights.

- ◆ Governments and investors must adopt integrated land-use planning and ensure security of land tenure, especially for marginalized groups, in line with the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security.
- ◆ Governments must strengthen and incentivize local and participatory governance that incorporates marginalized groups, including peasants, indigenous groups, youth, and women.
- ◆ Expand social investments for resilience
 - ◆ Governments must build up social protection systems, including universal health coverage and social security, and provide job training, especially for rural youth and the urban poor. They should expand access to maternal and child health care, as well as education on healthy diets and child feeding practices.
 - ◆ Governments should prepare and implement holistic plans to ensure accessible local and national water, sanitation, and hygiene (WASH) systems, which are crucial to people's health.
 - ◆ Governments, donors, and NGOs must work with organizations trusted and monitored by communities to ensure social protection programs function optimally and fairly and promote gender equity and social cohesion.
- ◆ Make emergency and long-term development interventions more equitable and sustainable
- ◆ Governments, donors, private actors, and NGOs should carefully prepare and coordinate their responses to overlapping food and health crises and work with community organizations to make sure interventions are culturally acceptable, reach the most vulnerable, and preserve local ecosystems.
- ◆ Governments must treat the production and supply of food as essential services and guarantee safe working environments in those sectors. They must ensure equitable access to emergency assistance for both human and animal diseases, including new technologies such as medical supplies.
- ◆ To support local food supply chains, donors must continue to untie food aid from the requirement that recipient authorities acquire donor-country goods and services. Furthermore, and whenever feasible, humanitarian and development actors should provide assistance in the form of cash and voucher assistance.
- ◆ To track and address hunger, governments must produce data that are timely, comprehensive, and disaggregated by income, subnational location, and gender.

Way Forward

- ◆ Experts caution that there is no magic bullet. Food insecurity, poor sanitation, inadequate housing, limited access to healthcare — all result in maternal distress that leads to the kind of slow, chronic wasting seen in Indian children.
- ◆ Although India has overall food security with record levels of food grain production in recent years, access to healthy food is still difficult for poor households.
- ◆ A recent study showed that three out of four rural Indians cannot afford the cheapest possible diet that meets the requirements set by the government's premier nutrition body
- ◆ Prioritising maternal health and a targeted mission like Swachh Bharat is needed for nutrition too.



General Studies Paper- II

Topic:

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

Topic:

- Issues relating to poverty and hunger.

Q. Discuss the reason behind India's dismal ranking in Global Hunger Index and suggest what measures could be taken.

02

Inhuman Nature of Manual Scavenging in India

Why in News?

- ◆ Despite laws, sanitation workers in the field in India still face stigma and are devoid of essential rights.
- ◆ During the last Chennai floods, sanitation workers from the Nilgiris district were made to travel in garbage trucks to Chennai. This situation has continued even during the COVID-19 pandemic. In Tamil Nadu, sanitation workers are asked to work in newly formed COVID-19 wards.

Introduction

- ◆ Even in 2020, the Indian government and our civil society continue to grapple with the inhuman nature of manual scavenging. While civil society started a movement in the 1990s to abolish dry latrines, the focus now is on manhole deaths and provision of safety equipment to sanitation workers. The movement has been demanding the abolition of the dehumanising practice of the manual removal of human excreta and calls for the introduction of mechanisation for handling waste.
- ◆ Various state governments and the previous Central governments have responded to these civil society demands by introducing different laws to stop manual scavenging and provide incentives to build toilets.
- ◆ Workforce in sanitation departments is recruited via open competition. The local administration usually approaches particular caste members during such hiring. The situation is so dire that while we find volunteers to distribute food and undertake rescue operations during natural calamities, hardly any volunteer offers to do clean-up work or dispose of dead bodies.

Long Drawn Movement

- ◆ In 1955, the Protection of Civil Rights Act talked about the eradication of scavenging or sweeping – a profession organised based on untouchability.
- ◆ In 1956, the Kaka Kalekar Commission underlined the need for mechanisation for the cleaning of latrines seven years after the Barve Commission had emphasised on the need to improve the lives of manual scavengers in India.
- ◆ Subsequently, both the Malkani Committee (1957) and Pandya Committee (1968) regulated the service conditions of the manual scavengers in India.
- ◆ Around 1980, the Centrally Sponsored Scheme of Low-Cost Sanitation for Liberation of Scavengers (ILCS) sought the conversion of dry latrines into pit latrines through an integrated low-cost sanitation scheme.
- ◆ 1989 was a landmark year in some ways: that year the Sub-Committee of the Taskforce constituted by the Planning Commission estimated that there were 72,050 million dry latrines in the country, the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act was enacted and the National Scheduled Castes and Scheduled Tribes Finance and Development Corporation (NSCSTFDC), now known as NSKFDC, for provision of financial help to the sanitation workers, was set up.
- ◆ The 74th Amendment Act and consequent codification of municipal governance is another

landmark in sanitation policy in India. The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993 did talk of making the employment of scavengers or the construction of dry latrines an offence punishable by imprisonment or fine but it gave the state government the complete power to make schemes, rules and issue directions. The exemptions, lack of convictions for up to 20 years and the false declarations by state governments about their states being manual scavenging free failed the 1993 Act, resulting in petitions challenging its loopholes.

- ◆ The CAG's report (2003) on the evaluation of the National Scheme for Liberation and Rehabilitation of Scavengers and their Dependents highlighted the failure of the 1993 Act and also shone a light on the failed investments in this regard. There has been no accountability on the disparity between estimates and actual expenditures on schemes like the Self Employment Scheme for Rehabilitation of Manual Scavengers (SRMS).

More Work is Needed

- ◆ The practice of manual scavenging, in so far as it was related to dry latrines, was banned by law in 1993, but this had little impact on the ground.
- ◆ In 2003, Safai Karmachari Andolan (SKA) filed a petition in the Supreme Court, asking for the Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993 to be implemented. SKA also asked the court to declare manual scavenging

violative of right to equality and right to life, and to declare the practice as a form of untouchability and forced labour, both abolished by the Constitution.

- ◆ For eleven years, SKA was able to convince the Supreme Court to treat the case as a 'continuing mandamus', by which it could call state agencies to account for disregard of the law. The very small and under-resourced SKA could leverage the might of the Supreme Court to draw attention to the heinous practice of manual scavenging in India.
- ◆ Cases were also filed in the Gujarat High Court in 2004, in Delhi in 2007, and in Chennai in 2008, in which various petitioners drew the courts' attention to manual scavenging and sewer deaths. Notably, at that time, the 1993 law only covered dry latrines-related manual scavenging, but the courts had no difficulty in extending the logic of prohibiting manual scavenging to sewers.
- ◆ The Gujarat court observed that in the absence of specific law, Article 21 was there to protect civic workers. About the Delhi case, the Supreme Court said it was the constitutional duty of courts to protect the rights of those who for economic compulsion enter manholes for cleaning work. There was no doubt that this was an issue of fundamental rights, and accordingly, the courts could direct state parties to take all measures to eliminate human entry into sewers.
- ◆ The Chennai water board identified all the possible situations in which

manual entry was unavoidable, and took stock of all the safety equipment that it had for such situations.

- ◆ It explained to the court that steps were being taken to ensure that sewage operations were mechanised. In the Gujarat case, the court asked for speedy measures to mechanise sewage operation and to provide safety equipment.
- ◆ In the Delhi case, which is still ongoing, a defiant and evasive water board has more or less held off on the possibility of laying down binding principles to which it could be held accountable.

Enormous Risks

- ◆ The National Scheme of Liberation and Rehabilitation of Scavengers (NSLRS, 1992) and SRMS, 2001 lay emphasis on skill development procedures. They talk of providing jobs but there is no provision of hand holding people who are targeted for such rehabilitation.
- ◆ There is a need for integration between various ways of rehabilitation that is not tailored towards mere numbers. The focus on availing loans through different schemes of NSKFDC, in fact, increases the vulnerability of the manual scavengers.
- ◆ The "contractual employment system" that perpetuates unregulated contractual hiring fails the existing Acts because unless there is a clear cut reassessment of this system, the number of cases of sewer deaths will keep increasing. This is why there is a sharp increase in sewer deaths as contractors force sanitation workers to enter septic tanks for manual cleaning. Three

to four people die at the same time because they are pressured to enter the tank even after assessment of the risk involved in the process.

- ◆ Even, compensation varies after the death of a sewer worker without any concrete explanation of the estimation of the provided compensation. There is no provision of legal consultation, pension provisions or insurance cover in these schemes making the restoration and rehabilitation procedure more fractured than ever even after the Prohibition of Employment as Manual Scavengers Act, 2013 that focused more on rehabilitation than the previous Acts.

Way Forward

- ◆ The Prohibition of Employment as Manual Scavengers and their Rehabilitation (Amendment) Bill, 2020, also proposed to completely mechanise sewer cleaning and provide better protection at work and compensation in case of accidents. This bill is due to be taken in consideration by the parliament.
- ◆ Activism of civil society and NGOs is commendable, what is lacking is meaningful legal implementation by governmental bodies. 📌📌📌

General Studies Paper- II

Topic:

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

Q. The case of manual scavenging is not just limited to legal considerations and government machinery implementation; it also needs more humane approach along with focus on sanitation workers. Comment.

03

India-Taiwan Trade Ties and China

Why in News?

- Recently, India and Taiwan are considering going forward with talks on a trade deal. India and Taiwan in 2018 already signed a bilateral investment agreement.
- However, in response to this decision, China has asked India to approach ties with Taiwan “prudently and properly” and said it would “firmly oppose” any official exchanges between New Delhi and Taipei.

Introduction

- Support is growing within India's government to formally start talks on a trade deal with Taiwan as both democracies see relations with China deteriorate.
- Taiwan has sought trade talks with India for several years, but Prime Minister Narendra Modi's government has been reluctant to move ahead because it would involve a messy fight with China once any pact is registered at the World Trade Organization (WTO).
- A trade deal with Taiwan would help India's goal of seeking greater investments in technology and electronics.
- Earlier this month, Modi's government gave approval to firms including Taiwan's Foxconn Technology Group, Wistron Corp. and Pegatron Corp. As he looks to attract investment worth more than 10.5 trillion rupees (\$143 billion) for smartphone production over five years.



- Any formal talks with India would amount to a big win for Taiwan, which has struggled to begin trade negotiations with most major economies due to pressure from China. Like most countries, India doesn't formally recognize Taiwan, with the two governments maintaining unofficial diplomatic missions in the form of “representative offices.”

