

PERFECT 7

WEEKLY

CURRENT AFFAIRS

October: 2019/ Issue-3

STUBBLE BURNING

Affecting the Air Quality

- The Idea of Regional Benches of Supreme Court : An Understanding
- The Draft Model Tenancy Act, 2019 : An Introduction
- Health System Conditionality Report of States : An Assessment
- India - China : Second Informal Summit, 2019
- Nobel Prize - 2019 : An Overview
- Zero Budget Natural Farming : An Analysis



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(ध्येय IAS टीम एवं छात्रों द्वारा किये गए प्रतिबद्ध और समर्पित प्रयासों का परिणाम)

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DHYEYA IAS : AN INTRODUCTION



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

Vinay Kumar Singh
CEO and Founder
Dhyeya IAS



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

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Q H Khan
Managing Director
Dhyeya IAS

PERFECT 7 : AN INTRODUCTION



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

I extend best wishes for the success of this endeavor.

Qurban Ali

Chief Editor

Dhyeya IAS

(Ex Editor- Rajya Sabha TV)



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

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

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

The new 'avatar' of 'Perfect 7' is a result of your love and affection. We feel inspired to continue our efforts to deliver effective and valuable content in interesting manner. Our promise of quality has reached you in around 100 issues and more are yet to come.

Ashutosh Singh

Managing Editor

Dhyeya IAS



PREFACE

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

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

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

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

Omveer Singh Chaudhary
Editor
Dhyeya IAS

Perfect 7

The Weekly Issue

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Our other initiative



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News Paper



DHYEYA TV

Current Affairs Programmes hosted

by Mr. Qurban Ali

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

SEVEN IMPORTANT ISSUES

1. STUBBLE BURNING : AFFECTING THE AIR QUALITY

Why in News?

The Delhi government released an image by the National Aeronautics and Space Administration (NASA) which showed large scale stubble burning in adjoining states of Delhi. The image clearly demonstrated stubble burning points in Punjab and Haryana, along with other areas.

Introduction

Farmers in Punjab and Haryana usually burn the residue after harvesting paddy in the autumn to clear the fields of the summer harvest and make way for the sowing of wheat, despite there being a ban on burning agricultural residue. Smoke from Punjab and Haryana travels to Delhi every year, leading to a spike in pollution levels.

The issue for consideration is the remedial action against air pollution caused by crop burning. It is reported that 25%-30% contribution to the air pollution in the NCR is caused by burning of crops in the States of Punjab, Haryana, Uttar Pradesh and Delhi. The reason for burning of crop residue is that the time available for sowing next crop in October-November, after harvesting of the paddy crop is too less and burning of crop is a shortcut which enables the farmers to make the field ready for next sowing faster.

The matter has been considered by concerned tribunal on various dates. The view of experts is that in-situ management of the crop residue is beneficial to the soil organisms and has nutrient value. This benefit is ignored either on account of ignorance or on account of curiosity to sow the

next crop at the earliest. The paddy crop residue is not useful as fodder on account of silica content. As per the newspaper reports, 15,000 deaths took place in the year 2016 in the NCR on account of air pollution which required exploring measures for controlling the air pollution.

Reasons for Stubble Burning

India is the third largest wheat producer and there is pressure on farmers to grow more and more crops. Also, we are not tracking soil health. Soil biology is not discussed much.

When it comes to wheat residue burning in Punjab, there is a problem with manual labour. Migrant workers have stopped visiting the state. There is a mismatch between manual labour required and its availability, as most migrant workers leave in October-November and come back in May-June.

Though wheat straw is suitable for animals, it is problematic to store huge volumes of straw in one part of the land. It is also difficult to transport it back to villages, as additional cost is incurred. At the village level, there is also the problem of selling the husk due to the absence of a proper rate for fodder. Absence of market linkages is responsible for this.

Besides India, wheat stubble burning is an issue in China as well. This is primarily happening in rice-wheat system areas where farmers have to go for transplanting of rice manually after wheat. Small stubbles, if not managed properly, create obstacles to labourers in transplanting. Sometimes, stubbles accumulate in one area of the field and damage newly planted rice seedlings.

Burning of wheat stubble has been going on for decades. Earlier, bulk of the harvesting was done manually and then the stubble used to be pulled out or ploughed back into the field. With the increase in mechanised harvesting, longer stalks are left back. These require a longer time to decompose once ploughed back into the land. So, farmers tend to burn the crop residue and then plough the land.

The main problem behind crop burning is the rotational cropping system of rice and wheat. Farmers burn stubble as they have to quickly clear the fields for the next crop. Also, cost of fodder is too high or of converting the stubble into something else.

Environmental and Health Risks

A study estimates that crop residue burning released 149.24 million tonnes of carbon dioxide (CO₂), over 9 million tonnes of carbon monoxide (CO), 0.25 million tonnes of oxides of sulphur (SOX), 1.28 million tonnes of particulate matter and 0.07 million tonnes of black carbon. These directly contribute to environmental pollution, and are also responsible for the haze in Delhi and melting of Himalayan glaciers.

- ◆ The heat from burning paddy straw penetrates 1 centimetre into the soil, elevating the temperature to 33.8 to 42.2 degree Celsius. This kills the bacterial and fungal populations critical for a fertile soil.
- ◆ Burning of crop residue causes damage to other micro-organisms present in the upper layer of the soil as well as its organic quality.

Due to the loss of 'friendly' pests, the wrath of 'enemy' pests has increased and as a result, crops are more prone to disease. The solubility capacity of the upper layers of soil have also been reduced.

- ◆ According to a report, one tonne stubble burning leads to a loss of 5.5 kilogram nitrogen, 2.3 kg phosphorus, 25 kg potassium and more than 1 kg of sulfur — all soil nutrients, besides organic carbon.
- ◆ A study revealed that 84.5 per cent people were suffering from health problem due to increased incidence of smog. It found that 76.8 per cent people reported irritation in eyes, 44.8 per cent reported irritation in nose, and 45.5 per cent reported irritation in throat.

Cough or increase in cough was reported by 41.6 per cent people and 18.0 per cent reported wheezing. Another study by the Institute for Social and Economic Change, Bengaluru, estimated that people in rural Punjab spend Rs 7.6 crore every year on treatment for ailments caused by stubble burning.

Government Interventions

Stringent measures to mitigate crop burning and further to regulate crop waste management require involvement of the appropriate Government agencies. Several attempts were made by the Government of India to introduce and educate the agricultural community about the best practices of agricultural waste management through Government-initiated projects. Numerous forums and proposals were also formulated by environmentalists and Government officials to curb crop residue burning and to promote the usage of alternative sustainable management methods. Some of the laws that are in operation pertaining to crop residue burning are:

The Section 144 of the Civil Procedure Code (CPC) to ban burning of paddy; The Air Prevention and Control of Pollution Act, 1981; The Environment Protection Act, 1986; The National Tribunal Act, 1995; and The National Environment Appellate Authority Act, 1997. Particularly, in the states of Rajasthan, Uttar Pradesh, Haryana and Punjab stringent measures have been taken by the National Green Tribunal (NGT) to limit the crop residue burning.

The Union Ministry of Earth Sciences (MoES) has launched an advanced Air Quality Early Warning System, which can predict places neighbouring Delhi that are likely to burn crop residue on a given day. The system, developed by Indian Institute of Tropical Meteorology, Pune, under MoES, uses data of stubble burning incidents from the past 15 years to predict the date and place of the next burning, and help authorities to act in advance.

- ◆ Using the data, the Centre for Development of Advanced Computing (C-DAC), under the aegis of the Central Pollution Control Board, creates probability maps to alert government agencies about areas where the chances of stubble burning is going to be high.
- ◆ The system can also track pollution load from stubble burning in places neighbouring the national capital, using satellite data. It can predict the air pollution level for next 72 hours.

In terms of efforts being made to reduce crop residue burning, the following approaches have been used by various state and central administrations and regulatory bodies so far:

1. **Banning Crop Residue Burning:** Crop residue burning was notified as an offence under the Air Act of 1981, the Code of Criminal Procedure, 1973 and various appropriate Acts. In addition, a penalty is being imposed on any offending farmer. Village and

block-level administrative officials are being used for enforcement.

2. **Detection and Prevention:** A combination of remote sensing technology—use of satellite imagery—and a team comprising local officials—Sub-Divisional Magistrates, Tehsildars, Block Development Officers, Patwaris and village-level workers—is being used to detect occurrences of crop residue burning in real-time and to prevent them from taking place.
3. **Establishment of a Marketplace for Crop Residue:** Efforts are being made to increase the avenues for the alternate usage of paddy straw and other crop residue. For instance, paddy straw has a considerable calorific value, making it suitable for use as a fuel in biomass-based power plants. Similarly, it can be utilised for the preparation of bio-fuels, organic fertilisers and in paper and cardboard making industries. The strategy, broadly, is to assign a real economic and commercial value to the agricultural residue and making burning it an economic loss to the farmer.
4. **Outreach and Public Awareness Campaigns:** There are ongoing efforts to highlight the health effects of crop residue burning. It produces extremely high levels of toxic particulates, which affect the health of the people in the direct vicinity of the burning. In addition, efforts are also being made through kisan camps, trainings and workshops, apart from campaigns through various print media, televised shows and radio jingles, in informing farmers about the alternative usage of crop residue.
5. **Subsidy on Agri-implements:** The state governments, in collaboration with the Centre, has rolled out schemes for providing subsidy on mechanical implements that help tillage of soil, so that the crop residue can be retained in the soil,

adding to its fertility, or alternately, collection of crop residue for putting it to commercial usage. However, the high cost of these implements means that in spite of subsidies, only a small number of farmers have access to these implements at the moment.

6. **Crop Diversification:** There are various ongoing, long-term efforts at diversification of cropping techniques, such that crop residue burning can be effectively prevented. This is being attempted through cultivation of alternate crops (apart from rice/paddy and wheat) that produce less crop residue and have greater gap periods between cropping cycles.

National Policy for Management of Crop Residue

Few measures, associated with bio-composting are run by the Indian government. The Ministry of Agriculture of India recently developed a National Policy for Management of Crop Residue (NPMCR). Important provisions of the same are as under:

- ◆ Promote the technologies for optimum utilization and in-situ management of crop residue, to prevent loss of valuable soil nutrients, and diversify uses of crop residue in industrial applications.
- ◆ Develop and promote appropriate crop machinery in farming practices such as modification of the grain recovery machines (harvesters with twin cutters to cut the straw). Provide discounts and incentives for purchase of mechanized sowing machinery such as the happy seeder, turbo seeder, shredder and baling machines.
- ◆ Use satellite-based remote sensing technologies to monitor crop residue management with the National Remote Sensing Agency (NRSA) and Central Pollution Control Board (CPCB).
- ◆ Provide financial support through multidisciplinary approach and

fund mobilization in various ministries for innovative ideas and project proposals to accomplish above.

In 2018, a new Central Sector Scheme on 'Promotion of Agricultural Mechanization for In-Situ Management of Crop Residue in the States of Punjab, Haryana, Uttar Pradesh and NCT of Delhi' has been launched with the total out go from the Central funds of Rs. 1151.80 crore.

Sustainable Management Practices for Crop Residue

Alternative measures have long been suggested by scientists and agriculturalists over the past decade to counter crop residue burning, but due to a lack of awareness and social consciousness among the farmers these measures have not been fully implemented. This could be one of the reasons why biogas production has prospered while other alternatives such as using crop residue as raw material for animal feed, paper industry, construction industry have not become very popular.

If a solution involves making another product out of crop residue, such a product should have a secured market for this solution to succeed. In certain cases, logistic issues in transportation of the materials to larger distances also adds to the cost. The Government of India recently directed the National Thermal Power Corporation (NTPC) to mix crop residue pellets (nearly 10%) with coal for power generation.

Utilisation of paddy straw in the form of biomass pellet fuel, which can be commercially sold as the main fuel for an industrial boiler, as a replacement for coal. Micro-pelletisation establishments need to be incentivised and local usage promoted. Alternate usage of paddy straw to produce paper, card boards, packing materials needs to be promoted, as an alternative to synthetic compounds.

Way Forward

Each year, crop burning in the region is the start of the annual escalation of pollutant concentrations in the air, leading to massive winter pollution in the region. It is exacerbated by the massive usage of firecrackers in the region, around Diwali, at the end of October. Followed by this, the weather patterns change, making temperatures drop and reducing the dispersion effect of pollutants. Burning of biomass (leaves, and other organic waste) and garbage through thousands of small fires lit for warmth, along with massive municipal solid waste landfill site fires only add to making the air full of toxic pollutants and unfit for breathing.

Educating the farming community and other related stakeholders is crucially important to bring them out of generational thinking that they are used to that the waste management is not their responsibility. It is even more important to empower them with technical as well as socioeconomic assistance. They should be educated about the advantage of reduced agrochemical cost due to the utilization of compost and the extra revenue they can receive through other type of recovery programs such as energy production.

The last, but perhaps the most important piece of the puzzle is the sectorial thinking of the curtailing of the crop residue burning issues only to agricultural sector and energy, even though it touches upon many other sectors, such as environment, economy, social aspects, and education. This sectorial thinking can be overcome by embracing nexus thinking, which promotes a higher-level integration that goes beyond the disciplinary boundaries.

General Studies Paper- III

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



2. THE IDEA OF REGIONAL BENCHES OF SUPREME COURT : AN UNDERSTANDING

Why in News?

Referring to the recommendation of Parliamentary Standing Committee on Law, Vice-president of India made a call for bifurcation of Supreme Court and setting up four Regional Benches which does not need any change in Constitution.