India's Changing Stance

- India currently doesn't have diplomatic relations with Taiwan, which China claims as its own territory, but the two have been wooing each other. While India may not have officially abandoned its 'One-China' policy, there has been a shift. A few months ago, India appointed a senior diplomat to serve as the new envoy to Taiwan. Gourangalal Das had served in Beijing before, is fluent in Mandarin

and was a joint secretary handling the America desk. The choice for the envoy as well as Taiwan's choice of General Baushuan Ger—a highly regarded official—as their man in Delhi is an indication of the intent both countries have.

- Earlier, the Chinese embassy had sent a letter to Indian journalists, calling for honouring the 'One-China' policy.
- India and Taiwan in 2018 signed an updated bilateral investment agreement in a bid to further expand economic ties. Trade between them grew 18% to \$7.2 billion in 2019, according to India's Department of Commerce.
- In 1995, New Delhi set up the India-Taipei Association (ITA) in Taipei to promote interactions between the two sides and to facilitate business, tourism, and cultural exchanges. The India-Taipei Association has also been authorized to provide all

consular and passport services. In the same year, Taiwan too established the Taipei Economic and Cultural Center in Delhi.

Taiwan-China Equation

- ◆ Taiwan, whose more than 23 million people are squeezed onto a mostly mountainous island roughly the size of Maryland, has only 15 diplomatic allies, all smaller nations. However, it issues its own passports, has a foreign minister and maintains its own military and legal system. Economically, it is an important hub in the global high-tech supply chain.
- ◆ Most of the island's residents are descendants of migrants who began arriving from China's Fujian province in the 1600s, when Taiwan was a Dutch colony.
- ◆ The emigration flow grew after Taiwan was incorporated into China under the Qing Dynasty later in the 17th century, but Taiwan was not given formal status as a Chinese province until 1885.
- ◆ A decade later, it was transferred to Japan, which ruled it as a colony until the end of World War II. It then split again from China in 1949 after Chiang Kai-shek relocated his Nationalist government to the island after being driven off the mainland by Mao Zedong's communists.
- ◆ Aiming to retake power on the mainland, Chiang and his son, Chiang Ching-kuo, maintained martial law on the island until

1987, when the democratic opposition began to gather its strength.

- ◆ Talks in 1992 ended the long, formal silence between Taipei and Beijing, but tensions have risen and fallen since then. Fearful that Taiwan was headed for a declaration of formal independence, China lobbed ballistic missiles into the seas north and south of the island ahead of the first fully democratic presidential election in 1996.
- ◆ The tactic was seen as backfiring badly, with China's bete noire, the pro-independence Lee Teng-hui, winning handily and the US Navy deploying two aircraft carrier battle groups in waters near the island in a demonstration of Washington's determination to follow through on its own legal requirement to consider threats to Taiwan a matter of grave concern.
- ◆ Beijing claims Taiwan as its own territory, to be annexed by force if it deems necessary. It demands that Taiwan recognize the 1992 consensus that it says recognized Taiwan and the mainland as part of a single Chinese nation, though defined separately as the People's Republic of China or the Republic of China, Taiwan's official name.
- ◆ The current President of Taiwan, Tsai Ing-wen of the pro-independence Democratic Progressive Party has refused to do so, maintaining that Beijing has no claim over Taiwan. Her government has repeatedly

called for the reopening of talks between the sides, but without this or any other preconditions.

Taiwan's Signal

- ◆ President Tsai Ing-wen's administration has raised its profile in India in recent weeks after China issued a statement telling Indian media outlets not to refer to Taiwan as a country when reporting on its Oct. 10 National Day celebrations. Twitter users in India lambasted China and its ambassador to New Delhi, Sun Weidong, while heaping praise on Taiwan and making the hashtag #TaiwanNationalDay go viral.
- ◆ Indian public sentiment toward China has fallen in the wake of deadly border clashes between the two neighbours starting in May.
- ◆ That displeasure with China, as well as Taiwan's successful handling of the pandemic, is translating into a soft power opportunity for Tsai. Taiwan's 24 million have seen fewer than 600 infections and only seven deaths.
- ◆ Tsai, who was voted into a second term in a January landslide, has sought to capitalize on the wave of interest in Taiwan among Indians online. On October 11, she thanked Indian Twitter users who had sent national day greetings. Two days later she went viral again, posting photos of her visiting the Taj Mahal.
- ◆ On October 15, Tsai tweeted a photo of Indian food accompanied by a cup of masala chai, which



some Twitter users saw as a possible reference to the so-called Milk Tea Alliance that has united activists from Taiwan, Hong Kong, Thailand and elsewhere against Chinese nationalism.

Milk Tea Alliance

- ♦ A social media fight between Chinese and Thai actor and Chinese social media users, made Thailand, Hong Kong and Taiwan's users unite in ridiculing Chinese social media users for everything from their pro-Communist Party ideology to the spread of coronavirus. Failed attempts by Chinese social media users to mass report tweets, posts and

memes that they found critical of China were also soundly mocked on social media platforms.

- ♦ Thai social media users began calling for the sovereignty of Taiwan and Hong Kong, extending support to the two countries. This spurred social media users from other Southeast Asian countries to join the call, in a rejection of China's influence in the region for its own diplomatic and economic gains.
- ♦ The 'Milk Tea Alliance' is an informal term coined by social media users because in the region, tea is consumed in many nations with milk, with the exception of

China. Memes were formed showing flags of the countries in the 'Milk Tea Alliance' with China as a lone outsider.

- ♦ Just as the online war appeared to be settling down, the Chinese embassy in Bangkok issued a statement on Facebook saying: "The One China Principle is irrefutable", indicating that the massive online war had not gone unnoticed by the Chinese government. Thus, giving credibility

to the terminology.

Way Forward

- ♦ India does not have formal diplomatic ties with Taiwan. Like most countries, it maintains commercial ties with Taiwan. The current aggression by China is resulting in rewriting of diplomatic relations and all like-minded nations with a common threat coming together.

General Studies Paper- II

Topic:

- India and its neighborhood-relations.

Q. Discuss the significance of growing India-Taiwan relations and China's insecurity in global engagement with Taiwan.

04

Malabar 2020 : Big Move to Counter China

Why in News?

- The Indian Ministry of Defence has issued a release on the upcoming trilateral India-U.S.-Japan Malabar exercises, noting that this year's iteration would include Australia. The exercise will be held in next month in the Indian Ocean.

Background

- The Malabar series of Naval exercises started in 1992 as a bilateral Indian Navy-US Navy exercise. Japan joined the Naval exercise in 2015. This annual exercise has been conducted off the coast of Guam in the Philippine Sea in 2018, off the coast the Japan in 2019 and is expected to be held in the Bay of Bengal and the Arabian Sea later this year.
- As India seeks to increase cooperation with other countries in the maritime security domain and in the light of increased defence cooperation with Australia, Malabar 2020 will see the participation of the Australian Navy.
- This year, the exercise has been planned on a 'non-contact - at sea' format. The exercise will strengthen the coordination between the Navies of the participating countries.
- The participants of Exercise Malabar 2020 are engaging to enhance safety and security in the maritime domain. They collectively support free, open and inclusive Indo-Pacific and remain committed to a rules based international order.



- The Royal Australian Navy last participated in Malabar in September 2007; that iteration of the exercises also included a small Singaporean contingent. That exercise also coincided with the original convening of the Quad. The grouping was later disbanded after Chinese opposition.
- The year 2007 was crucial was crucial point in the history of Malabar exercise, as it was expanded to include Japan, Australia and Singapore. However, soon after the 2007 Malabar exercise, Australia pulled out of the Quad, reportedly because it "excluded" China.

Malabar Reinforcing Quad

- Australia's return to Malabar will no doubt be framed as growing evidence of the seriousness of the reconvened Quad. Canberra's inclusion in the drills comes at a time of heightened tensions

between China and the Quad states. Notably, India, which viewed Canberra's participation in Malabar with a certain degree of caution, has shed its previous hesitations amid months of long border standoff with the Chinese People's Liberation Army in Eastern Ladakh this year.

- The expansion of Malabar is likely to further the integration of the Quad and reflects positive trends in India-Australia security cooperation. Arguably, the Canberra-New Delhi relationship has been the weakest of the Quad's constituent bilateral relationships.

China on Collision Course

- China is on an aggressive land grabbing spree with expansionist and colonising features. China has been breaking all accepted international rules and is in conflict with almost all its neighbours.

- ◆ India has very large land border with China and also a history of unresolved issues. China has been upping its aggressive military posture with India and many other nations during the pandemic.
- ◆ There has been a need to contain the dragon firing at almost every nation on the globe. Be it militarily or its 'wolf warrior' disastrous diplomacy.
- ◆ India also has direct confrontation with the Chinese in the Ladakh region, with China warning of severe consequences every now and then.
- ◆ In order to protect its territory and sovereignty, India has upped its preparation and has tested 12 missiles in 45 days and has deployed some at the border.
- ◆ India has also signed Basic Exchange and Cooperation Agreement (BECA) with the United States.
- ◆ Incidentally, India has now signed military logistics agreement with all the Quad countries. The last one was with Japan earlier this month, just before Shinzo Abe left his post of prime minister.
- ◆ It also comes at a time when each country is wary about Chinese expansionism, whether it's Beijing's activities in the South China Sea, a trade war with the US, or direct territorial conflict along India's borders.
- ◆ Australia's Re-posturing
- ◆ In a statement from Canberra, Australian defence minister Linda

Reynolds said the Malabar exercise was a showcase for the "deep trust between four major Indo-Pacific democracies and their shared will to work together on common security interests".

- ◆ High-end military exercises like Malabar are key to enhancing Australia's maritime capabilities, building interoperability with our close partners, and demonstrating our collective resolve to support an open and prosperous Indo-Pacific.
- ◆ Australian foreign minister Marise Payne stated that it would "bolster the ability of India, Australia, Japan and the United States to work together to uphold peace and stability across our region".

Significance of Malabar 2020

- ◆ Given the economies, defence capabilities and geographic positions of the United States, Japan, India and Australia, an increasingly capable and unified Quad likely represents a nightmare scenario for Chinese Communist Party officials and People's Liberation Army planners. Like a bully on the playground, Beijing would rather keep its regional competitors isolated, dealing with them one by one in order to exploit power asymmetries conducive to coercion.
- ◆ The Malabar exercise has the potential to be a complex, "high-end" war-fighting exercise, integrating forces and developing complex air and maritime interoperability. Each of the

four countries already conducts annual bilateral air and maritime exercises with the other three partners, so Malabar can quickly move past the "getting to know you" phase and into the "multi-domain war-fighting" phase. As a result, Malabar has the potential to provide a robust deterrent message to Beijing.