Introduction

The Lawyers, urge the Indian government to set up a regional branch of the Supreme Court in Chennai for the benefit of 'people of Tamil Nadu and South Indian States. Similar demands are being made by lawyers from the other regions. And reiterated the need for justice to be accessible – and that the regional Supreme Court could be a step in that direction. The challenge for South Indians and Indians in North East India is bundled with language barrier, the travel to New Delhi, the exorbitant ticket fares, the time spent on travel, lack of affordable accommodation and the primary issue being unaffordable exorbitant fees charged by Supreme Court advocates. The aforesaid issues have discouraged the weaker section of the society from seeking legal assistance from the Supreme Court.

In spite of the aforesaid issues, the highest number of appeals from outside north zone are filed from South India. The highest number of appeals to the Supreme Court are from regions close to Delhi. Very few cases are appealed to the SC from the South due to distance factor, which is a clear contradiction to the right of access to justice. When averaging 2006, 2007, 2008, and 2011 the Delhi High Court had the highest appeal rate of 9.3%. The Uttaranchal and Punjab and Haryana High Courts which are both near Delhi and are located in relatively

wealthier states also had appeal rates to the Supreme Court of over 5%. All other High Courts besides Himachal Pradesh (3.2%) and Bombay (3.0%) had an appeal rate of less than 3%. Madras had an appeal rate of just 1.1% and Orissa less than 1%. Seen in this light, establishment of a bench in the South becomes pertinent in order to make available access to justice to all citizens

However, Some Lawyers quote the example of High Court set up in India, “Just like we have a bench of the Madras High Court in Madurai, there should be a regional Supreme Court in the south. In Maharashtra, there are two regional branches of the Bombay High Court in Aurangabad and Nagpur. Unity is not affected by this.”

Currently, there are 25 high courts in India out of which 7 high courts have regional bench and some have more than one regional bench. Most of the high courts have a principal seat (headquarters), and some high court may have permanent benches (subordinate to the principal seat), circuit benches (functional a few days in a month/year).

Need for Regional Benches

Many states have been asking for this; it has been a long-standing demand. It is high time that we have a regional Supreme Court. A Supreme Court bench in the south zone is beneficial for the judicial system too as it can mitigate the burden of the Supreme Court bench in Delhi which deals with matters all by itself. Access to justice is a guaranteed fundamental right under the Constitution, more particularly Article 21.

The right of access to justice has been recognised as one of the fundamental and basic human rights

in various international covenants and charters. Inaccessibility of this right undermines public confidence in the justice delivery system and incentivises people to look for short-cuts and other ways to achieve justice. In the long run, this also weakens the justice delivery system and poses a threat to Rule of Law. The Supreme Court has emphasized time and again the responsibility of the Centre to provide the weaker sections with free legal aid but its failure on the part of the law ministry if there is no cap on fees charged to create uniformity in the system.

There are a number of barriers to those seeking justice: it is inaccessible, expensive, time-consuming, the language is different, etc.” It has been pointed out that Article 39A says that “the state shall secure that the operation of the legal system promotes justice, on a basis of equal opportunity. The state should ensure that opportunities for securing justice are not denied to any citizen by reason of economic or other disabilities.

Supreme Court of India

On 26 January 1950, the day India's constitution came into force, the Supreme Court of India was formed in Delhi. The Supreme Court of India comprises the Chief Justice and 33 other Judges appointed by the President of India, as the sanctioned full strength. Supreme Court Judges retire upon attaining the age of 65 years. The proceedings of the Supreme Court are conducted in English only. Supreme Court Rules, 1966 are framed under Article 145 of the Constitution to regulate the practice and procedure of the Supreme Court. The Supreme Court of India is the highest court of the land as established by Part V, Chapter IV of the Constitution of India.

According to the Constitution of India, the role of the Supreme Court is that of a federal court, guardian of the Constitution and the highest court of appeal. Articles 124 to 147 of the Constitution of India lay down the composition and jurisdiction of the Supreme Court of India. The Supreme Court of India is one of the one most powerful apex courts in the world with a wide jurisdiction and wielding enormous powers of judicial review against executive action and laws made by the legislature, and it has vested within itself the power to review amendments to the Constitution as well. It is also the apex body charged with resolving disputes between the Centre and States, and the States inter se, under Article 131 of the Constitution. The Supreme Court's jurisdiction can be broadly classified under three heads: Original Jurisdiction, Appellate Jurisdiction and Advisory jurisdiction.

Constitutional Requirement For Establishing Benches Of SC

The 95th Law Commission Report put forth that, for bringing into effect the recommendation of the division of the Supreme Court into Constitutional and Legal Division, an amendment of the Constitution would be necessary, i.e. an ordinary legislation, vide article 246(1) read with Entry 77 of the Union List or statutory rules. However, the recommendations of the 229th Law commission report is more feasible, as the foremost advantage of setting up of benches in the manner prescribed in the 229th report, is its effectiveness without any delay, since the constitution of benches is a matter within the purview and jurisdiction of the Supreme Court itself, under the Supreme Court Rules 1966.

Moreover, a plenary reading of Article 130 of the Constitution, is

wide enough to provide constitutional mandate for the establishment of the Benches of the Court. Article 130 reads as: "The Supreme Court shall sit in Delhi or in such other place or places, as the Chief Justice of India may, with the approval of the President, from time to time, appoint." Though Article 130 cannot be construed as casting a mandatory obligation on the Chief Justice of India to appoint place or places other than Delhi as the seat of the Supreme Court, it is an enabling provision which empowers the Chief Justice of India, with the approval of the President, to do the same.

Recommendations of Law Commission and Parliamentary Standing Committee

The 229th Law Commission Report titled "Need for division of the Supreme Court into a Constitution Bench at Delhi and Cassation Benches in four regions at Delhi, Chennai/Hyderabad, Kolkata and Mumbai", depending on the prior Law Commission reports, laid down the foundation of the Benches of the Supreme Court, setting out the reason for the denied access to justice to individuals living far from Delhi.

The Parliamentary Standing Committee on Law and Justice, has every now and then recommended in its respective reports, that for wide access to justice and for diminishing the build-up, it is important to set up the seats of the Supreme Court contingent upon the local separation. In the second (2004), sixth (2005) and fifteenth (2006) reports, it was laid out that keeping in mind the end goal to advance rapid justice, seats of the Supreme Court must be set up in the North-Eastern, Western and Southern parts of the nation.

Thus, it is evident both from the Law Commission Reports and the Reports of Parliamentary Standing Committee, that there have been

recommendations to the legislature ever since 1986 about the growing need for the establishment of the benches of the Supreme Court, for reducing the transaction cost of the potential litigant and also of ensuring full access to justice. Also, the serious issue of backlog that the Supreme Court faces, could be considerably reduced by the classification of the Supreme Court into legal and Constitutional division and the establishment of the benches of Supreme Court in the Southern, Western and Eastern part of the country respectively.

Arguments In-favor of Multiple Benches

The founding fathers of the Constitution never envisaged the Supreme Court to be geographically concentrated in Delhi. With the rising arrears of cases and practical difficulties being faced by poor litigants, it is about time that the idea of setting up both regional and functional benches be explored seriously. The essential reasons for the establishment of benches of Supreme Court are given below:

- ◆ To ensure that a litigant from south is not deterred from appealing to the SC due to the financial burden of flight expenses, accommodation in Delhi and the per appearance fees of counsels in Supreme Court, which is tremendously high on a common man's pocket.
- ◆ To provide more opportunity to the common man to engage a counsel who fought the case in the lower courts than relying on a SC advocate who has no knowledge of the case.
- ◆ To ensure Justice for all through speedy disposal of several pending cases from the South, the highest from any zone. In its 20th (2007), 26th (2008) and 28th (2008) Reports, the Department Related

Parliamentary Standing Committee on Personnel, Public Grievances, Law and Justice suggested that a bench of the Supreme Court should be established at least in Chennai on trial basis as this would be of immense help to the poor who cannot travel from their native places to Delhi.

- ◆ To ensure that distance factor which effects in monitoring the cases which come on appeal is mitigated.

Arguments Against the Regional Bench

Numerous eminent lawyers and a former Chief Justice of India, have expressed reservations against splitting the Supreme Court into regional benches, which will tamper with the original concept of an apex court, envisioned by the drafters of the Constitution. If benches are to be formed in the name of people's access to justice, maximal transparency remains integral to decisions to decentralise justice delivery. Transparency in access decisions also means avoidance of judicial feudalism, a disvirtue in constitutional governance. Articulate and elaborate processes of judicial deliberation have to be devised. In many High Courts, it has been alleged that some Justices are assigned to far-off benches on the sole discretion of the chief justice. No means of verifying this information about alleged misuse of this power exists, but the fact that such things can be said itself indicates the need for some specific guidelines.

The inordinate delay in the judgment and the ever-increasing backlog of cases in the Supreme Court, has often been attributed to the poor Judge to population ratio. Existing, Judge strength ratio is 10.5 or 13 per 10 lakh people. Moreover, the Law Commission, in its 120th Report recommended increase the then

existing ratio from 10.5 judges per million to at least 50 judges per million of Indian population. However, a regional apex court will be of little use if it is unable to fill vacancies as is the case with the judiciary in many places. It is also pointed out that even tribunals and benches that sit out of the different regions in the country have only few judges to process the thousands of pending cases. "For example, we have the National Green Tribunal in all four corners of the country but there are no judges. So, what is the point of having a court?"

Commission's proposal that a constitutional bench be set up at Delhi to deal with constitutional and other allied issues of national importance and four Cassation Benches at Delhi, Chennai/Hyderabad, Kolkata and Mumbai to deal with all appellate work arising out of the orders/judgments of High Courts of the particular region. Given the expanded interpretation of Article 21 and demosprudential co-governance of the nation, it remains exceptionally difficult to distinguish between constitutional and other forms of litigation. However, Supreme Court on the demand for regional Benches reiterated its stand that dividing the Supreme Court would affect the country's unitary character.

Global Experience

The concept of having a Constitution Bench along with a Cassation Bench is nothing new. The democratic transition that occurred in many parts of the world in the late 20th century resulted in the proliferation of courts with constitutional adjudication and powers of cassation being exercised simultaneously; there is a blend of functions of judicial review usually by the constitutional court or constitutional tribunal and also the exercise of powers of cassation.

- ◆ Italy has a Constitutional Court with the sole power of constitutional review and a Supreme Court of Cassation with the power to review the decisions of the ordinary courts for consistency with the law.
- ◆ Egypt also maintains a Court of Cassation that monitors the uniformity of lower court fidelity to the law but only its Supreme Constitutional Court has the authority to declare laws unconstitutional and to determine and rule upon legislative intent.
- ◆ Portugal's Constitutional Tribunal has the greatest jurisdiction exercising both concrete review of lower court decisions and abstract review of all laws and legal norms.

Other countries which blend the functions of judicial review and cassation or the review of lower court decisions are Ireland, the United States and Denmark.

Way Forward

To ensure this, the establishment of regional benches of the Supreme Court must be given a serious thought. Article 130 of the Constitution, which provides for the seat of the Supreme Court, makes it necessary for the government to necessarily have the consensus of the Chief Justice of India. Therefore, the government must work with the CJI to ensure that the judiciary and the executive join hands to truly secure the cherished right of access to justice which is enshrined in our Constitution.

General Studies Paper- II

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



3. THE DRAFT MODEL TENANCY ACT, 2019 : AN INTRODUCTION

Why in News?

After several years in the making, a draft of the Model Tenancy Act, 2019, was released by the Ministry of Housing and Urban Affairs in July. In same year's budget, the finance minister spoke about tenancy law, post which the government has proposed a Model Tenancy Law to regulate the renting of premises.

Introduction

Central government's, The Model Tenancy Act, 2019, the draft of which has been put out for public consultations, is an important piece of legislation that promises to ease the burden on civil courts, unlock rental properties stuck in legal disputes, and prevent future tangles by balancing the interests of tenants and landlords. Though it covers both, residential and non-residential properties, but it is apparent from the framing that it is largely aimed at the urban residential sector.

Young, educated job seekers migrating to large metropolises such as Mumbai, Bengaluru, Delhi and Mumbai often complain of onerous tenancy conditions and obscene sums of money as security deposits that they are asked to fork out to lease accommodation. In some cities, tenants are asked to pay security deposits amounting to 11 months of rent. Also, some house owners routinely breach tenants' right to privacy by visiting the premises unannounced for sundry repair works. Whimsical rent raises are another problem for tenants, many of whom complain of being squeezed as "captive customers".

It's not as if landlords have nothing to groan about. Tenants are often accused of "squatting" on the rented premises, or trying to grab the property. "Occupancy is two-thirds ownership," cynics have long said,

given the difficulty in ejecting errant tenants who either quit paying rent or cite old rent-freezing rules in refusing to allow even inflation-attuned hikes. It's little wonder that property has been a matter of much dispute across the country. This has resulted in a distorted market for rental property in many cities, with low supply of earlier-built spaces.

Need for Rental Housing

Housing is one of the basic necessities of life. The rapid pace of urbanization in India has resulted in severe shortage of housing. People go for rental housing because of low-income or people are not ready to build their own house. In spite of government's prime consideration to affordable housing, many poor households live in congested conditions, which indicates that housing is unaffordable for a large section of population, be it ownership or rental.

The Draft National Urban Rental Housing Policy, 2015 ("the Policy") pointed out that there is a huge housing shortage in urban areas on one hand and on the other hand, there are massive stocks of vacant houses. Possible reasons ascertained for vacant houses could be low rental yield, fear of repossession, lack of incentives etc. The "Policy" defines rental housing as a property occupied by someone other than the owner, for which the tenant pays a periodic mutually agreed rent to the owner. The policy suggested that if these vacant houses are made available for rental housing, then some, if not most of the urban housing shortage, could be addressed.