- ◆ With the political will to conduct these exercises affirmed, it is now the responsibility of the military planners and commanders to organize and execute an event that achieves a deterrent effect.

Way Forward

- ◆ Australia's return to Malabar underscores the Quad's expanding agenda in its post-2017 incarnation and will no doubt be closely watched in China.
- ◆ This year's Malabar will likely have the effect of raising expectations for the Quad going forward. For instance, Australia's potential non-participation next year could be seen as a step back.
- ◆ For now, there's no indication that Malabar may be formally quadrilateralized, but that would appear to be the next goal for the Quad's proponents. <<<>>>

General Studies Paper- II

Topic:

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

Q. Malabar 2020 Naval Exercise has been much in talks in relation to Quad and re-joining of Australia. Discuss the reliability of Australia in the Quad camp and how much reliance India can have on Quad.

05

National Infrastructure Pipeline : Catalyst for Future Growth

Why in News?

- ◆ Among the several factors that boost economic growth effectiveness and national competitiveness, infrastructure holds a key place. National Infrastructure Pipeline (NIP) offers post-COVID-19 opportunity for economic revival. It is one of the ambitious projects that can help a great deal in economic revival and can also act as a catalyst for future growth.

Introduction

- ◆ As there seems to be some consensus on the COVID-19 pandemic panning out by end of the year and more recently with the gross domestic product (GDP) figures for the quarter out in India at -23.9 %, the focus seems to have shifted again to economic recovery.
- ◆ The National Infrastructure Pipeline aims to invest Rs 111 lakh crore by 2025 in a range of projects spanning across sectors such as energy, social and commercial infrastructure, communication, water and sanitation, according to the investment portal. The share of the central government and the states in the projects would be 39% and 40%, respectively, while private sector would contribute 21%.
- ◆ The NIP was announced in the Union Budget, and is aimed at helping India become a \$5 trillion economy by 2025. With India's growth seen contracting for the

first time in decades due to the fallout of the COVID-19 pandemic, infrastructure development is expected to cushion the blow on the economy by boosting investments, creating a multiplier effect, and adding jobs.

NIP Approach

- ◆ The NIP for FY 2019-25 is a first-of-its-kind, whole-of-government exercise to provide world-class infrastructure to citizens and improving their quality of life.
- ◆ It aims to improve project preparation and attract investments into infrastructure. To draw up the NIP, a High-Level Task Force was constituted under the chairmanship of the Secretary, Department of Economic Affairs (DEA), Ministry of Finance.
- ◆ The Final Report on NIP for FY 20-25 of the Task Force was released on 29th April, 2020.
- ◆ NIP consists of a range of projects spanning across sectors such as energy, social and commercial infrastructure, communication, water and sanitation. In his latest (2020) independence day address, Prime Minister Modi had said that the mega scheme to connect the country through a multi-modal connectivity infrastructure would end the tradition of working in silos in the infra space.
- ◆ A break-up shows energy projects account for 24 per cent of NIP, roads 18 per cent, urban projects 17 per cent and railway projects another 12 per cent. The share of the Central government and

the states in the projects would be 39 per cent and 40 per cent respectively, while private sector would contribute 21 per cent.

NIP Opportunities

- ◆ Transport: The transport sector in India is expected to grow at a CAGR of 5.9 percent thereby becoming the fastest growing area of India's infrastructure sector. Transport includes well-developed roads and highways, a widespread railway network, fast-growing aviation and developing ports, shipping and inland waterways infrastructure.
- ◆ Logistics: The Indian logistics sector valued at USD 160 bn in 2019, is expected to become worth USD 215 bn in the next two years. India's rank has gone up from 54 in 2014 to 44 in 2018 in the World Bank's Logistics Performance Index (LPI), in terms of overall logistics performance.
- ◆ Energy: The Energy sector in India includes conventional power, renewable energy (RE), petroleum and natural gas. The total Energy capacity in India stands at 356 GW with major contributors being Thermal (66%), Renewable (22%), Hydro (13%) and Nuclear (2%).
- ◆ Water & Sanitation: Water & Sanitation sector in India includes ensuring adequate supply of water and treatment of liquid & solid waste. India through the launch of Swachh Bharat Mission (SBM) and National Rural Drinking Water Program (NRDWP) has

made substantial investment and efforts in ensuring safe drinking water and sanitation.

- ◆ Communication: India is currently the world's second-largest telecommunications market with a subscriber base of 1.20 bn. Major sectors of the Indian telecommunication industry are telephone, internet and television broadcast industry.
- ◆ Social Infrastructure: The Social infrastructure sector in India includes health and education infrastructure. Expenditure of approximately USD 28 bn and USD 20 bn for education and healthcare is planned respectively over 2020-25.
- ◆ Commercial Infrastructure: Commercial infrastructure in India facilitates the necessary support required by various industries such as testing labs, terminal markets, common infrastructure for industries and storage facilities. Testament to the quality, India is ranked second in the 2019 Agility Emerging Markets Logistics Index.

Pandemic Shock to NIP

- ◆ The NIP project was allocated INR 13.6 trillion in the present financial year and INR 19.5 trillion in the subsequent financial years of 2021-22, 2022-23 with 80 percent of these total estimated investments to be financed from the government. However, with the pandemic spreading its wings across the country, things became messy.

- ◆ The 68-day strict lockdown has resulted in GDP contraction of 23.9 percent and the fiscal deficit crossed 103 percent of the budgeted estimate for the year 2020-21, leaving the government in no position to fund new projects amidst the health crisis.
- ◆ Further, the collection of taxes also witnessed a record decline with GST revenues halved in the June quarter due to sharp decline in industrial activity and income tax and corporate tax collections going down to 36 percent with and 23 percent respectively as nearly 19 million people losing jobs and corporate taxes coming down to 23 percent.
- ◆ Going by these trends, it has been quite obvious that the government might not be able to contain its deficit target for the year and will need to borrow to keep sustaining the economy.
- ◆ As per estimates, the borrowed amount could reach as high as 12 lakh crores taking the country's debt to GDP ratio to around 87 percent. With such financial constraints, the investment plans on the NIP project seem to get a push back, particularly from the state governments which are in an even more dismal condition resource wise.
- ◆ In midst of this crisis, the government still needs to look out for ways to go on with the NIP and bring in investments, as it seems the only way to boost the economy for now.

Way Forward

- ◆ Raising resources amidst the COVID-19 outbreak would require an innovative and calibrated approach. The government could look at provident funds and insurances for investments as these are becoming more and more organised. LIC for instance is readying up an Rs. 1,25,000 crore fund to invest in the India based infrastructure projects.
- ◆ Indian merchant banks have also opened fund houses that operate on international standards, which can help the government to raise funds for the projects in near future.
- ◆ Government can also move towards foreign pension funds as these have always shown interest in the Indian brownfield projects.
- ◆ Government could therefore look at completing the primary construction (Greenfield Projects) in the NIP through the Indian rupees and once the asset construction is completed the government can raise funds in dollars to operationalise the project in the subsequent phases (Brownfield Projects).

General Studies Paper- III

Topic:

- Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.

Q. The funding to National Infrastructure Pipeline has got a severe blow from the Covid Pandemic. Discuss the significance of this project and suggest measures that government can undertake to finance it.

06

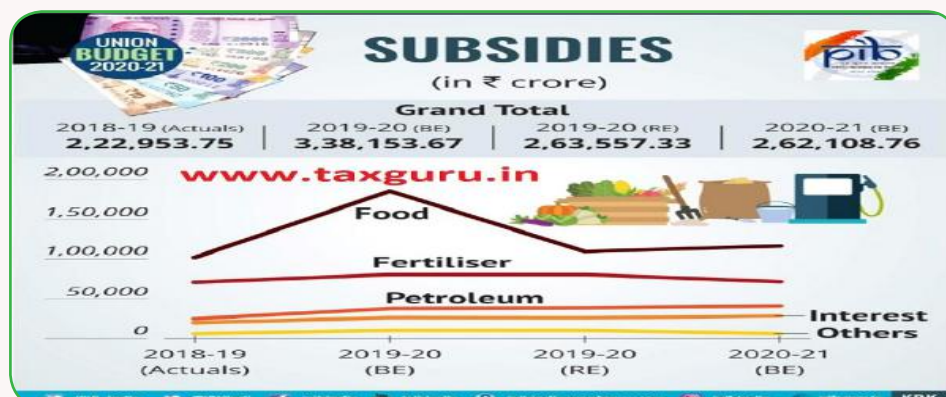
Fertiliser Subsidy : Needs Sustainable Solution

Why in News?

- The centre is working on a plan to cap the number of subsidised fertiliser bags that individual farmers can buy in any cropping season. This comes even as disbursement of fertiliser subsidy to companies has, since March 2018, been made conditional upon actual sales to farmers and these getting registered on point-of-sale (POS) machines.

Introduction

- Over the last five years, the Narendra Modi-led government has made several efforts to tackle diversion, hoarding, black marketing and excessive use of urea—a widely-used fertiliser that accounts for nearly half of India's total fertiliser consumption.
- These include
 - mandatorily requiring all manufacturers/ importers to do neem-coating of urea supplies (2015);
 - making disbursement of subsidy to manufacturers conditional upon actual sales to farmers and sales getting registered on POS machines (March 2018);
 - restricting purchase to 100 bags per transaction by each purchaser (down from 999 bags earlier) and capping number of transactions per month (August 2020); and
 - Tracking top 20 urea purchasers in each district and initiating action against those violating the purchase norms.



- Now, the Centre is working on a plan to cap the number of subsidised fertiliser bags that individual farmers can buy in any cropping season. Currently, anybody, non-farmers included, can buy fertiliser through the PoS mode (they only need to furnish their Aadhaar unique identity number).
- The government suspects that a lot of black marketing is happening at this level, and believes it can be curbed by implementing its latest plan, as purchase above the cap will have to be at unsubsidised/full price.
- The Union government controls the maximum retail price (MRP) of urea—set at a low level, without any relation to the cost of production and distribution. Manufacturers get reimbursed for the shortfall in realisation from sales via the subsidy on a 'unit-specific' basis under the new pricing scheme (NPS). The MRP is kept unchanged (today's price is the same as in 2002) even as all cost escalations are absorbed by raising the subsidy.

e-Urvarak to Check Diversions

- Currently, the government is

following a "no-denial" policy: anybody, non-farmers included, can buy any quantity of fertiliser through POS machines. All they have to do is furnish their Aadhaar unique identity number. The quantities purchased, along with the person's name and biometric authentication, are then registered on the POS device that is linked to the 'e-Urvarak' online platform of the Department of Fertilisers.