Rental Housing : Challenges

Rental housing is a state subject as mentioned under item 18 in List II of Seventh Schedule of the

Constitution of India. Although, Central Government can guide the states as we have a quasi-federal structure in India, therefore, Central Government has power to make model law on rent control or tenancy. At present, nearly every state has its own law governing matters relating to rental housing in their jurisdiction in the name of Rent Control Laws. However, these rent control laws are not adequate to satisfy the need for rental housing in true sense. Because, issues, such as lack of affordable housing, lack of investment in rental housing etc., are still present in the country. The problems of rental housing in India, as present under different existing rent control laws, can be encapsulated as follows:

- ◆ **Fixation of Standard Rent:** Existing rent control laws provide for standard rent or fair rent, which is calculated on the basis of cost of construction involved, when the premise was built and does not include present market value of the premise as a consideration to determine standard rent.
- ◆ **Overstaying Problem of Tenants:** Existing rent control laws do not provide for any remedy for when tenants do not vacate the rented premises even after termination of the tenancy period. Therefore, landlords often fear that they might lose control on their premises and had to go for long litigation process for recovering their premises.
- ◆ **Reduced Liquidity for Landlords:** Freeze of availability of rental housing is evident in light of the long litigation proceedings relating to recovery of rental premises by the landlord or proceedings relating to eviction of tenants.
- ◆ **Security Deposit:** From the point of view of tenants, it is unfair to give limitless amount to the landlords

in the name of security deposit or pugree. Existing rent control laws do not provide for any upper cap as far as security deposit is concerned and tenants have to suffer in the hands of landlords, who demand lump sum amount as much as they want at the beginning of tenancy period.

- ◆ **Eviction of Tenants on False Grounds:** It has been seen in many cases that landlords file false cases to evict tenants on the ground of non-payment of rent because most of the existing rent control laws do no mandate receipt of rent to be given by the landlord.
- ◆ **Lack of Transparency and Slow Dispute Resolution System:** Government estimates from the past show there are over 1.1 crore fit-for-renting properties that are lying vacant across urban India due to the lack of transparency and slow dispute resolution system. Property owners shy away from letting out their premises fearing squatting. This leads to limited supply, resulting in sky high rents. By addressing these issues, the Model Tenancy Policy would help the rental housing segment reach its true potential.

The Draft Tenancy Law

The Model Tenancy Act, 2019, issued by the Centre, seeks to address the distortions in India's rental markets and could help modernise it. With nearly 30% of households in urban areas staying in rented accommodation, this regulation will have a significant impact on the rental market. Model Tenancy Act (MTA) has been drafted with a view to balance the interests of the landowner and tenant and to provide for speedy dispute redressal by establishing adjudicatory bodies under MTA. It also tries to create

Existing Rent Control Laws vs Model Tenancy Act, 2019		
Point of Difference	Existing Laws	Model Tenancy Act, 2019 (MTA)
Purpose of the Act	1. Control of rent and protection of tenant from payment of rent more than the standard rent, and 2. Protection of tenants from eviction,	It provides not only for protection of tenants but also provides for protection of landowners.
Exemption	Premises belonging to the Government are exempted but no specific provision is present regarding exemption of religious or charitable premises and premises owned by a university except Maharashtra Rent Control Act, 1999.	MTA exempts any premises owned by the Government, religious or charitable institutions, and premises owned by a company, university or organization given on rent to its employees as part of service contract.
Standard Rent	Standard rent means a rent fixed by the Controller under rent control laws.	No provision is made.
Tenancy Agreement	It was not necessary and tenancy can be affected even without entering into tenancy agreement.	It means a written agreement executed by the landowner and the tenant. Moreover, it is mandatory condition for a tenancy to come into effect.
Sub-letting	No provision regarding prior written consent of landlord for sub-letting by tenant.	Prior written consent of the landowner is made compulsory.
Fixation of Rent	Rent fixed (standard rent) based on the value of land and cost of construction when built.	The rent is the amount agreed between the landowner and the tenant as per the terms of the tenancy agreement.
Increase in Rent	It is unilateral by the landlord with the approval of the controller.	Revision of rent between the landowner and the tenant shall be as per the terms set out in the Tenancy Agreement or on a prior 3 months' notice to the tenant.
Deposit of Rent	Many of state rent control laws do not provide for deposit of rent lawfully payable to the landlord in respect of the building, before the authority as may be prescribed.	Explicit provision provided for deposit of rent with the Rent Authority where the landowner does not accept the rent or refuses to give a receipt or if landowner does not accept the rent.
Overstay of Tenant	No deterrent provision, therefore landlords fear to give their houses on rent, which in turn reduces the supply of renting houses in the market.	It provides for compensation i.e. four times the rent, to the landlord.
Rent Receipt on Payment of Rent	No provision.	Every tenant is entitled to get a written receipt from the landowner for the amount paid to him.
Security Deposits	No explicit provision existed for security deposits/ pugree in addition to rent.	MTA provides for 2 months' rent in residential property, 1-month rent in non-residential property as security deposit.
Inheritance of Tenancy	Order of inheritance has provided in most of the state RCAs.	No order of successors has given in MTA.
Structural Alteration to the Rent Premises	Rent control laws provide for structural alteration without consent of tenant and increase rent.	MTA provides for structural alteration to rent premises only if the same is provided in the agreement with the tenant and increase the rent.
Adjudicatory Authority	Controller or Civil Courts	Rent Authority, Rent Court, Rent Tribunal

an accountable and transparent environment for renting the premises and promotes sustainable ecosystem to various segments of society including migrants, professionals, workers, students and urban poor.

Limitations of the MTA

Despite all the good attempts made in the provisions of MTA to remove the current problems relating to rental housing, MTA shortfalls on following grounds:

- ◆ Lodging house and hotels are kept outside the scope of MTA. Therefore, application of the MTA to premises providing paying guest facilities is not clear.
- ◆ MTA provides for prospective application and gives no redress to tenancies, which are already in existence, prior to the commencement of MTA. Hence, position regarding existing tenancies is left untouched.
- ◆ The term 'rent' is not defined under the Act, because of which, the form of rent payable is not clear, i.e. whether it has to be necessarily in cash or kind or crops or services rendered.
- ◆ The MTA does not address the situation in case of failure to execute tenancy agreement, failure to obtain consent of landowner for

subletting, failure to refund security deposit at the time of taking over vacant possession of the premises by the landlord, failure to observe obligations imposed on parties. Although specific establishment of adjudicatory bodies has been provided under the MTA but the same results in increase of litigation matters before judicial bodies established under the MTA.

- ◆ MTA is open to be adopted by the States and does not necessarily impose application of its provisions to State.
- ◆ MTA does not talk about weak bargaining power of tenants and allows parties to agree on rent amount, which may cause prejudice to weaker sections of the society.

Conclusion

The draft aims to bring in transparency in the highly unorganised rental space and leaves little room for either party to take advantage of the other. Rental housing has been a major gap in the Indian real estate market and what has kept investors and buyers from tapping into real estate for rental returns hasn't just been low returns but the lack of sufficient legal enforcement of the rental agreement. This Act has been brought in to address these deficiencies in the existing rent control

laws. If you look at some of the major announcements—like the security deposit being capped to a maximum of two months' rent, or the heavy penalty on the tenant if he fails to vacate the premises, or how landlords can't arbitrarily hike up rentals mid-lease without sufficient cause and notice—it is clear that the intention is to balance out the common problems faced by both parties.

Establishment of the adjudicating authorities is going to lessen the burden on lower courts in the country in the matters relating to tenancy. It remains to be seen to what extent the states will toe the central government's line, as land remains a state subject. The real concern here is not so much about whether it is skewed towards one party but about the implementation. If the states and union territories are able to enforce this novel legislation in letter and spirit, it will go a long way towards reviving the fortunes of the rental market in India.

General Studies Paper- II

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

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4. HEALTH SYSTEM CONDITIONALITY REPORT OF STATES : AN ASSESSMENT

Why in News?

The health index, titled "Healthy States, Progressive India", published some time ago, presents an assessment of states and union territories, based on their health performance. Based on prior report, the Health Ministry released 'Health Systems Strengthening -Conditionality Report of States for

2018-19', which will form the basis for disbursement of performance-based incentive or penalty under NHM budget.

Introduction

Accompanying the rapid economic growth, India has made significant improvements in health sector. In the last decade, millions of Indians

were alleviated from poverty. Health system and health outcomes have also significantly improved. Despite the remarkable progress, health remains a critical area that needs improvement. When benchmarked against countries with similar levels of economic development, India is lagging on some critical health indicators. Moreover, there are huge disparities

across States and Union Territories (UTs). The health outcomes of some States are comparable to that of some upper middle-income countries and high income countries (for example, Neonatal Mortality Rate (NMR) in Kerala is similar to that of Brazil or Argentina), while some other States have health outcomes similar to that in the poorest countries in the world (for example, NMR in Odisha is close to that of Sierra Leone).

To motivate States to improve population health and reduce disparities in the spirit of cooperative and competitive federalism, the National Institution for Transforming India (NITI) Aayog launched the Health Index to measure the performance of States and UTs. In February 2018, the first round of the Health Index (referred to as Health Index-2017) was released, which measured the annual and incremental performance of the States and UTs over the period of 2014-15 (Base Year) to 2015-16 (Reference Year). NITI Aayog in collaboration with Ministry of Health and Family Welfare (MoHFW) and the World Bank, is committed to establish the Health Index as an annual systematic tool to propel States towards undertaking multi-pronged interventions that will bring better health outcomes. The second round of Health Index examined the overall performance and incremental improvement in the States and UTs for the period 2015-16 (Base Year) to 2017-18 (Reference Year), i.e., a two-year period.

Health Systems Strengthening Conditionality Report of States (2018-19)

In Government the most important lever- the system that drives behaviour most powerfully- is the budget . For last few years, Ministry of Health and Family Welfare (MoHFW) has been experimenting with linking at least a part of budget to the agreed conditions being met to enhance

performance and to focus on health sector reforms (hereafter referred as 'Conditionalities'). This is a step towards Result Based Financing (RBF) where the States could get more budgetary support if they performed well on the agreed indicators and may lose out part of the funding if they did not meet the set performance benchmarks. The incremental improvement as per the NITI Aayog ranking of states on 'Performance on Health Outcomes' is one of the major conditionalities and has been given the highest weightage.

In 2018-19 this initiative received a big boost when the Mission Steering Group of National Health Mission under the Chairmanship of Health Minister decided to increase the Performance based incentive/penalty from 10% to 20% of the NHM budget. This sent a clear message to all the States that good performance would be monitored, acknowledged and rewarded. This meant that while 80% of the resource envelope earmarked for the State would be assuredly available, 20% of the resource envelope would depend on State's performance on agreed conditionalities. The States which do not fulfil the criteria could lose up to 20% of funding under NHM.

Highlights : Conditionality Report

- ◆ Bihar, West Bengal, Madhya Pradesh along with hill states of Himachal Pradesh, J&K and Uttarakhand will miss out on 20% of Centre's payout under National Health Mission for not performing well in improving health indicators.
- ◆ The report suggested that Haryana, Kerala and Punjab along with Assam and Dadar & Nagar Haveli are among the top five performers on key health indicators.
- ◆ States and Union Territories were ranked based on 7 key indicators which included operationalisation of the Health and Wellness Centres (HWCs), provisioning of mental health services in districts covered

under the NHM programme, screening of 30 plus population for non-communicable diseases and grading of primary health centres (both urban and rural), among others.

- ◆ All the three hilly states of Jammu and Kashmir, Himachal Pradesh and Uttarakhand have received penalty due to non-fulfilment of conditions. Among the eight North-Eastern states, four could not fulfil the eligibility criteria. Of the remaining Assam, Tripura and Manipur earned incentives. Of the 11 remaining states, nine were incentivised and two were penalised.
- ◆ Arunachal Pradesh, Meghalaya, Nagaland and Sikkim could not meet the minimum criteria of full immunisation of 75 per cent, therefore the progress made by the states was not considered for assessment and all the four states were penalised.

The states and UTs were eligible for conditionality assessment only if Empowered Action Group (EAG) states, North-Eastern (NE) and hill states were able to achieve at least 75% full immunization coverage and 80% for rest of the states and UTs. In 2018-19, the national health mission decided to increase the performance-based incentive/penalty from 10% to 20% of the NHM budget, encouraging states to perform better.

Health Index Report, 2019

The health index, titled "Healthy States, Progressive India" is a weighted composite index based on 23 indicators, broadly categorized into 3 domains:

- ◆ **Health Outcomes:** Focusing on measures such as Mortality rates, sex ratio, and immunization.
- ◆ **Governance and Information:** Focusing on the status of the governance structures and information systems within states.

- ◆ **Key Inputs & Processes:** Focusing on areas such as healthcare quality and availability, staff shortages and birth registration level.

The composite index score of 'Front runners' is higher than 58.88, while that of 'Aspirants' has dwindled to below 43.74. The 'Achievers' hovered between 43.74 and 58.88.

The score for Kerala, ranked as the best performer for the second time, stands at 74.01, and Uttar Pradesh at the bottom end of the list has scored 28.61. Andhra Pradesh (65.13), Maharashtra (63.99), Gujarat (63.52) and Punjab (63.01) are the other top performing states. Together with Uttar Pradesh, Bihar (32.11), Odisha (35.97), Madhya Pradesh (38.39), and Uttarakhand (40.20) emerged as the least performing states.