- The e-Urvarak platform has helped generate a database with considerable granularity that allows for weeding out of non-deserving beneficiaries – those purchasing quantities far in excess of that justified by their operational holdings, crops grown, etc.
- A paddy or wheat farmer, for instance, uses at most three bags of urea, one bag of di-ammonium phosphate and half-a-bag of muriate of potash per acre. 100 bags can, thus, comfortably meet the seasonal requirement of a 20-acre farmer.
- Meanwhile, the Modi government has already undertaken an exercise to identify the "top 20" urea

buyers of each district in 22 major fertiliser-consuming states.

- During the recent kharif season for the April-July period, the e-Urvarak database was used to identify 13,054 such purchasers. The details of the number of bags, frequency of buying, etc were verified in respect of 12,866 cases by the district authorities. Based on this data, notices were issued to 5,107 fertiliser dealers, with the licences of 1,262 retailers being suspended/cancelled and 227 FIRs filed.
- The government is going after only the retailers and not farmers. The Fertiliser (Control) Order, 1985, under the Essential Commodities Act enables to book any dealer who may have sold to bulk buyers rather than genuine farmers

Understanding Fertiliser Subsidy

- Farmers buy fertilisers at MRPs below their normal supply-and-demand-based market rates or what it costs to produce/import them.
- The MRP of neem-coated urea, for instance, is fixed by the government at Rs 5,922.22 per tonne, whereas its average cost-plus price payable to domestic manufacturers and importers comes to around Rs 17,000 and Rs 23,000 per tonne, respectively. The difference, which varies according to plant-wise production cost and import price, is footed by the Centre as subsidy.

- The MRPs of non-urea fertilisers are decontrolled or fixed by the companies. The Centre, however, pays a flat per-tonne subsidy on these nutrients to ensure they are priced at “reasonable levels”. The per-tonne subsidy is currently Rs 10,231 for di-ammonium phosphate (DAP), Rs 6,070 for muriate of potash (MOP) and Rs 8,380 for the popular ‘10:26:26’ complex fertiliser, with their corresponding average MRPs at Rs 24,000, Rs 17,500 and Rs 23,500 per tonne, respectively.
- Decontrolled fertilisers, thus, retail way above urea, while they also attract lower subsidy.

Limiting Excess Usage

- Currently, there is excessive use of urea—a dominant source of ‘N’—vis-à-vis complex fertilisers such as diammonium phosphate (DAP), the main source of ‘P’, and muriate of potash (MOP), the main source of ‘K’.
- This has led to increasing imbalance in the NPK-use ratio. On an all-India basis, currently, this ratio is 6.7:2.4:1 against the ideal of 4:2:1, with consequent adverse effects on crop yield, soil and human health.
- In 2016-17, the urea consumption in the country stood at 30 million tonnes (mt). Of this, 24 mt were produced domestically and 6 mt had been imported. Slashing use by half would mean aiming at 15 mt by 2021-22. Against this target, in 2019-20, urea consumption was

at ~33 mt (24 mt from domestic production and 9 mt imported). From this level, to come down to 15 mt in just about two years, i.e., by 2021-22, is well-nigh impossible.

- The lack of any progress on the goal set by the PM has a lot to do with archaic policies that are completely divorced from contemporary realities but continue to be pursued by bureaucrats working in silos.

Way Forward

- The time has come to seriously consider paying farmers a flat per-acre cash subsidy that they can use to purchase any fertiliser.
- The amount could vary, depending on the number of crops grown and whether the land is irrigated or not. This is, perhaps, the only sustainable solution to prevent diversion and also encourage judicious application of fertilisers, with the right nutrient (macro and micro) combination based on proper soil testing and crop-specific requirements. 📌📌📌

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.

Q. Fertiliser subsidy is an archaic mechanism which is often misused, a new practical way could be handing direct cash to the farmer on per acre basis. Comment on the given statement in light of government's decision to limit subsidised fertiliser bags.

07

Urban Flooding in India : Causes and Possible Solutions

Why in News?

- ◆ The Hyderabad flood visual of a man being swept down the street should have sent alarm bells ringing in all Indian cities which are regularly inundated, especially in Pune, where rapid streams carried off people through the streets last year and in Mumbai, where a woman recently fell into an open manhole in a water-logged street only to emerge as a corpse floating in the sea.
- ◆ Also, recent floods in Bihar and Eastern Uttar Pradesh have taken by surprise both governments and people. In Patna, severe water logging has brought the city to a halt, with hospitals and residential areas filled with waist-deep water. Transport services have been disrupted, with many trains cancelled.

Introduction

- ◆ When a city starts flooding after intense rainfall, the focus is on the breakdown of public services, the closing of schools, and difficulty in transportation, among others. While these problems bring the city to a halt and make news for a few days, what is missed is the focus on who gets worst hit and how?
- ◆ Mumbai, for instance, is often referred as a prime example when it comes to discussing urban floods in India. A United Nations Habitat paper on monsoon floods in Mumbai mentions that even after 10 days of intense rainfall, the suburban and low-lying areas near the Mithi River remain waterlogged without services, appropriate shelter, potable water or food.
- ◆ This area is estimated to have 70 per cent occupancy by slums and pavement dwellers, including one of the largest slums in the world — Dharavi.



- ◆ In any city, the low-lying regions like nallahs, railway lines, roads and highways — where squatter settlements pop-up — are the areas, which are most prone to flooding. Built uninformedly and with makeshift materials, many people lose their residence with recurring floods, which never gets accounted for.
- ◆ This is typically the case in Delhi's Yamuna Pushta area — the same floodplain region where Akshardham and CWG Village have been built — where slum areas flood almost each year now.
- ◆ We do not realise yet that the vulnerability of the poor to the changing climate is profound and lingering in our cities. Flood waters circulate untreated solid waste and faecal matter around squatter settlements, which leads to outbreaks of malaria, dengue, diarrhoea, etc. for a much longer time than the season of rainfall.
- ◆ There has been a 217 per cent increase in the incidence of malaria during the last decade, according to a report published by the World Bank. It identified unhygienic living conditions in slums and water accumulation during and after monsoons as the leading factors.
- ◆ Lack of discernment in development adds to this vulnerability of the poor. During the 2015 Chennai floods,

some of worst impacted areas were slum resettlement tenements constructed by the government on floodplains or lake catchment areas at Semmencheri, Perumbakkam and Ezhilnagar. These areas faced severe flooding, causing some deaths and remained inhabitable for many days afterwards.

Finding the Culprit

- ◆ Rapid urbanisation is a bigger threat today than it was in 2000.
- ◆ The problems are the same but the present-day situation is worse.
- ◆ A heavy spell of rainfall for five minutes is sufficient to inundate the city. Every time it floods, the government points its fingers at the poor for encroachment.
- ◆ The mega housing ventures and corporate companies; they are all in catchment areas of our water bodies.
- ◆ Senior hydrogeologist BV Subba Rao said the failure to understand the functional aspects of a city's water bodies and looking at them for ornamental and recreational purposes is as good as 'placing a wreath on a dead body'.
- ◆ According to Subba Rao, the blame cannot be put entirely on city planners. The city's master plan does not have the hydrology map superimposed on it. In the master

plan if you do not know where the lakes are located, town planners can get misled into sanctioning the housing.

- ◆ With rapid urban expansion, builders have been constructing increasingly on reclaimed wetlands, flood plains and low lands of the city as these areas have a cheaper land rate. What is surprising, though, is that not just private builders, the government too, is building over such vulnerable areas.

Negligent City Planning

- ◆ The fact is that our cities have been built with little to no regard to the natural topography and severely lacks holistic action. Even with provisions of rainwater harvesting, sustainable urban drainage systems, etc, in regulatory mechanisms like the Environmental Impact Assessment (EIA), Notification 2006 or building bylaws of almost every state, adoption at user end as well as enforcement agencies remains weak.
- ◆ Public bodies' focus is largely on de-silting of storm water drains before monsoon and expansion of the over-burdened infrastructure, but at a crawling pace.
- ◆ Overlooking environmental regulations in mega-projects is fairly common in the country. Back in the 2000's, Delhi's Akshardham Temple Complex and Commonwealth Games Village (CWG) were built right on the Yamuna's floodplain.
- ◆ The secondary runway of Chennai International Airport was also built right over the Adyar River. Most of the airport was constructed on the riverine floodplains, leading to massive flooding during the 2015 Chennai floods.

◆ Even recent developments such as Andhra Pradesh's Amaravati Capital City Project, had major areas proposed to be built on the floodplains of Krishna river.

- ◆ Gurugram has seen an explosive growth in the urban population as well as infrastructure in the recent years. As a result of poor planning, unregulated construction and mismanagement of environmental resources, water reservoirs and wetlands have vanished over the years. The number of water bodies has reduced to 123 in 2018 from 644 in 1956. Green cover is only 9 per cent, which ideally should have been at least 33 per cent.

Possible Solutions

- ◆ The master plan should be integrated with our natural drainage system, and also the network of stormwater drains and sewage drains. We don't have a water infrastructure map incorporated in the master plan yet.
- ◆ As the incidence of climate variability and extreme weather events increases, and urban flooding becomes more and more common, it is inevitable that we look at the issue from a broad-based perspective. Focus has to be on increasing the resilience of communities and adaptive capacity of our infrastructure.
- ◆ Water sensitive urban design and planning techniques — especially in the context of implementation — are of utmost importance. These methods take into consideration the topography, types of surfaces (pervious or impervious), natural drainage and leave very less impact on the environment. Vulnerability analyses and risk assessments

should form part and parcel of city master plans.

- ◆ In a changing climate, our proposed infrastructure (especially storm water drainage) has to be built considering the new 'normals'. Tools such as predictive precipitation modelling can help do that and are also able to link it with the adaptive capacity of urban land use.
- ◆ Most important is strong land use controls. EIAs and enforcement will remain vital to ensure that fragile wetlands and floodplains are not concretised.

Way Forward

- ◆ Countries like China are seeking to counter urban flooding through the concept of sponge cities, which are structured to absorb and capture rain water, say through a wide unpaved strip running along the road which facilitates percolation.
- ◆ Along with the steps taken by government bodies, the general public will also have to keep themselves informed and avoid buying property in low lying areas and floodplains and increase permeable areas on their properties.
- ◆ If the Harappan cities had sophisticated drainage systems, so does modern India can take inspiration and build better cities.