The major issue pointed out by the index is of fund transfer delay, and associated complexity. Interestingly, states who have been investing in nutrition and primary health care have managed to fix the systemic deficiencies, and are the high scorers in the Index.

The change in the Index score of each State and UT from the Base Year (2015-16) to the Reference Year (2017-18) measures the incremental progress of each State. States and UTs are grouped in three categories to ensure comparability among similar entities, namely 21 Larger States, 8 Smaller States, and 7 UTs.

Health Sector: Issues

- ◆ Skilled manpower and conditional financial allocation - the two main challenges of the health sector today.
- ◆ The change of disease spectrum from infectious diseases to degenerative diseases requiring the need to strengthen the Community Health Centers and District Hospitals in the States.
- ◆ The health sector as a key driver of the 21st Century economy

on account of its employment potential and need to improve the medical education in the country. Need to increase the post graduate doctors in the country.

- ◆ Need to create 'Cooperative Model' rather than a 'Competitive Model' between Public and Private Hospitals.
- ◆ Integration of the initiatives taken by the Government like 'Ayushman Bharat' and 'Swachh Bharat Mission'.
- ◆ Need for a comprehensive ban of private practice by Government Doctors.
- ◆ Optimum utilization of the funds allocated by the Centre to the States on Public Health.
- ◆ Need to open more Medical Colleges and Hospitals, for training more manpower which could enable to build the gap between doctor-patient ratios.
- ◆ Need to think in the lines of the price control mechanism in the pharmacy and drugs market and thereby bring uniformity in the Health Care facility.

Health Systems Strengthening

Government has taken the following steps to strengthen the health systems:

- ◆ **Adoption of the Indian Public Health Standards:** This defined not only the service package that each facility must provide, but also specified the minimum inputs required to ensure quality of care, in terms of infrastructure, equipment, skilled human resources, and supplies. It was an assurance to the states of financing the gaps between available levels of these inputs and the levels needed to achieve the IPHS norms. A substantial increase in these inputs was driven by facility surveys to identify gaps and then planning and financing to close these gaps.

- ◆ **Quality Standards** have been defined with respect to clinical protocols, administrative and management processes and for support services. The Operational Guidelines for Maternal and Newborn care published by the Ministry of Health and Family Welfare comprehensively defined such quality standards for RCH care.

- ◆ **Skill Gaps and Standard Treatment Protocols:** Skill sets and standard treatment protocols required for provide quality RCH services and training packages that would provide these skill sets were designed. These include the Skilled Birth Attendance (SBA) training package for ANMs, the Navjat Shishu Suraksha Karyakram (NSSK) and the IMNCI packages for ANMs, the Home Based Newborn Care (HBNC) for ASHAs, and the Emergency Obstetric Care (EmOC) package for doctors. These training packages also introduced the standard treatment protocols in each of these areas.

- ◆ **Hospital Management Societies (RKS) and Untied Funds:** The mandatory creation of a hospital management society (Rogi Kalyan Samiti) and empowering this body with untied funds has allowed public participation also contributed to improved quality of care. RKS members were trained and sensitized on quality of care issues. Before the onset of NRHM, many states generated funds from user fees, however the untied grants to all public health facilities were made available under NRHM which reduced financial barriers to access of health care. This is clearly evident from the increased utilization of indoor and outdoor services at health facilities.

- ◆ **Quality Improvement Programmes:** NRHM also supports initiatives for building quality management systems. These

range from formation of quality assurance committees which use check lists and periodic monitoring visits to assess quality gaps, to more structured quality management systems leading to a third party audit and quality certification- either using ISO 9001: 2008 or NABH. Till date, 82 facilities have been certified by ISO, nine facilities have been certified by NABH and 446 facilities are under process of certification.

Way Forward

India is a vast country, with more than 1.2 billion population, and it stands as the second most populous country after China. There is a huge inter-state diversity in the primary healthcare system in India. To attain a uniform health care system the country needs a huge fund to establish adequate healthcare infrastructure in rural areas.

Among the developed and some other developing countries, India lags behind in terms of health status, per capita health expenditure, public health expenditure etc. The Health Index is a useful tool to measure and compare the overall performance and incremental performance across States and UTs over time. The Health Index is an important instrument in understanding the variations and complexity of the nation's performance in health. The first round of Health Index had triggered many useful discussions, including how best to measure health performance, how to strengthen the data collection system, how to identify barriers and motivate actions using data, and how to promote positive competition and learning among the States and UTs. The report in the second round highlights the areas each State/UT should focus on to facilitate improvement in overall health outcomes.

The Health Index released by the NITI Aayog provides a comprehensive state-wise assessment of the health situation in the country. But, it is imperative for India to look beyond absolute numbers to achieve its long term health goals. Achieving the SDGs on health will be difficult without understanding the causal factors of cracks in health care system. It is high time that the government paid attention to these loopholes that have long impeded progress in such an important sphere.

General Studies Paper- II

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



5. INDIA - CHINA : SECOND INFORMAL SUMMIT, 2019

Why in News?

Two days long second informal summit between Prime Minister Narendra Modi and Chinese President Xi Jinping at the ancient town of Mamallapuram near Chennai in Tamil Nadu, after their first summit at Wuhan in China on 28 April 2018, concluded on 12 October 2019.

Introduction

China and India are destined to play pivotal roles in the "Asian Century." Both share interests in promoting a fairer, more inclusive form of globalisation. Together, they constitute 35 per cent of the world's population and their economies constitute 45 per cent of global growth. Next year, Asian economies will become larger than the rest of the world combined in PPP terms, for the first time since the

19th Century. Not only is Asia growing richer, as it becomes more integrated, it is also coalescing as a constructive force for global governance. However, lack of consensus hampers badly-needed reform of global institutions, such as the WTO, IMF and UN.

Asia has become the locus for new multilateral initiatives. This is evident in new trade pacts like the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the Regional Comprehensive Economic Partnership (RCEP), as well as new institutions such as the Asian Infrastructure Investment Bank (AIIB). Recent events in disputed regions reflect the challenges in fulfilling this collective promise. In particular, unresolved border issues and regional politics have left lingering suspicions between the two countries.

India - China: Bilateral Relations

Over the past decade, three historical forces have been shaping India-China relations. Some of these forces have been pushing both countries towards competition and some impelling them towards cooperation and collaboration. These three forces are:

1. **Changing world order and the rise of Asia:** A phase that is generally traced to the period after the 2008 global economic crisis.
2. **West's declining capacity and inclination to responsibly manage international and Asian affairs:** India, China and other re-emerging powers are being thrust into new order building roles that would require coordination and cooperation to preserve global stability and co-develop new governance institutions and norms.

3. Changing South Asia: China's 2013 and 2014 policy declarations of deepening ties with its periphery including with subcontinental states, followed soon after with the ambitious Belt and Road initiative and the China-Pakistan Economic Corridor in April 2015.

While all three factors contributed to the complexity of India-China relations in the period leading up to 2017, the region became the main arena of interaction, with both sides adopting antagonistic approaches and strategies. The Doklam episode led to a similar conclusion by the two leaderships: a lessening of regional tension was in the national interest of both countries. This, in essence, was the backdrop to the April 2018 "informal summit" in Wuhan, where both sides decided to arrest the deterioration in the relationship and attempt to chart a fresh course.

First Informal Summit: Wuhan

In April 2018, the two leaders had strategic communication on China-India relations and major international issues of shared interest. The Wuhan Informal Summit is a historic meeting, which pointed out the direction for the development of bilateral relations. Putting China-India relations in the global and historical perspective, the two leaders made clear following three points:

1. China and India should see each other as positive factors in the changing international landscape.
2. The development of China and India is an important opportunity for each other.
3. China and India should view each other's intentions in a positive, open and inclusive light.

Over the past year, the two sides have actively implemented the important consensus between the two leaders, upgraded and improved the

quality of China-India relations, which embarked on the track of sound and stable development.

The positive effect of the Wuhan Summit is constantly unfolding. The mutual trust and friendship between the two leaders are being extended to all sectors, localities and peoples of the two countries and translated into tangible achievements:

- 1. Maintain close high-level exchanges:** Government departments, political parties, legislatures and military of the two countries have actively engaged in high-level exchanges and shared governance experience.
- 2. Make progress in aligning development strategies:** In September this year, the two sides held the 6th Strategic Economic Dialogue and the 9th Financial Dialogue, and reached new consensus on cooperation in policy coordination, infrastructure, energy conservation and environmental protection, high technology, energy and medicine.
- 3. Step up coordination in global governance:** China and India are both members of multilateral mechanisms such as China-Russia-India Trilateral, BRICS, SCO and G20, and share common interests in promoting globalization and opposing trade protectionism.

Second Informal Summit : Mamallapuram

In a nutshell, the two summits acknowledge that India and China were not 'adversaries' but two large economic powers open to a healthy competition in a multipolar world. The big picture is that China could no more afford to take India for granted. International relations today primarily weighed in for peace and development and that 'checks and balances' were now recognised as a legitimate instrument for preventing 'military' conflicts in the post- Cold War era.

On the issue of terrorism China knows it cannot uphold Pakistan beyond a point. Its response on Kashmir after the abrogation by India of Articles 370 and 35A has essentially been to advocate bilateral talks on the issue between India and Pakistan. This is a low cost instrument for China to keep Pakistan humoured. China would have sensed that conversion of Ladakh into a Union Territory gave the Centre here a more direct control on this sensitive territory on the Chinese border. Moreover, the fear of radicalisation of its muslim minority has come alive for the Chinese leadership - its historical memory of how in the Cold War era Pakistan helped the US-led West to encourage Islamic militancy in Xinjiang and Uzbekistan bordering Afghanistan would not have been completely erased. The possibility of a synchronised mischief by China and Pakistan on our borders has been factored in by our Defence Forces - even though such an eventuality still remains only in the background.

India has activated its participation in QUAD but the focus of this US-Japan-India-Australia convergence is so far on maintenance of 'rules based regime' in the Indo-Pacific maritime zone.

Since Wuhan, India's Look East Policy has strengthened our friendship with many countries in the East and this also works to India's advantage. Surely, China has taken cognisance of the fact that in the Modi regime India is now a major voice in the world community on matters of global security and economy. India's willingness to work for a 'balance of power' to ensure global peace has been in evidence in the recent period.

All of this provided a backdrop to the Mamallapuram Summit that favoured the pursuit of understanding and de-emphasised friction. Prime Minister Modi declared that 'Chennai Connect' had opened a new chapter in India-China cooperation and President Xi Jinping on his part disclosed that

in the multiple conversations he had had with the Indian leader, there was heart-to-heart exchange of views - like among friends - on 'bilateral matters'. Despite all the rhetoric and symbolism on display at Mamallapuram, the substantive outcome remains clouded in mystery. There is no dearth of mechanisms in Sino-Indian engagement.

Sino-Indian Relations: Issues and Opportunities

In particular, there is great scope for deeper cooperation in areas such as economy, connectivity, culture, and environmental protection.

- ◆ Economically, China and India have huge complementarities given their strengths in manufacturing and services, respectively. IT is another promising area for collaboration — China is a leading investor in AI and quantum communications, while India is a world-leader in software outsourcing and IT consulting. These synergies could be unlocked through deeper cooperation in trade and investment. To this end, China and India should redouble efforts to complete the RCEP. This free trade agreement would not only boost economic ties between China and India; it would also be a gamechanger for integration in Asia.
- ◆ China wants connectivity and cooperation and expressed that it would further catalyse this integration process, helping to cut transport costs and spur trade. India cannot ignore China, and it is cognisant of the growing power differential between the two. From Doklam to India's opposition to China's Belt and Road Initiative (BRI), India's message has been clear: New Delhi will stand up for its vital interests. There is now less diffidence in carving out strategic partnerships with other like-minded countries.

◆ Alongside the movement of goods and capital, flows of people are a vital component of Asia's integration. Inter-Asian tourism and talent flows are booming. However, cultural ties between China and India remain thinner than might be expected. More can be done to build friendships between Chinese and Indians, such as improving visa processes and creating programmes for talent and academic exchange.

- ◆ Environmental protection, as the most populous countries on earth, joint efforts between China and India will be crucial to tackle environmental challenges like climate change. The destinies of China and India are inextricably linked through a shared atmosphere, water resources, and the Himalayan ecology. Both countries face ecological crises. But together, they can provide new impetus for environmental governance, promoting solutions that balance sustainability and development.

Issue and Challenges in India-China Future Cooperation

India's relations with the U.S. have attained a new high. Relations with Russia have acquired a fresh dimension, incorporating economics alongside a longstanding military relationship. India's line of credit to develop Russia's Far East has fundamentally changed the nature of India-Russia relations. India's relations with Japan have greatly strengthened. The Quadrilateral (the U.S., India, Japan and Australia) has gained a new lease of life.

On the other hand, India and China are still in a tactical engagement, not in a strategic partnership. But it's a tactical engagement with depth, not a short-term foreign policy adjustment. There are four constituents in the multidimensional India-China partnership that can take ties to the next level.

First, India often sees China through the prism of its ties with Pakistan, while China looks constantly for an American role in Indian actions. Both the China-Pakistan Economic Corridor and the U.S.-India joint Indo-Pacific vision have further derailed bilateral trust. It is thus necessary to remove the worry of "third parties" from the room if New Delhi and Beijing are to move beyond laying the foundations of engagement and building atmospherics to actually resolving the serious issues they have in territorial, economic and strategic areas.

The avenues of economic cooperation between the two countries are still wide open. China is keen to make investments in India, especially in building infrastructure and fifth generation technology architecture. India, on the other side, wants greater market access in China, and action by Beijing to address the trade imbalance.

Second, India and China are pillars of an emerging world order. Both countries see the unilateral world order in decline, and are champions of multilateralism. Security and stability in Asia, which is billed to be the 21st century's continent, is in the common interests of both countries, and they are already cooperating on global issues like tackling climate change.

Third, China had shown in the recent past that when it comes to deal-making and tackling international pressure, the Pakistan card is negotiable. When India is patient, has the international opinion in its favour, and is cautiously bargaining for China's action against Pakistan, Beijing has taken U-turns on its "iron friend". Last year, it agreed to Pakistan being placed on the FATF grey list, after India offered support for China's vice-chair push at the FATF. Earlier this year, amid mounting international pressure, China removed its technical hold on the declaration of Masood Azhar as an international terrorist.

Last, and most important, there has to be a doctrinal consensus in India's foreign policy thinking. For decades, China hid its strength, bid for time. It was building capacities without letting external strains to derail the process. India should also turn the focus to its rise and building capacities, not on conflicts and rivalries. If it's driven by such a broader but a realist vision, India could expand the avenues of deep tactical engagement with a powerful China. As the saying goes, a nation can pick its friends, but not its neighbours.

Way Forward

The challenge before India is to deepen the tactical engagement with China keeping strategic glitches at bay. Every government will have to factor in three geopolitical constituents while setting

its broader foreign policy trajectory — immediate neighbourhood, extended neighbourhood and great powers. Realistically, an emerging power should stay focussed on building capacities while maintaining good ties with the neighbours, deep engagement with the extended neighbours and balancing between great powers. India's current government has sent mixed signals on this.

Going forward, India's China policy should be guided by three grand strategic goals: An inclusive security architecture in Asia that facilitates a non-violent transition to multipolarity without disrupting economic interdependence; A fair and rules-based open international order to better reflect Indian and developing economy interests; and, Geopolitical peace and

sustainable economic development in the neighbourhood. China is important to the successful pursuit of each of these goals, and the principal task before Indian policymakers is to envisage and execute a policy framework that allows for progress on these three ends. China is interested in shaping an alternative global order commensurate to its growing economic and military power. And India is a nation on China's periphery whose rise it seeks to scuttle to secure its interests. Indian foreign policy has to effectively respond to this challenge.

General Studies Paper- II

Topic: India and its neighborhood-relations.



6. NOBEL PRIZE - 2019 : AN OVERVIEW

Why in News?

Recipients for 2019's Nobel Prize have been announced. Nobel Prizes are given to scientists, writers, doctors and campaigners who have changed the world for the better. 15 new laureates have been awarded for achievements that have conferred the greatest benefit to humankind.

Historical Background

Alfred Nobel, a Swedish chemist and engineer of 355 inventions, most notably dynamite, founded the Nobel Prizes to recognize dedicated professionals who improve the world's communities through science, humanity and literature. When Alfred Nobel passed away in 1895, he left behind what was then one of the world's largest private fortunes. In his last will Nobel declared that the whole of his remaining fortune of 31.5 million Swedish crowns was to be invested in safe securities and should constitute a fund "the interest on which shall be annually distributed

in the form of prizes to those who, during the preceding year, shall have conferred the greatest benefit on mankind". He identified the fields as physics, chemistry, peace, physiology or medicine and literature.

After Nobel's death, the Nobel Foundation was set up to carry out the provisions of his will and to administer his funds. In his will, he had stipulated that four different institutions—three Swedish and one Norwegian—should award the prizes. From Stockholm, the Royal Swedish Academy of Sciences confers the prizes for physics, chemistry, and economics, the Karolinska Institute confers the prize for physiology or medicine and the Swedish Academy confers the prize for literature. The Norwegian Nobel Committee based in Oslo confers the prize for peace. The Nobel Foundation is the legal owner and functional administrator of the funds and serves as the joint administrative body of the prize-awarding institutions, but it is not concerned with the prize deliberations

or decisions, which rest exclusively with the four institutions.

Each award is decided by separate institutions which form assemblies to select the actual prize recipients. Some prizes (medicine) require Nobel assembly members to remain active in their fields, while others (literature) appoint members for life. The Peace Prize is actually decided by five members of the Norwegian parliament. Nobel Prize winners must be living; there are no posthumous awards. Each year, the Nobel committees distribute nomination forms to an undisclosed number of recipients — past winners, prominent institutions, respected members of the field — who are allowed to choose as many nominees as they want. Self-nomination is not permitted. The winner is decided by a simple majority vote.

Norwegian Nobel Committee

According to Alfred Nobel's will, the prize to champions of peace is to be awarded by a committee "of

five persons, to be elected by the Norwegian Storting". In 1977, out of regard for the Nobel Committee's independence, a restriction was imposed whereby current members of the Storting could not be elected to the Nobel Committee. At the same time, the Committee changed its name from the Nobel Committee of the Norwegian Storting to the Norwegian Nobel Committee.

Nobel Prizes- 2019

This year 15 new laureates have been awarded for achievements that have conferred the greatest benefit to humankind. Their work and discoveries range from understanding of how oxygen levels affect cellular metabolism and physiological function to their experimental approach to alleviating global poverty to help the world's poor.

The Nobel Prize in Physiology or Medicine 2019

The 2019 Nobel Prize in Physiology or Medicine is awarded jointly to William G. Kaelin Jr, Sir Peter J. Ratcliffe and Gregg L. Semenza "for their discoveries of how cells sense and adapt to oxygen availability." They identified molecular machinery that regulates the activity of genes in response to varying levels of oxygen.

This year's Nobel Laureates revealed the mechanism for one of life's most essential adaptive processes. They established the basis for our understanding of how oxygen levels affect cellular metabolism and physiological function. The discoveries made by the three men have fundamental importance for physiology and have paved the way for promising new strategies to fight anemia, cancer and many other diseases.

Their study shows, how different oxygen levels regulate fundamental physiological processes. Oxygen sensing allows cells to adapt their metabolism to low oxygen levels: for example, in our muscles during intense exercise. Other examples of adaptive

processes controlled by oxygen sensing include the generation of new blood vessels and the production of red blood cells. Our immune system and many other physiological functions are also fine-tuned by the O₂-sensing machinery. Oxygen sensing has even been shown to be essential during fetal development for controlling normal blood vessel formation and placenta development.

The Nobel Prize in Physics 2019

The 2019 Nobel Prize in Physics are awarded "for contributions to our understanding of the evolution of the universe and Earth's place in the cosmos", with one half to James Peebles "for theoretical discoveries in physical cosmology" and the other half jointly to Michel Mayor and Didier Queloz "for the discovery of an exoplanet orbiting a solar-type star."

James Peebles' insights into physical cosmology have enriched the entire field of research and laid a foundation for the transformation of cosmology over the last fifty years, from speculation to science. His theoretical framework, developed since the mid-1960s, is the basis of our contemporary ideas about the universe. Using his theoretical tools and calculations, James Peebles was able to interpret traces from the infancy of the universe and discover new physical processes.

The results showed us a universe in which just five per cent of its content is known, the matter which constitutes stars, planets, trees – and us. The rest, 95 per cent, is unknown dark matter and dark energy. This is a mystery and a challenge to modern physics.

In October 1995, Michel Mayor and Didier Queloz announced the first discovery of a planet outside our solar system, an exoplanet, orbiting a solar-type star in our home galaxy, the Milky Way. This discovery started a revolution in astronomy and over 4,000 exoplanets have since been found in the Milky Way.

Strange new worlds are still being discovered, with an incredible wealth of sizes, forms and orbits. They challenge our preconceived ideas about planetary systems and are forcing scientists to revise their theories of the physical processes behind the origins of planets. With numerous projects planned to start searching for exoplanets, we may eventually find an answer to the eternal question of whether other life is out there.

Overall, this year's Laureates have contributed to answering fundamental questions about our existence. What happened in the early infancy of the universe and what happened next? Could there be other planets out there, orbiting other suns?

The Nobel Prize in Chemistry 2019

The 2019 Nobel Prize in Chemistry are awarded to John Goodenough, M. Stanley Whittingham and Akira Yoshino "for the development of lithium-ion batteries". Through their work, they have created the right conditions for a wireless and fossil fuel-free society, and so brought the greatest benefit to humankind.

The Nobel Prize in Chemistry 2019 rewards the development of the lithium-ion battery. This lightweight, rechargeable and powerful battery is now used in everything from mobile phones to laptops and electric vehicles. It can also store significant amounts of energy from solar and wind power, making possible a fossil fuel-free society. Lithium-ion batteries are used globally to power the portable electronics that we use to communicate, work, study, listen to music and search for knowledge. Lithium-ion batteries have also enabled the development of long-range electric cars and the storage of energy from renewable sources, such as solar and wind power.

The Nobel Prizes in Literature for 2018 and 2019

The Nobel Prize in Literature for 2018 is awarded to the Polish

author Olga Tokarczuk "for a narrative imagination that with encyclopedic passion represents the crossing of boundaries as a form of life. Tokarczuk is only the 15th woman to win the Nobel literature prize in more than a century. She is a bestseller in Poland, and has become much better known in the UK since winning the 2018 Booker international prize for her sixth novel, 'Flights'.

The Nobel Prize in Literature for 2019 is awarded to the Austrian author Peter Handke "for an influential work that with linguistic ingenuity has explored the periphery and the specificity of human experience." Peter Handke "has established himself as one of the most influential writers in Europe after the Second World War." His works are filled with a strong desire to discover and to make his discoveries come to life by finding new literary expressions for them. He has written novels like 'A Sorrow Beyond Dreams', 'Short Letter', 'Long Farewell'.

The Nobel Peace Prize 2019

2019 Peace Prize Laureate Abiy Ahmed Ali is Prime Minister of the Federal Democratic Republic of Ethiopia since April 2018. Abiy Ahmed Ali is the first Ethiopian to be awarded a Nobel Prize. This year's prize is also the 100th Nobel Peace Prize. He is awarded for his efforts to achieve peace and international cooperation and in particular for his decisive initiative to resolve the border conflict with neighbouring Eritrea. The prize is also meant to recognise all the stakeholders working for peace and reconciliation in Ethiopia and in the East and Northeast African regions. When Abiy Ahmed became Prime Minister in April 2018, he made it clear that he wished to resume peace talks with Eritrea. In close cooperation with Isaias Afwerki, the President of Eritrea, Abiy Ahmed quickly worked out the principles of a peace agreement to end the long "no peace, no war" stalemate between the two countries. These principles are

set out in the declarations that Prime Minister Abiy and President Afwerki signed in Asmara and Jeddah last July and September. An important premise for the breakthrough was Abiy Ahmed's unconditional willingness to accept the arbitration ruling of an international boundary commission in 2002.

In the wake of the peace process with Eritrea, Prime Minister Abiy has engaged in other peace and reconciliation processes in East and Northeast Africa. Additionally, Abiy Ahmed has sought to mediate between Kenya and Somalia in their protracted conflict over rights to a disputed marine area. There is now hope for a resolution to this conflict. In Sudan, the military regime and the opposition have returned to the negotiating table. Prime Minister Abiy played a key role in the process that led to the agreement.

The Prize in Economic Sciences 2019

The Royal Swedish Academy of Sciences has decided to award the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2019 to Abhijit Banerjee, Esther Duflo and Michael Kremer "for their experimental approach to alleviating global poverty." The laureates have played a decisive role in reshaping research in development economics. Their research has already helped in alleviating global poverty and has great potential to further improve the lives of the most impoverished people on the planet.

This year's Laureates have introduced a new approach to obtaining reliable answers about the best ways to fight global poverty. In brief, it involves dividing this issue into smaller, more manageable, questions – for example, the most effective interventions for improving educational outcomes or child health. They have shown that these smaller, more precise, questions are often best answered via carefully designed experiments among the people who are most affected. In the mid-1990s, Michael Kremer and

his colleagues demonstrated how powerful this approach can be, using field experiments to test a range of interventions that could improve school results in western Kenya. Abhijit Banerjee and Esther Duflo, often with Michael Kremer, soon performed similar studies of other issues and in other countries. Their experimental research methods now entirely dominate development economics.

The Laureates' research findings – and those of the researchers following in their footsteps – have dramatically improved our ability to fight poverty in practice. As a direct result of one of their studies, more than five million Indian children have benefitted from effective programmes of remedial tutoring in schools. Another example is the heavy subsidies for preventive healthcare that have been introduced in many countries.

Conclusion

Today, there is no other prize in the intellectual realm with the prestige of the Nobel Prizes. Of all the Nobel Prizes, those of Science – Medicine, Physics and Chemistry – have a more fundamental character, there is a degree of truth associated with them that is not present in the Nobel Prize for Peace and Literature – and later also of Economy – and yet they all help build what we might call the "Great Humanity". However there are some obvious reforms the Nobel committee could make: honoring collaborations instead of individuals, easing the criteria to promote research that has potential, rather than finding late-career researchers who did great stuff early in life.

General Studies Paper- III

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

Topic: Achievements of Indians in Science & Technology; indigenization of technology and developing new technology.



7. ZERO BUDGET NATURAL FARMING : AN ANALYSIS

Why in News?

Noted agriculturist Subhash Palekar, who has pushed for adoption of Zero Budget Natural Farming (ZBNF), apprised the farmers of his research on forest vegetation and the techniques for natural growth of trees at the six-day-long camp in Rajasthan. He highlighted ZBNF, as an alternative method of agriculture, shifting away from big irrigation projects, farm loan waiver and fertilizer subsidy, to address agrarian distress and resolve the plight of peasants.