General Studies Paper- III

Topic:

- Disaster and disaster management.

Q. Urban planning without taking geography into calculation is a disaster in waiting. Comment on the given statement in the light of urban floods in India.

7

IMPORTANT BRAIN BOOSTERS

01

Heeng Cultivation in Indian Himalayan Region

1. Why in News?

- Due to efforts of CSIR constituent laboratory, Institute of Himalayan Bioresource Technology (IHBT), Palampur, a historical shift in farming practices is in the offing with farmers of the remote Lahaul valley in Himachal Pradesh taking up cultivation of asafoetida (Heeng) to utilize vast expanses of waste land in the cold desert conditions of the region.
- CSIR-IHBT brought in seeds of asafoetida and developed its agro-technology.



2. About Asafoetida

- Asafoetida is one of the top condiments and is a high value spice crop in India. India imports about 1200 tonnes of raw asafoetida annually from Afghanistan, Iran and Uzbekistan and spends approximately 100 million USD per year.
- Lack of planting material of *Ferula assa-foetida* plants in India was a major bottleneck in cultivation of this crop.
- Team CSIR-IHBT made relentless efforts for introduction of this important crop in the country. The institute introduced six accessions of seeds from Iran through ICAR-National Bureau of Plant Genetic Resources (ICAR-NBPGR), New Delhi in October, 2018.
- ICAR-NBPGR confirmed that in the past thirty years, this has been the first attempt for introduction of asafoetida (*Ferula assa-foetida*) seeds in the country.
- CSIR-IHBT raised the plants of heeng at CeHAB, Ribling, Lahaul & Spiti, Himachal Pradesh under the vigil of NBPGR.

3. Growing Conditions

- The plant prefers cold and dry conditions for its growth and takes approximately five years for the production of oleo-gum resin in its roots, therefore cold desert areas of Indian Himalayan region are suitable for cultivation of asafoetida.
- Raw asafoetida is extracted from the fleshy roots of *Ferula assa-foetida* as an oleo-gum resin. Although, there are about 130 species of *Ferula* found in the world, but only *Ferula assa-foetida* is the economically important species used for the production of asafoetida.
- In India, we do not have *Ferula assa-foetida*, but other species *Ferula jaeschkeana* is reported from the western Himalaya (Chamba, HP), and *Ferula narthex* from Kashmir and Ladakh, which are not the species that yield asafoetida.

4. Government's Initiative

- Recognizing the efforts of the Institute, Chief Minister of Himachal Pradesh announced the introduction and cultivation of Heeng in the state in his budget speech, on March 6, 2020.
- Consequently, MoU between CSIR-IHBT and State Department of Agriculture, Himachal Pradesh was signed on June 6, 2020 for a joint collaboration for the cultivation of heeng in the State.
- A capacity building program was organized for officers of the State Department of Agriculture from July 20 to 22, 2020 in which twelve officers from different districts of Himachal Pradesh participated.
- Further, CSIR-IHBT scientists also organized training programs on asafoetida cultivation and laid out demonstration plots in villages of Madgran, Beeling and Keylong in Lahaul valley of Himachal Pradesh in collaboration with officers of State Agriculture Department for establishment of seed production chain and cultivation of asafoetida at commercial scale.

02 Asteroid Bennu

1. Why in News?

- On Oct. 20, 2020, NASA's OSIRIS-REx spacecraft successfully descended to the surface of asteroid Bennu and collected rocky material from sample site Nightingale during its Touch-and-Go (TAG) sample collection maneuver.
- Two days later, the mission team received images from OSIRIS-REx confirming the spacecraft had collected more than enough material to meet one of its main mission requirements – acquiring at least 2 ounces (60 grams) of the asteroid's surface material.



2. Asteroid Bennu

- The asteroid was discovered by the Lincoln Near-Earth Asteroid Research (LINEAR) survey on September 11, 1999.
- Bennu's original designation was 1999 RQ36. In 2013, a third-grade student named Michael Puzio won a contest to name the asteroid.
- Bennu is a B-type asteroid, containing carbon and several other minerals in significant amounts.
- Due to the high carbon content, Bennu is able to reflect about 4% of the sunlight it receives, much less than a planet like Venus with 65% reflection. Earth reflects 30% of the sunlight it receives.
- Moreover, about 20% to 40% of the interior of the asteroid is empty space.
- As per scientists, Bennu was formed about 4.5 years ago, within the first 10 million years of the formation of our solar system.
- Bennu has drifted into near-Earth space because of gravitational interactions with giant planets and the gentle push of heating from the Sun.
- Bennu's density is only about 30 percent more than water. This suggests the asteroid is probably a loose collection of rocks, like a pile of rubble.
- Bennu has a close approach to Earth every six years.
- Scientists estimate Bennu has a 1-in-2,700 chance of impacting the Earth during one of its close approaches to the Earth in the late 22nd century.

3. NASA's Interest in Bennu

- Bennu is a Near-Earth Asteroid (NEA). It is an Earth-crosser and potentially hazardous asteroids (PHA), which is why it is important for scientists to gather information about it.
- It is roughly as tall as the Empire State Building and is 321 million kilometers away from the Earth.
- Apart from the fact that it could be hazardous and closer to the Earth, Bennu has also not undergone any significant changes since it was formed billions of years ago.
- It contains rocks as well as chemicals dating back to when the solar system was formed.
- According to NASA, the organic material which scientists are hoping to find in the sample from Bennu does not come from Biology necessarily, but it could help them in further understanding how asteroids rich in organic material helped catalyse life on Earth.
- Any alteration in Bennu's orbit could lead to a collision between the asteroid and the Earth, which is why this study is also significant.

4. The OSIRIS-REx mission

- OSIRIS-REx marks the first mission by NASA to collect and deliver to Earth samples from an ancient asteroid.
- The US space agency aims to collect at least 60 grams of dust and rocks from the asteroid and bring them back.
- This, NASA claims, would be the largest amount of celestial material brought back to Earth since the Apollo era.
- OSIRIS-REx was launched back in 2016, and it started orbiting asteroid Bennu in December 2018.
- For the past two years, the spacecraft had been trying to match the asteroid's velocity, while also studying and capturing images of its surface for potential landing sites and providing data for scientists to study how the Sun light has been affecting Bennu's orbit.

03

National Authority of Ship Recycling

1. Why in News?

- Central Government has notified the Directorate General of Shipping as national authority for recycling of ships under the section 3 of the Recycling of Ships Act, 2019.
- As an apex body, DG Shipping is authorized to administer, supervise and monitor all activities relating to ship recycling.

2. DG Shipping - Functions

- DG Shipping is authorized to administer, supervise and monitor all activities relating to ship recycling in the country.
- DG Shipping will be the final authority for the various approvals required by the ship-recycling yard owners and state governments.
- DG Shipping will oversee the sustainable development of the ship recycling industry, monitoring the compliance to environment-friendly norms and safety and health measures for the stakeholders.
- Last year, the Parliament had passed The Recycling of Ships Bill, 2019 which talked about setting up of a national authority that will monitor all activities related to ship recycling.

3. Area of Operation

- The national authority of ship recycling will be set up in Gandhinagar, Gujarat.
- The location of the office will benefit the ship recycling yard owners situated in Alang, Gujarat.
- The industry being largely concentrated in South Asia, India remains the leading market for ship-wrecking globally, with the Alang-Sosiya ship breaking yard in Gujarat handling around 450 ships every year.



4. The Hong Kong Convention

- The International Maritime Organisation (IMO) adopted the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (Hong Kong Convention) in 2009, which is aimed at ensuring that ships being recycled after reaching the end of their operational lives do not pose any unnecessary risks to human health, safety and to the environment.
- Under Ship Recycling Act, 2019, India has acceded to Hong Kong Convention for Ship Recycling under International Maritime Organization (IMO).
- DG Shipping is a representative of India in the IMO and all the conventions of IMO are being enforced by DG Shipping.
- The existing Shipbreaking Code (Revised), 2013 and the provisions of the Hong Kong Convention, 2009 are dovetailed in recycling legislation to ensure environment-friendly recycling process of ships and adequate safety of the yard workers.
- With the enactment of the legislation, India has set global standards for safe and sound environment-friendly recycling of ships, as well as ensure adequate safety of the yard workers.

5. Economic Gains

- India is looking to double its contribution from ship recycling to the country's GDP to over USD 2 billion post enactment of the ship recycling Act in December 2019. It also aims to take direct jobs from recycling sector to about 90,000.
- Currently, India recycles 70 lakh gross tonnages of ships per annum, while Bangladesh's contribution is 68 lakh gross tonnage. Pakistan scraps ships worth 37 lakh gross tonnage, while China accounts for 34 lakh gross tonnage of recycling.
- These four countries account for 90 per cent of the ships recycled globally. Post enactment of Recycle Act, India eyes 50 per cent of the global share as many countries will be sending ships here after India ratified the global convention.

04 New START Treaty

1. Why in News?

- The United States has rejected Russian President Vladimir Putin's call to prolong the New START (Strategic Arms Reduction Treaty) treaty for one year unconditionally, describing the notion as a "non-starter." This is a treaty on the reduction and limitation of strategic offensive arms.
- The agreement, one of the last restraints on Russia and the United States' nuclear forces, is set to expire in February 2021.



4. Major Arms Control Multilateral Treaties/ Conventions

- Missile Technology Control Regime (MTCR)
- Convention on Cluster Munitions
- Chemical Weapons Convention (CWC)
- Biological Weapons Convention (BWC)
- Outer Space Treaty
- African Nuclear-Weapons-Free Zone Treaty (Treaty of Pelindaba)
- Latin America Nuclear Weapons Free Zone Treaty (Treaty of Tlatelolco)
- Arms Trade Treaty
- Comprehensive Test-Ban Treaty (CTBT)
- International Code of Conduct against Ballistic Missile Proliferation (ICOC)
- Nuclear Nonproliferation Treaty (NPT)
- Treaty on the Prohibition of Nuclear Weapons

2. START Background

- The New Strategic Arms Reduction Treaty (New START) was signed April 8, 2010, in Prague by the United States and Russia and entered into force on Feb. 5, 2011.
- New START replaced the 1991 START I treaty, which expired December 2009, and superseded the 2002 Strategic Offensive Reductions Treaty (SORT), which terminated when New START entered into force.
- New START continues the bipartisan process of verifiably reducing U.S. and Russian strategic nuclear arsenals.
- New START is the first verifiable U.S.-Russian nuclear arms control treaty to take effect since START I in 1994.