Introduction

The neoliberalization of the Indian economy led to a deep agrarian crisis that is making small scale farming an unviable vocation. Privatized seeds, inputs, and markets are inaccessible and expensive for farmers. Indian farmers increasingly find themselves in a vicious cycle of debt because of the high production costs, high interest rates for credit, the volatile market prices of crops, the rising costs of fossil fuel based inputs, and private seeds. Debt is a problem for farmers of all sizes in India. Under such conditions, 'zero budget' farming promises to end a reliance on loans and drastically cut production costs ending the debt cycle for desperate farmers. The word 'budget' refers to credit and expenses, thus the phrase 'Zero Budget' means without using any credit and without spending any money on purchased inputs. 'Natural farming' means farming with nature and without chemicals.

One of the biggest announcements in Budget 2019 was to promote ZBNF on a massive scale. The Finance Minister made a strong pitch for the implementation of ZBNF. In 2018, NITI Aayog also stated that ZBNF is one of the most potent methods to

double farmers' income by 2022. Further, welcoming the proposal, National Bank for Agriculture and Rural Development (NABARD) also said that the move will help millions of farmers cut down their input cost and practice sustainable agriculture. The Economic Survey 2018-19 also reported that about 1.6 lakh farmers follow ZBNF. While ZBNF seems to have hit the right chord when it comes to environmental sustainability, enough data needs to be generated to conclusively prove that ZBNF is a potential solution and is scalable.

However, the response to this proposal has been mixed. There are a few experts who question the efficacy of ZBNF and have dismissed the measure outright.

What is ZBNF?

Zero Budget Natural Farming (ZBNF) is a set of chemical free farming methods that relies on agro-ecology. It was originally promoted by noted agriculturist Subhash Palekar, who developed it in the mid-1990s.

ZBNF's basic concept is that over 98 per cent of the nutrients required by crops for photosynthesis – carbon dioxide, nitrogen, water and solar energy – are already supplied "free" from the air, rains and sun. Only the remaining 1.5-2 per cent nutrients need to be taken from the soil and converted from "non-available" to "available" form (for intake by the roots) through the action of microorganisms.

ZBNF promotes the application of "jeevamrutha" — a mixture of fresh cow-dung, urine of aged cows, jaggery, pulse flour, water and soil — on farmland. A similar mixture called "bijamrita" is used to treat seeds. For insect and pest management, ZBNF recommends use of 'Agniastra',

'Brahmastra' and 'Neemastra', which, like 'Jiwamrita' and 'Bijamrita', are concoctions based mainly on urine and dung from desi cows. Since these also do not have to be purchased, it makes farming practically "zero-budget".

The ZBNF method also promotes soil aeration, minimal watering, inter-cropping, bunds and top soil mulching, and discourages intensive irrigation and deep ploughing.

Four Pillars of ZBNF

- 1. Jeevamrutha:** It is a fermented microbial culture. It provides nutrients, but most importantly, acts as a catalytic agent that promotes the activity of microorganisms in the soil, as well as increases earthworm activity. During the 48 hour fermentation process, the aerobic and anaerobic bacteria present in the cow dung and urine multiply as they eat up organic ingredients (like pulse flour). Jeevamrutha also helps to prevent fungal and bacterial plant diseases.
About 200 litres of jeevamrutha should be sprayed twice a month per acre of land; after three years, the system is supposed to become self-sustaining.
- 2. Beejamrutha:** It is a treatment used for seeds, seedlings or any planting material. Bijamrita is effective in protecting young roots from fungus as well as from soil-borne and seedborne diseases that commonly affect plants after the monsoon period. It is composed of similar ingredients as jeevamrutha - local cow dung, a powerful natural fungicide, and cow urine, a strong anti-bacterial liquid, lime and soil.
- 3. Mulching:** There are three types of mulching:

- ♦ **Soil Mulch:** This protects topsoil during cultivation and does not destroy it by tilling. It promotes aeration and water retention in the soil.

- ♦ **Straw Mulch:** Straw material usually refers to the dried biomass waste of previous crops, but it can be composed of the dead material of any living being (plants, animals, etc). ZBNF's approach to soil fertility is very simple – provide dry organic material which will decompose and form humus through the activity of the soil biota which is activated by microbial cultures.

- ♦ **Live Mulch (symbiotic intercrops and mixed crops):** It is essential to develop multiple cropping patterns of monocotyledons (monocots; Monocotyledons seedlings have one seed leaf) and dicotyledons (dicots; Dicotyledons seedlings have two seed leaves) grown in the same field, to supply all essential elements to the soil and crops. For instance, legumes are of the dicot group and are nitrogen-fixing plants. Monocots such as rice and wheat supply other elements like potash, phosphate and sulphur.

4. **Moisture (Whapasa):** Whapasa is the condition where there are both air molecules and water molecules present in the soil, and he encourages reducing irrigation, irrigating only at noon, in alternate furrows ZBNF farmers report a significant decline in need for irrigation in ZBNF.

Other Important Principles of ZBNF

- ♦ **Intercropping:** It is a multiple cropping practice involving growing two or more crops in proximity. The most common goal is to produce a

greater yield on a given piece of land by making use of resources or ecological processes that would otherwise not be utilized by a single crop.

- ♦ **Contours and Bunds:** To preserve rain water and promote maximum efficacy for different crops.
- ♦ **Local Species of Earthworms:** ZBNF opposes the use of vermicompost. The revival of local deep soil earthworms through increased organic matter is most recommended.
- ♦ **Cow Dung:** Dung from the Bosindicus (humped cow) is most beneficial and has the highest concentrations of micro-organisms as compared to European cow breeds such as Holstein. The entire ZBNF method is centred on the Indian cow, which historically has been part of Indian rural life.

Arguments Against

While the method looks simple and easy to adopt, there are certain fundamental constraints.

- ♦ Even if the inputs are freely available in nature, farmers have to bear the cost of labour for field work and cattle rearing, collection of dung and urine, and in the preparation of jeevamrutha, neemasthra and bramhastra. Besides health expenses of cattle, the cost of cattle feed is also quite high. Because of reduced grazing lands and vanishing small waterbodies, fodder cost in recent years has skyrocketed making it as costly as milk.
- ♦ India needed the Green Revolution in order to become self-sufficient and ensure food security. They warn against a wholesale move away from that model without sufficient proof that yields will not be affected. Sikkim, which has seen some decline in yields following a conversion to organic farming, is

used as a cautionary tale regarding the pitfalls of abandoning chemical fertilizers.

- ♦ National Academy of Agricultural Sciences (NAAS) has suggested that there is no need for the government to promote zero budget natural farming (ZBNF) in the manner it currently is, unless there is proper scientific validation.
- ♦ A limited 2017 study in Andhra Pradesh claimed a sharp decline in input costs and improvement in yields. However, reports also suggest that many farmers, including in Mr. Palekar's native Maharashtra, have reverted to conventional farming after seeing their ZBNF returns drop after a few years, in turn raising doubts about the method's efficacy in increasing farmers' incomes.
- ♦ Critics also argued that plant growth and crop yields require nitrogen, which is also a major component of amino acids that are the building blocks of proteins. 78 per cent of air is nitrogen, but it is not freely available to plants. Being non-reactive, atmospheric nitrogen has to be fixed into a plant-usable form such as ammonia or urea. Even maintaining indigenous cows and collecting their dung and urine — seed treatment and insect pest management solutions — entail labour cost. Simply put, agriculture can never be zero budget. Also, crop yields cannot go up beyond a point with just cow dung that has only around 3 per cent nitrogen (as against 46 per cent in urea), 2 per cent phosphorous (46 per cent in di-ammonium phosphate) and 1 per cent potassium (60 per cent in muriate of potash).

Arguments In-favour

- ♦ According to National Sample Survey Office (NSSO) data, almost 70% of agricultural households

spend more than they earn and more than half of all farmers are in debt. The rising cost of these external inputs was a leading cause of indebtedness and suicide among farmers, while the impact of chemicals on the environment and on long-term fertility was devastating. In States such as Andhra Pradesh and Telangana, levels of indebtedness are around 90%, where each household bears an average debt of Rs. 1 lakh. In order to achieve the Central government's promise to double farmers income by 2022, one aspect being considered is natural farming methods such as the ZBNF which reduce farmers' dependence on loans to purchase inputs they cannot afford. Meanwhile, intercropping allows for increased returns.

- ◆ At a time when chemical-intensive farming is resulting in soil and environmental degradation, water depletion and pushing up the cost of farm inputs, a zero-cost environmentally-friendly farming method is definitely a timely initiative. It is already being practised in Andhra Pradesh, Karnataka, Kerala, Himachal Pradesh, Uttarakhand and Chhattisgarh.
- ◆ Under ZBNF, neither fertilizer nor pesticide is used and only 10 per cent of water is to be used for irrigation as compared to traditional farming technique. Farmers use only local seeds and produce their own seeds. These states can promote ZBNF under the two farm sector schemes- 'Paramparagat Krishi Vikas Yojana' and 'Rashtriya Krishi Vikas Yojana'.

◆ Intercropping is a scientifically proven practice and has got several advantages and extends economic benefits for the farmers particularly under adverse weather conditions. It is largely practiced in dry-land areas as an insurance against failure of main crop. Under All India Coordinated Research Project (AICRP) on Integrated Farming Systems, intercropping systems have been studied for many states and found profitable for farmers. Intercrops act as live mulch thereby reducing the weeds, water requirement and also providing additional returns to the farmers. Intercropping with leguminous crops is one of the components of ZBNF and it improves the crop productivity and soil fertility by way of fixing the atmospheric nitrogen. Further, the cowdung, urine based formulations and botanical extracts used in ZBNF help farmers in reducing the input cost.

Government Initiatives

In 2018, the Central government has revised the norms for the 'Rashtriya Krishi Vikas Yojana- Remunerative Approaches for Agriculture and Allied sector Rejuvenation (RKVY-RAFTAAR)', a flagship Green Revolution scheme with an allocation of Rs. 3,745 crore this year.

The 'Paramparagat Krishi Vikas Yojana' was launched to promote organic farming and soil health. Under the revised guidelines, both Centrally-sponsored schemes now allow states to use their funds to promote the ZBNF, vedic farming, natural farming, cow farming and a host of other traditional methods. In June 2018, Andhra Pradesh rolled out an ambitious plan

to become India's first State to practise 100% natural farming by 2024. It aims to phase out chemical farming over 80 lakh hectares of land, converting the State's 60 lakh farmers to ZBNF methods.

Way Forward

Zero budget farming is good farming practice but shifting from the current form of farming to zero budget farming may be impractical because it will drastically bring down the yield during the first some years. The country may suffer food shortage. However, for this, the Indian Council of Agricultural Research is studying the ZBNF methods practised by basmati and wheat farmers in Modipuram (Uttar Pradesh), Ludhiana (Punjab), Pantnagar (Uttarakhand) and Kurukshetra (Haryana), evaluating the impact on productivity, economics and soil health including soil organic carbon and soil fertility. If, it is found to be successful, an enabling institutional mechanism could be set up to promote the technology.

Further, several experts have also warned that multi-location studies are needed to scientifically validate the long-term impact and viability of the model before it can be scaled up and promoted country-wide.

General Studies Paper- III

Topic: Major crops - cropping patterns in various parts of the country, different types of irrigation and irrigation systems - storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.



SEVEN SUBJECTIVE QUESTIONS WITH MODEL ANSWERS

Stubble Burning : Affecting the Air Quality

Q 1. Along with Air Quality Stubble Burning has serious impacts on soil health also. Substantiate. Also highlight the policy approach regarding tackling of crop residue.

Hints:

- ◆ A study estimates that crop residue burning released 149.24 million tonnes of carbon dioxide (CO₂), over 9 million tonnes of carbon monoxide (CO), 0.25 million tonnes of oxides of sulphur (SOX), 1.28 million tonnes of particulate matter and 0.07 million tonnes of black carbon.
- ◆ The heat from burning paddy straw elevates soil temperature and kills bacterial and fungal populations.
- ◆ The solubility capacity of the upper layers of soil have also been reduced.
- ◆ According to a report, one tonne stubble burning leads to a loss of 5.5 kilogram nitrogen, 2.3 kg phosphorus, 25 kg potassium and more than 1 kg of sulfur — all soil nutrients, besides organic carbon.
- ◆ **Policy Approach:** Promote the technologies for optimum utilization and in-situ management of crop residue, to prevent loss of valuable soil nutrients, and diversify uses of crop residue in industrial applications.
 - ◆ Develop and promote appropriate crop machinery in farming practices such as modification of the grain recovery machines (harvesters with twin cutters to cut the straw). Provide discounts and incentives for purchase of mechanized sowing machinery such as the happy seeder, turbo seeder, shredder and baling machines.
 - ◆ Use satellite-based remote sensing technologies to monitor crop residue management with the National Remote Sensing Agency (NRSA) and Central Pollution Control Board (CPCB).
 - ◆ Provide financial support through multidisciplinary approach and fund mobilization in various ministries for innovative ideas and project proposals to accomplish above.

The Idea of Regional Benches of Supreme Court : An Understanding

Q 2. While having Regional Benches of Supreme Court offers functional advantages to the people of India stationed far from Delhi, it may also have certain unwanted consequences. Explain.

Hints:

- ◆ The right of access to justice has been recognised as one of the fundamental and basic human rights in various international covenants and charters. Inaccessibility of this right undermines public confidence in the justice delivery system and incentivises people to look for short-cuts and other ways to achieve justice. In the long run, this also weakens the justice delivery system and poses a threat to Rule of Law. Following points make the case for having Regional Benches of Supreme Court:
 - ◆ To ensure that a litigant from south is not deterred from appealing to the SC due to the financial burden of flight expenses, accommodation in Delhi and the per appearance fees of counsels in Supreme Court, which is tremendously high on a common man's pocket.
 - ◆ To provide more opportunity to the common man to engage a counsel who fought the case in the lower courts than relying on a SC advocate who has no knowledge of the case.
 - ◆ To ensure Justice for all through speedy disposal of several pending cases from the South, the highest from any zone.
- ◆ There are reservations also against splitting the Supreme Court into regional benches, which will tamper with the original concept of an apex court, envisioned by the drafters of the Constitution.
- ◆ In many High Courts, it has been alleged that some Justices are assigned to far-off benches on the sole discretion of the chief justice. No means of verifying this information about alleged misuse of this power exists, but the fact that such things can be said itself indicates the need for some specific guidelines.

The Draft Model Tenancy Act, 2019 : An Introduction

Q 3. What are the issues plaguing the rental housing sector in India and how Model Tenancy Act, 2019 (MTA) aims to address these issues?

Hints:

- ◆ Existing rent control laws does not provide for present market value of the premise as a consideration to determine standard rent.
- ◆ Landlords often fear that they might lose control on their premises if they had to go for long litigation process for recovering their premises.
- ◆ Existing rent control laws do not provide for any upper cap as far as security deposit is concerned.
- ◆ Lack of transparency and slow dispute resolution system.
- ◆ The draft MTA aims to bring in transparency in the highly unorganised rental space.
- ◆ Establishment of the adjudicating authorities.
- ◆ Every tenant is entitled to get a written receipt from the landowner for the amount paid to him.
- ◆ In case of overstay of tenant, it provides for compensation i.e. four times the rent, to the landlord.

Health System Conditionality Report of States : An Assessment

Q 4. The behavioural changes is induced or nudged towards better health conditions as per "Health Systems - Strengthening Conditionality Report". What nudges or conditionality is being used?

Hints:

- ◆ To motivate States to improve population health and reduce disparities in the spirit of cooperative and competitive federalism, the National Institution for Transforming India (NITI) Aayog launched the Health Index to measure the performance of States and UTs.
- ◆ The most important lever- the system that drives behaviour most powerfully- is the budget . For last few years.
- ◆ Ministry of Health and Family Welfare (MoHFW) has been experimenting with linking at least a part of budget to the agreed conditions being met to enhance performance and to focus on health sector reforms
- ◆ **Result Based Financing (RBF):** Where the States could get more budgetary support if they performed well

on the agreed indicators and may lose out part of the funding if they did not meet the set performance benchmarks. The incremental improvement as per the NITI Aayog ranking of states on 'Performance on Health Outcomes' is one of the major conditionalities and has been given the highest weightage.

- ◆ Mission Steering Group of National Health Mission under the Chairmanship of Health Minister decided to increase the Performance based incentive/penalty from 10% to 20% of the NHM budget.
- ◆ Good performance would be monitored, acknowledged and rewarded. While 80% of the resource envelope earmarked for the State would be assuredly available, 20% of the resource envelope would depend on State's performance on agreed conditionalities.
- ◆ The States which do not fulfil the criteria could lose up to 20% of funding under NHM.

India - China : Second Informal Summit, 2019

Q 5. What are the areas of challenges and co-operation in Sino-Indian Relations? Also, highlight the importance of informal summits in this context.

Hints:

- ◆ Economically, China and India have huge complementarities given their strengths in manufacturing and services, respectively.
- ◆ India cannot ignore China, and it is cognisant of the growing power differential between the two. From Doklam to India's opposition to China's Belt and Road Initiative (BRI), India's message has been clear: New Delhi will stand up for its vital interests.
- ◆ Cultural ties between China and India remain thinner than might be expected. More can be done to build friendships between Chinese and Indians, such as improving visa processes and creating programmes for talent and academic exchange.
- ◆ **Environmental protection:** Both countries face ecological crises. But together, they can provide new impetus for environmental governance, promoting solutions that balance sustainability and development.
- ◆ First, India often sees China through the prism of its ties with Pakistan, while China looks constantly for an American role in Indian actions. Both the China-Pakistan Economic Corridor and the U.S.-India joint Indo-Pacific vision have further derailed bilateral trust.
- ◆ Both countries see the unilateral world order in decline, and are champions of multilateralism.

- ◆ They are already cooperating on global issues like tackling climate change.
- ◆ China had shown in the recent past that when it comes to deal-making and tackling international pressure, the Pakistan card is negotiable.
- ◆ India should also turn the focus to its rise and building capacities, not on conflicts and rivalries.
- ◆ Informal Summits are based on the personal chemistry between the leaders of the countries. These are significant as they are free from limitations of protocols and conventions. Leaders of India and China have shown twice, in Wuhan post Doklam and in Mamallapuram post abrogation of 370, that informal summits are a effective tool to remove an impasse.
- ◆ The Royal Swedish Academy of Sciences has decided to award the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2019 to Abhijit Banerjee, Esther Duflo and Michael Kremer “for their experimental approach to alleviating global poverty.”
- ◆ This year’s Laureates have introduced a new approach to obtaining reliable answers about the best ways to fight global poverty. In brief, it involves dividing this issue into smaller, more manageable, questions – for example, the most effective interventions for improving educational outcomes or child health.

Nobel Prize - 2019 : An Overview

Q 6. Incentives drive the exceptional work in any area of excellence. In this regard mention the works that has been awarded Nobel Prize for 2019. Also, briefly discuss the work of this year's Nobel Laureates for economics.

Hints:

- ◆ Nobel Prizes to recognize dedicated professionals who improve the world’s communities through science, humanity and literature.
- ◆ For Physiology or Medicine is awarded jointly to William G. Kaelin Jr, Sir Peter J. Ratcliffe and Gregg L. Semenza “for their discoveries of how cells sense and adapt to oxygen availability.”
- ◆ For Physics it is awarded “for contributions to our understanding of the evolution of the universe and Earth’s place in the cosmos”, with one half to James Peebles “for theoretical discoveries in physical cosmology” and the other half jointly to Michel Mayor and Didier Queloz “for the discovery of an exoplanet orbiting a solar-type star.”
- ◆ For Chemistry are awarded to John Goodenough, M. Stanley Whittingham and Akira Yoshino “for the development of lithium-ion batteries”.
- ◆ For Literature it is awarded to the Austrian author Peter Handke “for an influential work that with linguistic ingenuity has explored the periphery and the specificity of human experience.”
- ◆ 2019 Peace Prize Laureate Abiy Ahmed Ali is Prime Minister of the Federal Democratic Republic of Ethiopia since April 2018.

Zero Budget Natural Farming : An Analysis

Q 7. Explain the concept of Zero Budget Natural Farming and state arguments in favour and against it.

Hints:

- ◆ Zero Budget Natural Farming (ZBNF) is a set of chemical free farming methods that relies on agro-ecology.

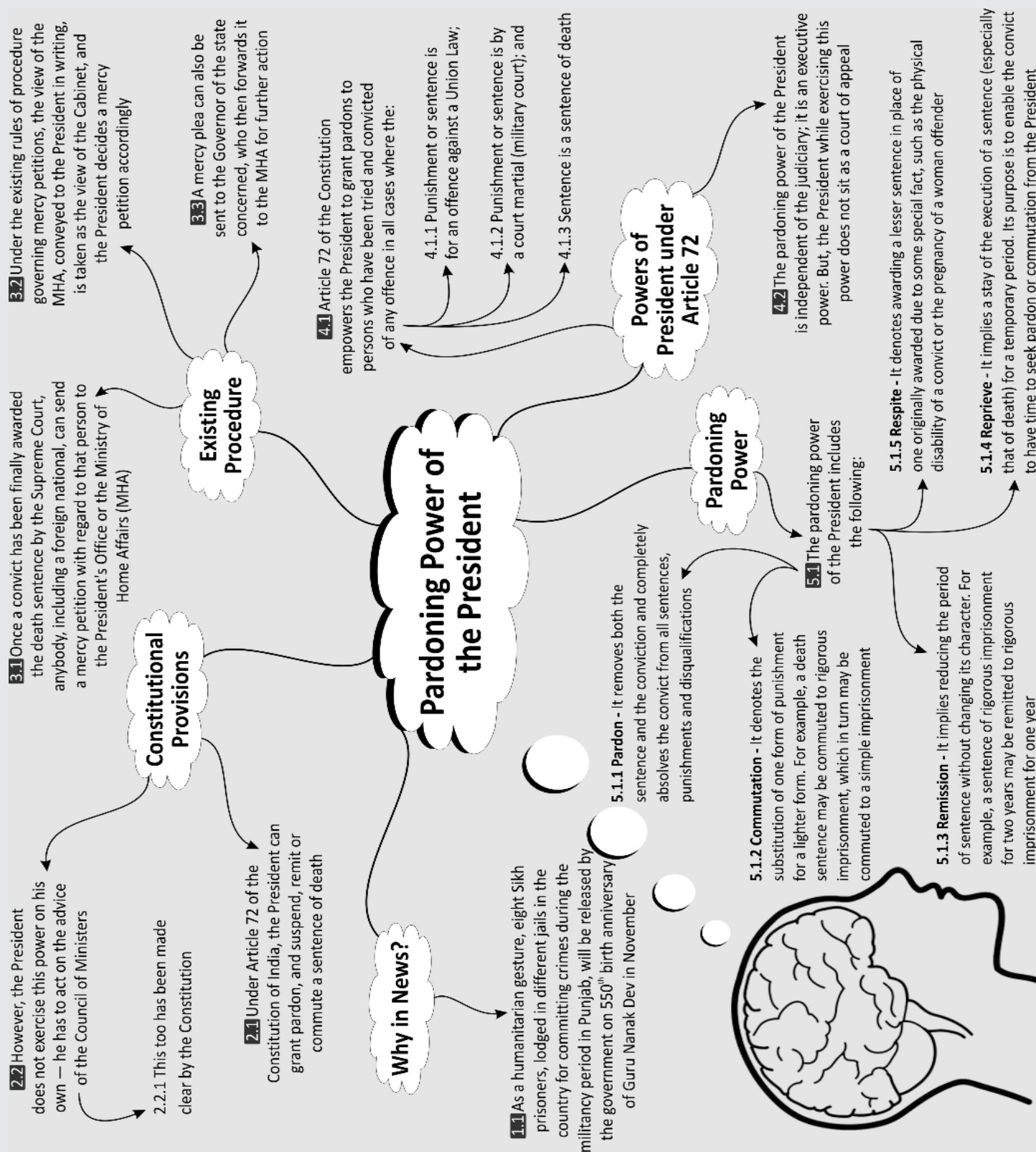
Arguments In-favour

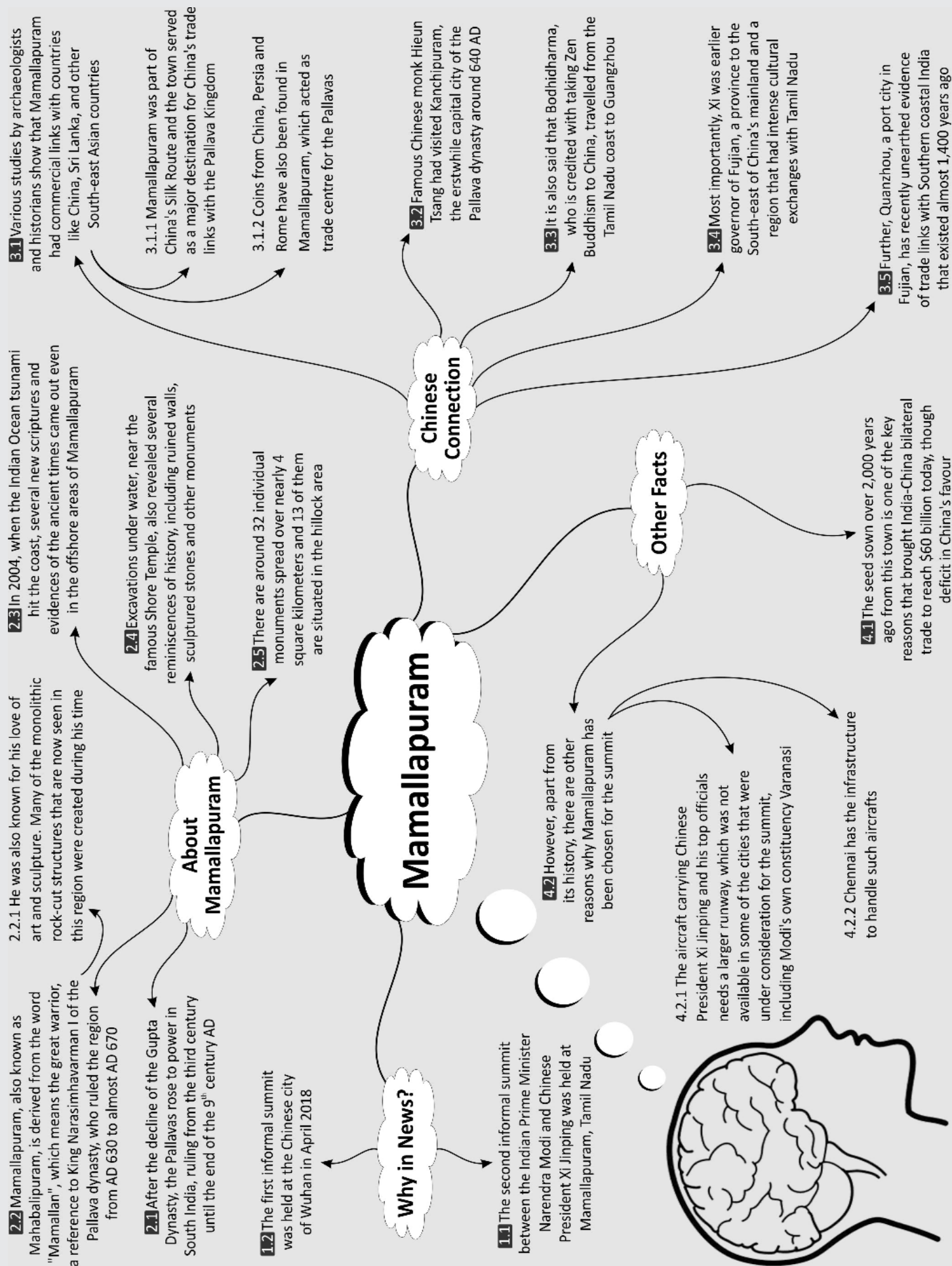
- ◆ ZBNF promotes the application of "jeevamrutha", "bijamrita", 'Agniastra', 'Brahmastra' and 'Neemastra'; these are concoctions based mainly on urine and dung from desi cows. Since these also do not have to be purchased, it makes farming practically “zero-budget”.
- ◆ The ZBNF method also promotes soil aeration, minimal watering, inter-cropping, bunds and top soil mulching, and discourages intensive irrigation and deep ploughing.
- ◆ It is an environmentally-friendly farming method.