3. Key Features of START

- Seven years after entry into force (Feb. 5, 2018), New START limits went into effect that capped accountable deployed strategic nuclear warheads and bombs at 1,550, down approximately 30 percent from the 2,200 limit set by SORT and down 74 percent from the START-accountable limit of 6,000.
- Deployed intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and heavy bombers assigned to nuclear missions are limited to 700.
- Deployed and non-deployed ICBM launchers, SLBM launchers, and bombers are limited to 800.
- New START does not limit the number of non-deployed ICBMs and SLBMs, but it does monitor them and provide for continuous information on their locations and on-site inspections to confirm that they are not added to the deployed force.
- The Treaty does not place any constraints on the testing, development or deployment.

4. Inspections

- The New START Treaty provides for 18 on-site inspections per year.
- There are two basic types of inspections:
 - Type One inspections focus on sites with deployed and non-deployed strategic systems;
 - Type Two inspections focus on sites with only non-deployed strategic systems.
- In addition to the semi-annual aggregate data exchange, the parties exchange notifications about other Treaty matters on a much more frequent basis. These notifications are sent confidentially and securely through the U.S. and Russian Nuclear Risk Reduction Centre (NRRC).

5. Merits for U.S.

- Mutual limits, along with New START's robust verification and compliance regime – including national technical means (e.g. satellites), on-site inspections, required notifications, and data exchanges – enhance stability and reduce incentives for either country to engage in an arms race.
- New START was approved with overwhelming bipartisan support from the national security and foreign policy communities.
- President Trump's comments suggest two reasons he believes New START is one-sided. First, he expresses concern that the United States has fallen behind Russia in its nuclear capabilities. However, New START does not limit U.S. nuclear modernization.
- Russia, too, is in the middle of a major nuclear modernization program and is in the process of fielding new systems (some of the systems improve the survivability of the weapons, which actually enhances stability).
- As confirmed by the State Department's annual report, Russia is complying with the treaty's limits.
- US experts focused on China, and claimed that China had "an obligation to negotiate with (the United States) and Russia."

05

Google Anti-trust Case

1. Why in News?

- The United States (US) government has filed charges against Google, accusing the company of violating competition law to preserve its monopoly over internet searches and online advertising.
- The lawsuit marks the biggest challenge brought by US regulators against a major tech company in years.



5. Google in India

- In 2019, India's antitrust body, Competition Commission of India (CCI), had held Google guilty of misuse of its dominant position in the mobile Android market and said the company had imposed "unfair conditions" on device manufacturers to prevent them from using other operating systems.
- In February 2018, the CCI had fined Google Rs 136 crore for unfair business practices in the online search market. It said that Google had "allocated disproportionate real estate" for its affiliates, to the disadvantage of other companies that were trying to gain market access.
- Google has challenged the CCI findings in forums such as the National Company Law Appellate Tribunal and the Supreme Court.
- It was also found that Google has provided a further link in such commercial units which leads users to its specialised search result page (Google Flight) resulting into unfair imposition upon the users of general search services as well

2. About Lawsuit

- The charges, filed in federal court, were brought by the US Department of Justice and 11 other states. Arkansas, Florida, Georgia, Indiana, Kentucky, Louisiana, Mississippi, Missouri, Montana, South Carolina and Texas joined the Justice Department lawsuit.
- The lawsuit focuses on the billions of dollars Google pays each year to ensure its search engine is installed as the default option on browsers and devices such as mobile phones.
- Officials said those deals have helped secure Google's place as the "gatekeeper" to the internet, allowing it to own or control the distribution channels for about 80% of search queries in the US.
- Other major tech companies including Apple, Amazon and Facebook are under investigation at both the Justice Department and the Federal Trade Commission.

3. Charges

- Lawmakers and consumer advocates have long accused Google of abusing its dominance in online search and advertising.
- The case filed in federal court in Washington, DC, alleges that Google uses billions of dollars collected from advertisers to pay phone manufacturers to ensure Google is the default search engine on browsers.
- That stifles competition and innovation from smaller upstart rivals to Google and harms consumers by reducing the quality of search and limiting privacy protections and alternative search options, the government alleges.
- The company owns the leading web browser in Chrome, the world's largest smartphone operating system in Android, the top video site in YouTube and the most popular digital mapping system. Some critics have singled out YouTube and Android as among Google businesses that should be considered for divestiture.

4. Repeat Offender

- A previous case of a similar magnitude forced Google to cough up huge fine amounts, in addition to introducing a change in the company's AdSense policy after Federal Trade Commission (FTC) launched legal action against the company in 2013.
- Similar lawsuits against Google have emerged in Europe where the European Commission has imposed a fine of as high as EUR 4.3 billion in multiple cases including the one over the AdSense policies.
- In July, Google's Sundar Pichai was among the bosses of Big Tech companies appearing in the congressional session. Google was accused of leveraging its dominance on the internet to put down its competitors.
- Google, whose corporate parent Alphabet Inc. has a market value just over USD 1 trillion, controls about 90 per cent of global web searches. Barring a settlement, a trial would likely begin late next year or in 2022.

06 J&K Panchayati Raj Act

1. Why in News?

- Recently, the Union Cabinet has approved adoption of the Jammu and Kashmir Panchayat Raj Act, 1989 and said the process for local body polls in the union territory will start soon.
- The Union Information and Broadcasting Minister Prakash Javadekar said the move will help establish all the three tiers of grassroots level democracy like in other parts of the country for the first time since Independence.



2. Democracy for Grass-root Level

- There will be early elections in Jammu and Kashmir in all the three tiers of the panchayat, block and district level and people will elect their representatives soon. They did not have the opportunity to elect their local representatives. The power to elect will now be with the people.
- The three-tier system was not available in Jammu and Kashmir in the “pre-370 period”, but now it will be established in the Union Territory like in other parts of the country.
- The article 370 gave special status to the erstwhile state of Jammu and Kashmir.
- The home ministry had issued the executive order under which district development councils (DDCs) will be set up.
- The DDC along with the other two bodies, the Halqa Panchayats and the block development councils (BDCs) will complete the three-tier structure in Jammu and Kashmir.
- ‘Halqa’ means the area comprising a village or the contiguous number of villages determined by the government.

3. Order Issued after the Amendment

- The power to manage local bodies will go to the people, who will now elect their local representatives and will be able to do district and block-level planning, besides implementing various welfare schemes.
- The order issued after the amendment says, “Every district will be divided into 14 territorial constituencies to elect members of the body. The DDC shall consist of the directly elected members from territorial constituencies in the district, members of the Legislative Assembly representing a part or whole of the district whose constituencies lie within the district and the Chairperson of all Block Development Councils of the district”.
- All DDC members, whether or not elected by direct election from the territorial constituencies in the district, shall have the right to vote in the meeting of the District Development Council.
- MLAs will have no voting rights in the case of election or removal of the chairman and vice-chairman. Only the directly elected members shall have the right to vote.

4. Current Scenario

- Political parties in J&K have expressed concern that this will limit the MLAs’ role. The Assembly was dissolved in November 2018.
- Last year, the special status of the former State under Article 370 of the Constitution was revoked and it was downgraded and bifurcated into UTs- J&K and Ladakh, the latter without an assembly.
- Currently J&K is under the administrative control of the Lieutenant Governor.

07 10 Missiles in 35 Days

1. Why in News?

- The Defence Research and Development Organisation's (DRDO) effort to fast-track development of 'Made in India' strategic nuclear and conventional missiles comes against the backdrop of China's refusal to step back from the Line of Actual Control (LAC).
- DRDO has fired a missile every four days over nearly a month – comes against the backdrop of China's refusal to step back from the LAC.



2. Missile Testing

- **HSTDV**– On 7th September, India has successfully test fired the hypersonic technology demonstrator vehicle (HSTDV), becoming the fourth country after US, China and Russia, to test the technology that will pave the way for developing missiles that will travel six times faster than sound.
- **ABHYAS**– On 22nd September, DRDO has conducted successful flight test of ABHYAS High-speed Expendable Aerial Target (HEAT).
- **Prithvi-II**– On 23rd September, India has conducted successfully flight test of Prithvi-II. Prithvi-II is capable of carrying 500 to 1,000 kilogram of warheads and is thrusted by liquid propulsion twin engines. The state-of-the-art missile uses advanced inertial guidance system with manoeuvring trajectory to hit its target. Night trials also conducted.
- **ATGM**– On 23rd September, DRDO has conducted successfully flight test of laser-guided anti-tank guided missile (ATGM). The missile employs a tandem heat warhead to defeat explosive reactive armour protected armoured vehicles. It has been developed with multiple-platform launch capability and is currently undergoing technical evaluation trials from gun of MBT Arjun.
- **BrahMos Supersonic Cruise Missile**: On 30th September, India has conducted successfully flight test of BrahMos Supersonic Cruise Missile. The 'prime strike weapon' will ensure the warship's invincibility by engaging naval surface targets at long ranges, thus making the destroyer another lethal platform of Indian Navy.
- **Shaurya**– On 3rd October, India has conducted successfully flight test of advanced version of Shaurya ballistic missile. It is capable of carrying a nuclear warhead from a defence facility. Shaurya is about 10 metres long with a diameter of 0.74 metre. A land variant of India's K-15 missile, it has a strike range of 700 km to 1,000 km and is capable of carrying payloads of 200 kg to 1,000 kg.
- **SMART**– On 5th October, India has conducted successfully flight test of Supersonic Missile Assisted Release of Torpedo (SMART). It is a system that can hit enemy submarines when they are beyond torpedo range. Called as "game changer" in anti-submarine warfare.
- **RudraM-1**– On 10th October, India has conducted successfully flight test of India's first new-generation anti-radiation missile, RudraM-1. It can hit any radio frequency emitting target. The missile is integrated on the Su-30 MKI fighter aircraft.
- **Nirbhay**– On 12th October, India's first Indigenous Technology Cruise Missile (ITCM), Nirbhay tests aborted due to failure in weapon systems deviating from the pre-designated trajectory forcing defence scientists to abort the mission mid air.
- **BrahMos Extended Range Supersonic Cruise Missile**– On 18th October, India has conducted successfully flight test of BrahMos Extended Range Supersonic Cruise Missile, one of the fastest supersonic cruise missiles in the world, is capable of hitting targets at more than 400-km range. The cruise missile travels at a speed of Mach 2.8, nearly three times that of sound.

4. Deadlier to Defend its Borders

- Basic Exchange and Cooperation Agreement for Geo-Spatial Cooperation (BECA) has been signed between India and US.
- This agreement will give India access to topographical, nautical and aeronautical data vital for pinpointed attacks using missiles and armed drones.

3. Now 12 Missiles in 45 Days

- **SANT**– Stand-off anti-tank (SANT), air-to-surface missile for the Indian Air Force. An upgraded version of anti-tank missile - Helicopter Launched Nag (HeliNa), the SANT missile has both lock-on before launch and lock-on after launch capability. Equipped with an advanced nose-mounted seeker the missile can destroy targets 15 km to 20 km away. It has both Lock-on After Launch and Lock-on Before Launch capability. (19 Oct)
- **NAG**– The shoulder launched four-kilometre range missile with imaging infrared seeker to be inducted in Army. Indian Army will no longer have to import this weapon from either Israel or the US for the range of four kilometres. (21 Oct)

7 MCQ's WITH EXPLANATORY ANSWERS

(Based on Brain Boosters)

01 Heeng Cultivation in Indian Himalayan Region

Q1. Consider the following statements:

1. Asafoetida (Heeng) is one of the top condiments and is a high value spice crop in India, which is imported from other nations.
2. Currently, Heeng, is being attempted to be grown in Himalayan region, as it has specific climate for its growth.

Which of the following 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 the statements are correct. Asafoetida is one of the top condiments and is a high value spice crop in India. India imports about 1200 tonnes of raw asafoetida annually from Afghanistan, Iran and Uzbekistan and spends approximately 100 million USD per year.

Due to efforts of CSIR constituent laboratory, Institute of Himalayan Bioresource Technology (IHBT), Palampur, a historical shift in farming practices is in the offing with farmers of the remote Lahaul valley in Himachal Pradesh taking up cultivation of asafoetida (Heeng) to utilize vast expanses of waste land in the cold desert conditions of the region 

02 Asteroid Bennu

Q2. With reference to the NASA's exploration of asteroid Bennu, consider the following statements:

1. Study of asteroid Bennu can help to understand the beginning of life processes in a celestial body.
2. Asteroid Bennu got its name from a third grade school kid.
3. OSIRIS-REx mission is related to asteroid mining for commercial usage and attempts to explore asteroids mineral resources.

Which of the statements given above is/are correct?

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

Answer: (a)

Explanation: Statement 1 and 2 are correct. Bennu has also not undergone any significant changes since it was formed billions of years ago. It contains rocks as well as chemicals dating back to when the solar system was formed.

According to NASA, the organic material which scientists are hoping to find in the sample from Bennu does not come from Biology necessarily, but it could help them in further understanding how asteroids rich in organic material helped catalyse life on Earth.

Statement 3 is incorrect. OSIRIS-REx marks the first mission by NASA to collect and deliver to Earth samples from an ancient asteroid. The US space agency aims to collect at least 60 grams of dust and rocks from the asteroid and bring them back. This, NASA claims, would be the largest amount of celestial material brought back to Earth since the Apollo era. OSIRIS-REx was launched back in 2016, and it started orbiting asteroid Bennu in December 2018. 

03 National Authority of Ship Recycling

Q3. With reference to the ship recycling in India, consider the following statements:

1. Directorate General of Shipping is renamed as National Authority for Recycling of Ships.
2. India is currently not the signatory of Hong Kong Convention of IMO. Though India's existing Shipbreaking Code (revised), 2013 are being reformed to ratify this convention.
3. Asia is the largest ship-recycling place, where India leads the ship-recycling industry closely followed by Bangladesh.

Which of the statements given above is/are correct?

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

Answer: (b)

Explanation: **Statement 1 is correct.** Central Government has notified the Directorate General of Shipping as National Authority for Recycling of Ships under the section 3 of the Recycling of Ships Act, 2019. As an apex body, DG Shipping is authorized to administer, supervise and monitor all activities relating to Ship Recycling.

Statement 2 is incorrect. Under Ship Recycling Act, 2019, India has acceded to Hong Kong Convention for Ship Recycling under International Maritime Organization (IMO). With the enactment of the legislation, India has set global standards for safe and sound environment-friendly recycling of ships, as well as ensure adequate safety of the yard workers.

Statement 3 is correct. Currently, India recycles 70 lakh gross tonnage of ships per annum, while Bangladesh's contribution is 68 lakh gross tonnage. Pakistan scraps ships worth 37 lakh gross tonnage, while China accounts for 34 lakh gross tonnage of recycling. These four countries account for 90 per cent of the ships recycled globally. Post enactment of Recycle Act, India eyes 50 per cent of the global share as many countries will be sending ships here after India ratified the global convention.



04 New START Treaty

Q4. Consider the following statements with reference to the New START Treaty:

1. Strategic Arms Reduction Treaty is a bilateral treaty between US and Russia which is set to expire in February 2021.
2. New START treaty though limits the weapons deployed but does not limit non-deployed weapons and neither bans testing and development.
3. New START treaty is a verifiable treaty under which, both nations can verify its implementation by inspecting deployed and non-deployed weapon systems.

Which of the statements given above is/are correct?

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

Answer: (d)

Explanation: **Statement 1 and 2 are correct.** The United States rejected Russian President Vladimir Putin's call to prolong the New START (Strategic Arms Reduction Treaty) treaty for one year unconditionally, describing the notion as a "non-starter." This is a treaty on the reduction and limitation of strategic offensive arms. The agreement, one of the last restraints on Russia and the United States' nuclear forces, is set to expire in February 2021.

New START does not limit the number of non-deployed ICBMs and SLBMs, but it does monitor them and provide for continuous information on their locations and on-site inspections to confirm that they are not added to the deployed force. The Treaty does not place any constraints on the testing, development or deployment.

Statement 3 is correct. New START is the first verifiable U.S.-Russian nuclear arms control treaty to take effect since START I in 1994. The New START Treaty provides for 18 on-site inspections per year. There are two basic types of inspections: Type One inspections focus on sites with deployed and non-deployed strategic systems; Type Two inspections focus on sites with only non-deployed strategic systems.



05 Google Anti-trust Case

Q5. Consider the following statements:

1. Google has been time and again been blamed for monopolistic trade practices in US and Europe.
2. In India too, Google has been accused of similar practices that distort fair market competition and misuse of dominant position.

Which of the following 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 the statements are correct. The US government has filed charges against Google, accusing the company of violating competition law to preserve its monopoly over internet searches and online advertising. Similar lawsuits against Google have emerged in Europe where the European Commission has imposed a fine of as high as EUR 4.3 billion in multiple cases including the one over the AdSense policies. In July, Google's Sundar Pichai was among the bosses of Big Tech companies appearing in the congressional session. Google was accused of leveraging its dominance on the internet to put down its competitors.



06 J&K Panchayati Raj Act

Q6. With reference to the J&K Panchayati Raj Act, consider the following statements:

1. Jammu and Kashmir didn't have Panchayati Raj system in "pre-370 period". But now it'll have three tier system.
2. There will be limitation to the powers of MLAs in interfering with local bodies.

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 the statements are correct. The three-tier system was not available in Jammu and Kashmir in the "pre-370 period", but now it will be established in the Union

Territory like in other parts of the country. The article 370 gave special status to the erstwhile state of Jammu and Kashmir. The home ministry had issued the executive order under which district development councils (DDCs) will be set up. The DDC along with the other two bodies, the Halqa Panchayats and the block development councils (BDCs) will complete the three-tier structure in Jammu and Kashmir.

All DDC members, whether or not elected by direct election from the territorial constituencies in the district, shall have the right to vote in the meeting of the District Development Council," reads the amendment. MLAs will have no voting rights in the case of election or removal of the chairman and vice-chairman. Only the directly elected members shall have the right to vote.



07 10 Missiles in 35 Days

Q7. Consider the following statements:

1. RudraM -1 is India's first anti-radiation missile.
2. NAG and SANY, both are anti-tank missiles, the difference is that NAG is fired from shoulder while SANT is fired from air.
3. India is the second country after US to have tested the technology that will enable India to develop missiles that will travel six times the speed of sound.

Which of the statements given above is/are correct?

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

Answer: (a)

Explanation: Statement 1 and 2 are correct. India's first new-generation anti-radiation missile (NGARM) can hit any radio frequency emitting target. The missile is integrated on the Su-30 MKI fighter aircraft.

SANT - Stand-off anti-tank (SANT), air-to-surface missile for the Indian Air Force. An upgraded version of anti-tank missile - Helicopter Launched Nag (HeliNa), the SANT missile has both lock-on before launch and lock-on after launch capability. NAG - The shoulder launched four-kilometer range missile with imaging infrared seeker to be inducted in Army.

Statement 3 is incorrect. India successfully test fired the hypersonic technology demonstrator vehicle (HSTDV), becoming the fourth country after US, China and Russia, to test the technology that will pave the way for developing missiles that will travel six times faster than sound.



7 IMPORTANT NEWS

01

The Places of Worship (Special Provisions) Act, 1991

- ◆ Expressing concern over Kashi and Mathura temples being dragged into legal dispute a year after the Supreme Court's Ayodhya verdict, the Sunni Central Waqf Board has sought strict implementation of the Places of Worship Act.

The Places of Worship (Special Provisions) Act, 1991

- ◆ The Places of Worship (Special Provisions) Act, 1991 provides for maintaining the "religious character" of holy structures as it existed on August 15, 1947.
- ◆ The Places of Worship Act clearly prohibits the conversion of any place of worship and maintain its religious character as it existed on 15 August, 1947.
- ◆ The Supreme Court's verdict which had cleared the construction of a Ram temple at the disputed site in Ayodhya where the demolished Babri Masjid once stood has also reiterated the places of worship act.
- ◆ Section 2(c) of the Act defines "Place of worship" as a temple, mosque, gurudwara, church, monastery or any other place of public religious worship of any religious denomination or any section thereof, by whatever name called. The clauses do not include recognised ancient monuments, though. The law was made with intention to deter copycat politico-religious movements to change the nature of existing religious places elsewhere.
- ◆ Section 3 of the act states that no person shall convert any place of worship of any religious denomination or any section thereof into a place of worship of different section of same religious denomination or of a different religious denomination or any section thereof.
- ◆ Offences under the act are punishable with a jail term which may extend up to three years as well as a fine. Even making an attempt to change any place of worship, abetting it, or being party to a conspiracy to do so would invite a jail term. The offence would also be included in Section 8 of the Representation of People Act, 1951, for the purpose of disqualifying candidates in elections should be sentenced for two years or more, under this act.



02

Global Himalayan Expedition

- ◆ An Indian organisation that leverages tourism and technology to help remote communities access solar energy has won a prestigious United Nations (UN) award for its efforts to combat climate change amid the COVID-19 pandemic.
- ◆ **Key Highlights**
 - ◆ The Global Himalayan Expedition (GHE) is among the winners of the 2020 UN Global Climate Action Award. GHE is one of the world's first organisations using tourism and technology to bring solar energy to remote communities.
 - ◆ The recipients of the 2020 United Nations Global Climate Action Awards bring focus to the best examples of what people across

the globe are doing to combat climate change in a year that has cast darkness upon so many.

- ◆ In the Hindu Kush Region, there are more than 16 million people without access to basic energy mainly due to their geographic remoteness.

About GHE

- ◆ GHE is the one of the world's first outfit using tourism and technology to bring solar energy to remote communities as recognised by the World Travel and Tourism Council (WTTC) and the United Nations World Tourism Organisation (UNWTO).



- ◆ GHE conducts "Impact Expeditions" to remote Himalayan villages and uses a portion of the expedition

fee to fund the capital cost of the hardware, transportation, installation and training of village-scale solar micro-grids.

03

Newly Identified Tectonically Active Zone in Himalayas

- ◆ The suture zone of the Himalayas or the Indus Suture Zone (ISZ) in the Ladakh region where Indian and Asian Plates are joined has been found to be tectonically active, as against current understanding that it is a locked zone. This could have major implications in terms of earthquake study, prediction, understanding the seismic structure of the mountain chains well as its evolution.



been neo-tectonically active since the last 78000 - 58000 years and a recent earthquake in 2010 of low magnitude 4.0 near the village of Upshi that occurred due to a thrust rupture.

- ◆ H i m a l a y a were known to be made up of north

Key Highlights

- ◆ A group of Scientists from Wadia Institute of Himalayan Geology (WIHG), Dehradun, an autonomous institute under the Department of Science and Technology have found through observations and detailed mapping of geological features that the suture zone of Himalaya that was conventionally thought to be locked is tectonically active.
- ◆ The geologists observed that sedimentary beds are tilted and thrust broken, the rivers are

associated with uplifted terraces, and the bedrock shows brittle deformation that occurred at much shallower depths.

- ◆ These deformed geological features were then dated in the laboratory at Dehradun using a technique called Optically Stimulated Luminescence (OSL) (method for carrying Luminescence dating of geological sediments) and data of seismicity and denudation rate reviewed. The combination of field and lab data suggested the region of the Indus Suture Zone (ISZ) has

dipping thrusts like the Main Central Thrust (MCT), the Main Boundary Thrust (MBT), and the Main Frontal Thrust (MFT). As per the established models, all of these thrusts except MFT are locked, and overall deformation in Himalaya is being accommodated only along with the MFT. The new findings, which suggest a more remote fault at the suture zone being neo-tectonically active, could call for a serious relook into the existing evolutionary models using new techniques and a larger geological database.

04

'Dharani' Land Records Portal

- ◆ The government of Telangana has launched the ambitious Dharani portal, the one-of-its-kind integrated land record management system. The launch will also witness resumption of registration services that had been abruptly stopped since September 7 consequent to the passage of bills ushering in major reforms in the Revenue Administration.



- ◆ The portal was conceived as a one-stop solution for all land related transactions across the State and decided to make all the transactions online. This on the one hand would reduce human intervention to the maximum extent and pave the way for hassle-free, simple and transparent process for the people on the other.

- ◆ Farmers can complete their land transactions including sale, transfer and mutation, without making the rounds of various offices.
- ◆ Intensive hands-on training has been given to the employees at different levels on the operation of the new system.
- ◆ The government has also initiated steps to see that experienced players were made part of supply installation and commissioning of the high speed SAN (storage area network) with capacity of 200 TB connecting different data storage devices to seven servers that would be exclusively functioning for Dharani.



Key Highlights

- ◆ The Dharani portal is being developed by Telangana State Technical Services (TSTS) department and it will comprise two parts for agricultural lands and non-agricultural lands separately.

05

New Family of Bony Fish Discovered in Western Ghats

- ◆ Scientists from India, Germany, United Kingdom and Switzerland have discovered a new family of bony fish from the Western Ghats, and named it Aenigmachannidae.
- ◆ A year after the discovery of the enigmatic Gollum Snakehead, Aenigmachanna gollum from the rice fields of northern Kerala, scientists have now conducted detailed studies on its skeleton and genetic assembly.
- ◆ The study led to the recognition that this species, and its congener Aenigmachanna mahabali, represents a new family different from Channidae, in which both species were initially placed.
- ◆ According to scientists, the subterranean ecosystems of Kerala harbour some of the planet's most bizarre species such as Horaglanis krishnii, Kryptoglanis



shajii, Aenigmachanna gollum and Monopterus digressus.

About Fish

- ◆ The members of Aenigmachannidae are "living fossils" and comprise an ancient gondwanan lineage that survived the break-up of the supercontinent and the northward

drift of the Indian subcontinent, about 100 million years ago.

- ◆ The gollum snakehead, Aenigmachanna gollum and the mahabali snakehead, Aenigmachanna mahabali are known to occur in the aquifers and subterranean channels connected to paddy fields and dug-out wells in Malappuram and Pathanamthitta districts of Kerala.



06

Fossils of Giant Birds

Scientists have identified the fossil of a giant bird that lived about 50 million years ago, with wingspans of up to 21 feet that would dwarf today's largest bird, the wandering albatross. By comparison, today's largest bird, the wandering albatross has a wingspan of 11 and-a-half-feet.

Key Highlights

- ◆ The fossils recovered from Antarctica in the 1980s represent the oldest giant members of an extinct group of birds that patrolled the southern oceans. Called Pelagornithids, the birds filled a niche much like that of today's albatrosses and travelled widely over Earth's oceans for at least 60 million years.
- ◆ Though a much smaller pelagornithid fossil dates from 62 million years ago, one of the



newly described fossils — a 50 million-year-old portion of a bird's foot — shows that the larger pelagornithids arose just after life rebounded from the mass extinction 65 million years ago, when the relatives of birds, the dinosaurs, went extinct.

About Bird

- ◆ Pelagornithids are known as 'bony-toothed' birds because of

the bony projections, or struts, on their jaws that resemble sharp-pointed teeth, though they are not true teeth, like those of humans and other mammals.

- ◆ The bony protrusions were covered by a horny material, keratin, which is like our fingernails.

Called pseudoteeth, the struts helped the birds snag squid and fish from the sea as they soared for perhaps weeks at a time over much of Earth's oceans.

- ◆ The pelagornithids came along to claim the wingspan record in the Cenozoic, after the mass extinction, and lived until about 2.5 million years ago. Around that same time, teratorns, now extinct, ruled the skies.



07

'Weird' Molecule in Titan's Atmosphere

- ◆ NASA scientists have identified a molecule in Titan's (Saturn's Moon) atmosphere that has never been detected in any other atmosphere. In fact, many chemists have probably barely heard of it or know how to pronounce it: cyclopropenylidene, or C₃H₂. Scientists said that this simple carbon-based molecule may be a precursor to more complex compounds that could form or feed possible life on Titan.

Key Highlights

- ◆ Researchers found C₃H₂ by using a radio telescope observatory

in northern Chile known as the Atacama Large Millimeter/submillimeter Array (ALMA).

- ◆ C₃H₂ is made of carbon and hydrogen, while sifting through a spectrum of unique light signatures collected by the telescope; these revealed the chemical makeup of Titan's atmosphere by the energy its molecules emitted or absorbed.

About Titan

- ◆ The largest of Saturn's 62 moons, Titan is an intriguing world that's in some ways the most similar one to Earth we have found. Unlike any other moon in the solar system —

there are more than 200 — Titan has a thick atmosphere that's four times denser than Earth's, plus clouds, rain, lakes and rivers, and even a subsurface ocean of salty water.

- ◆ Titan's atmosphere is made mostly of nitrogen, like Earth's, with a hint of methane. When methane and nitrogen molecules break apart under the glare of the Sun, their component atoms unleash a complex web of organic chemistry that has captivated scientists and thrust this moon to the top of the list of the most important targets in NASA's search for present or past life in the solar system.



7

IMPORTANT PRACTICE QUESTIONS (For Mains)



01

“US-India defence relationship reflects alignment on security issues of mutual concern.” Discuss it in the context of upward trajectory of Indo-US relations.

02

Discuss the impact of social media platforms on influencing elections all over the world.

03

“Promotion of the production and consumption of nutri-cereals is a policy shift in the right direction.” Discuss it in the context of a malnutrition-free India and doubling of farmers’ income.

04

“India can play a constructive role in evolving a multipolar and just world order.” Comment.

05

Quad needs a definitive blueprint to have meaningful impact in the Indo-Pacific region. Elaborate.

06

Socialism has been a handy weapon in successfully fighting poverty in India. Do you agree? Give suitable examples.

07

What is meant by ‘crisis of conscience’? How does it manifest itself in the public domain?

7

IMPORTANT FACTS (For Prelims)



01



03



05

- 01** Which two Indian sites have been designated as 'Ramsar Sites' recently?

Asan Conservation Reserve (Uttarakhand) and Kabartal Wetland (Bihar)
- 02** Which Indus Valley Civilisation site has shown the evidence of dairy production?

Kotada Bhadli (Gujarat)
- 03** Which nation has announced child care leave for male government employees?

India
- 04** Which country has set a 2050 deadline for carbon neutrality?

Japan
- 05** Which Indian organization has won '2020 UN Global Climate Action Award'?

Global Himalayan Expedition
- 06** Which space mission has discovered water on Sunlit Surface of Moon?

Stratospheric Observatory for Infrared Astronomy (SOFIA)
- 07** Who has been awarded with "Dr.Tulsi Das Chugh Award" for the year 2020?

Dr Satish Mishra

7

IMPORTANT QUOTES (For Essay and Answer Writing)



01

"A coward is incapable of exhibiting love; it is the prerogative of the brave."

Mahatma Gandhi

02

"Facts are facts and will not disappear on account of your likes."

Jawaharlal Nehru

03

"Comfort is no test of truth. Truth is often far from being comfortable."

Swami Vivekananda

04

"You can change friends, but not neighbours."

Atal Bihari Vajpayee

05

"The hunger for love is much more difficult to remove than the hunger for bread."

Mother Teresa

06

"If you want to shine like a sun, first burn like a Sun."

Dr. A P J Abdul Kalam

07

"The more you see the good in them, the more you will establish good in yourself."

Paramahansa Yogananda



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AN INTRODUCTION

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