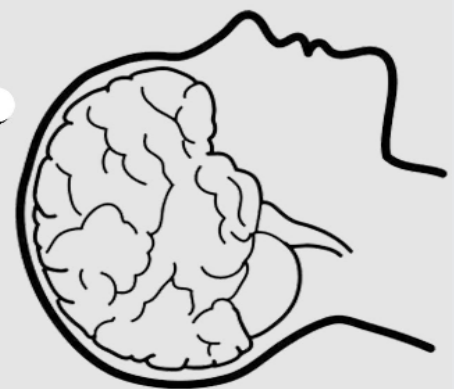
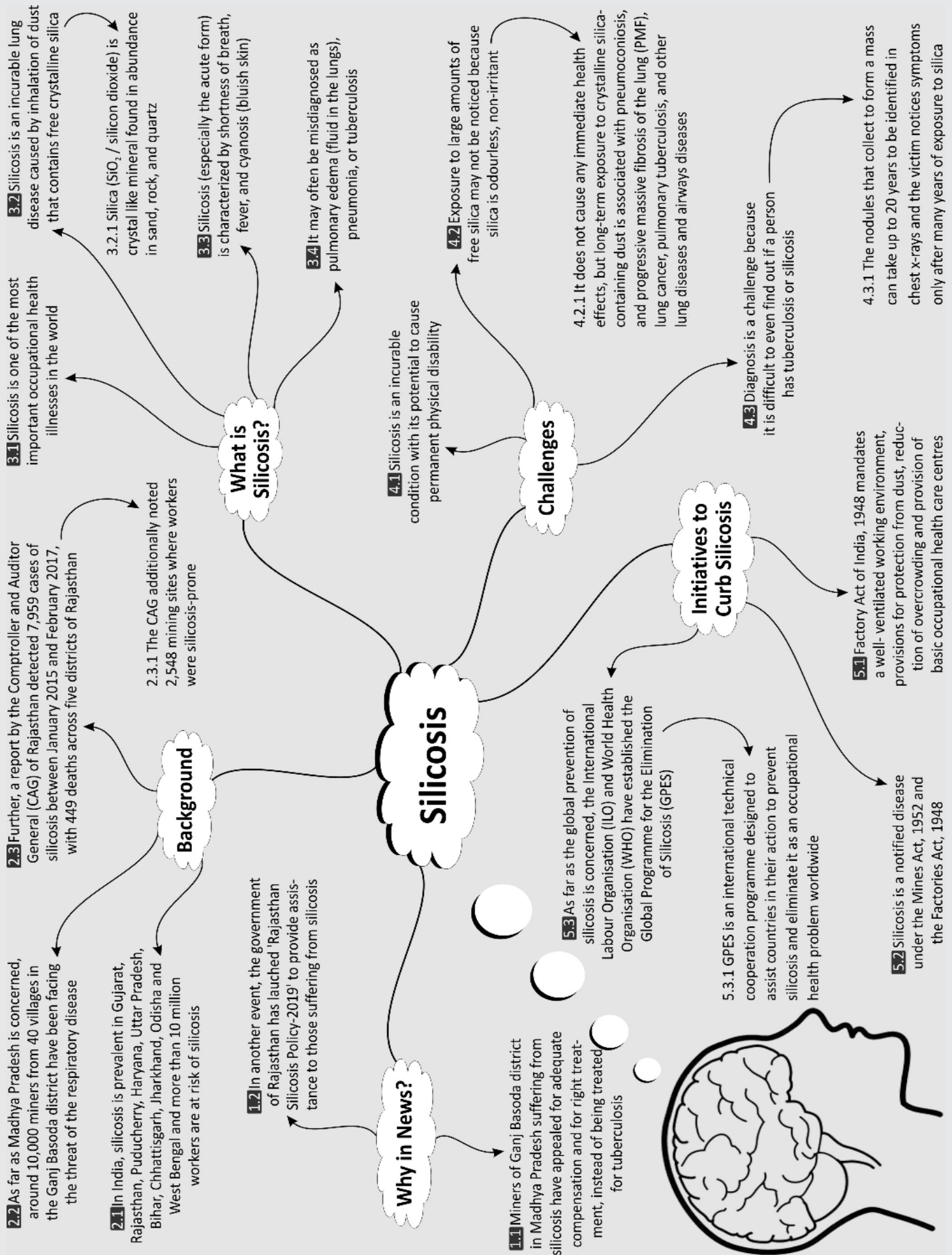
Arguments Against

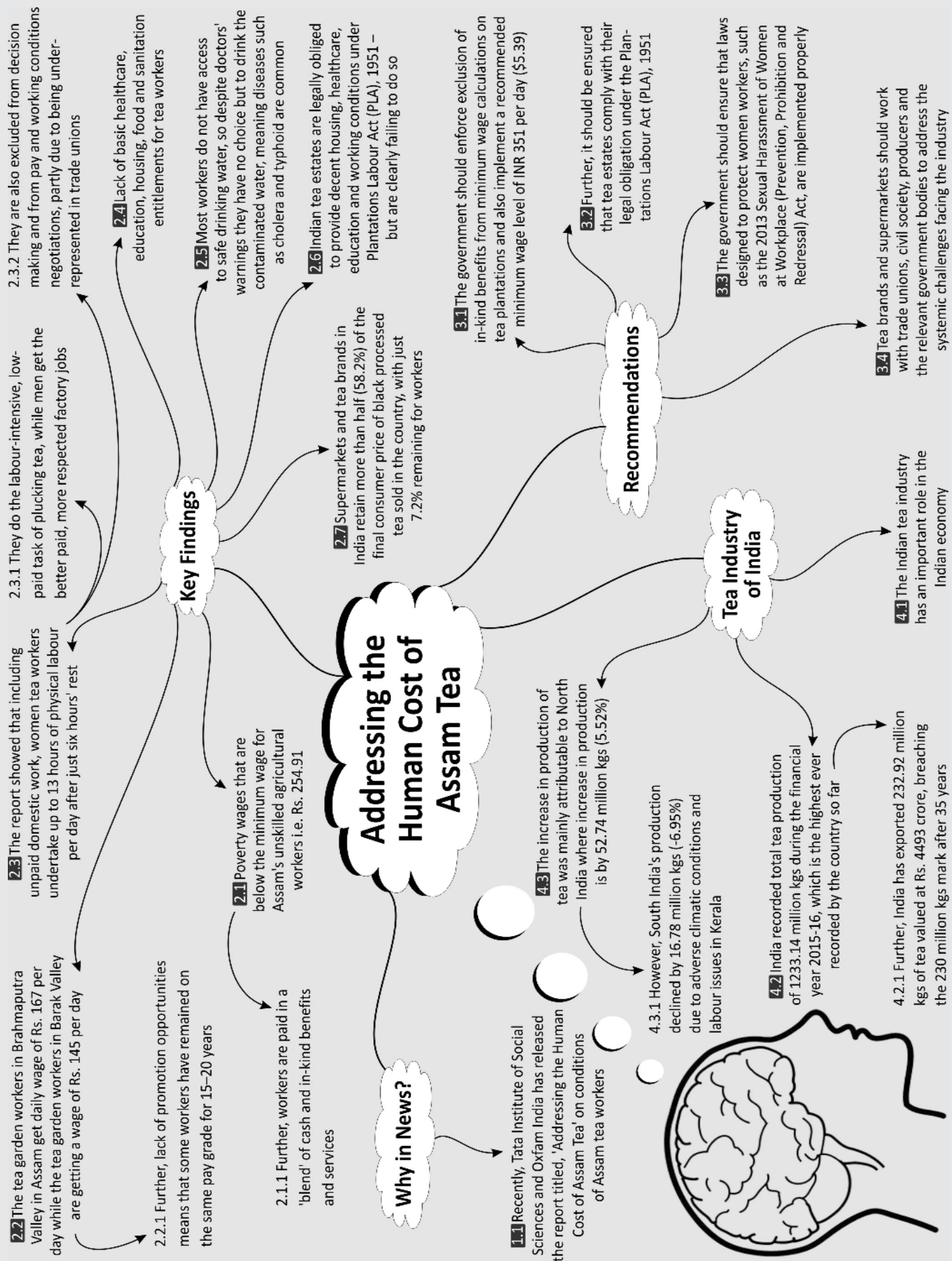
- ◆ Even if the inputs are freely available in nature, farmers have to bear the cost of labour for field work and cattle rearing, collection of dung and urine, and in the preparation of jeevamrutha, neemasthra and brahmastra.
- ◆ India needed the Green Revolution in order to become self-sufficient and ensure food security. They warn against a wholesale move away from that model without sufficient proof that yields will not be affected.
- ◆ Critics also argued that plant growth and crop yields require nitrogen, which is also a major component of amino acids that are the building blocks of proteins.

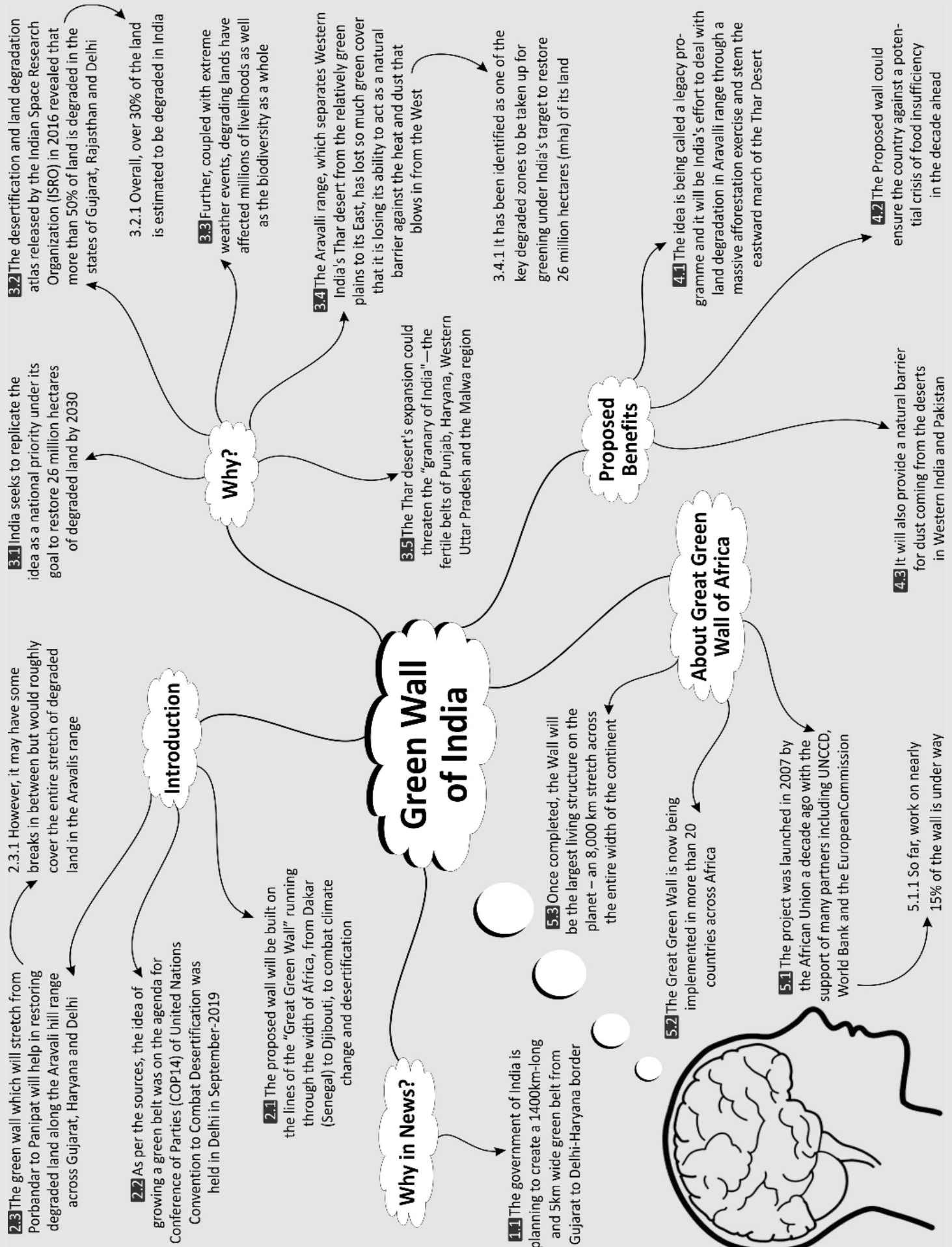
SEVEN BRAIN BOOSTERS

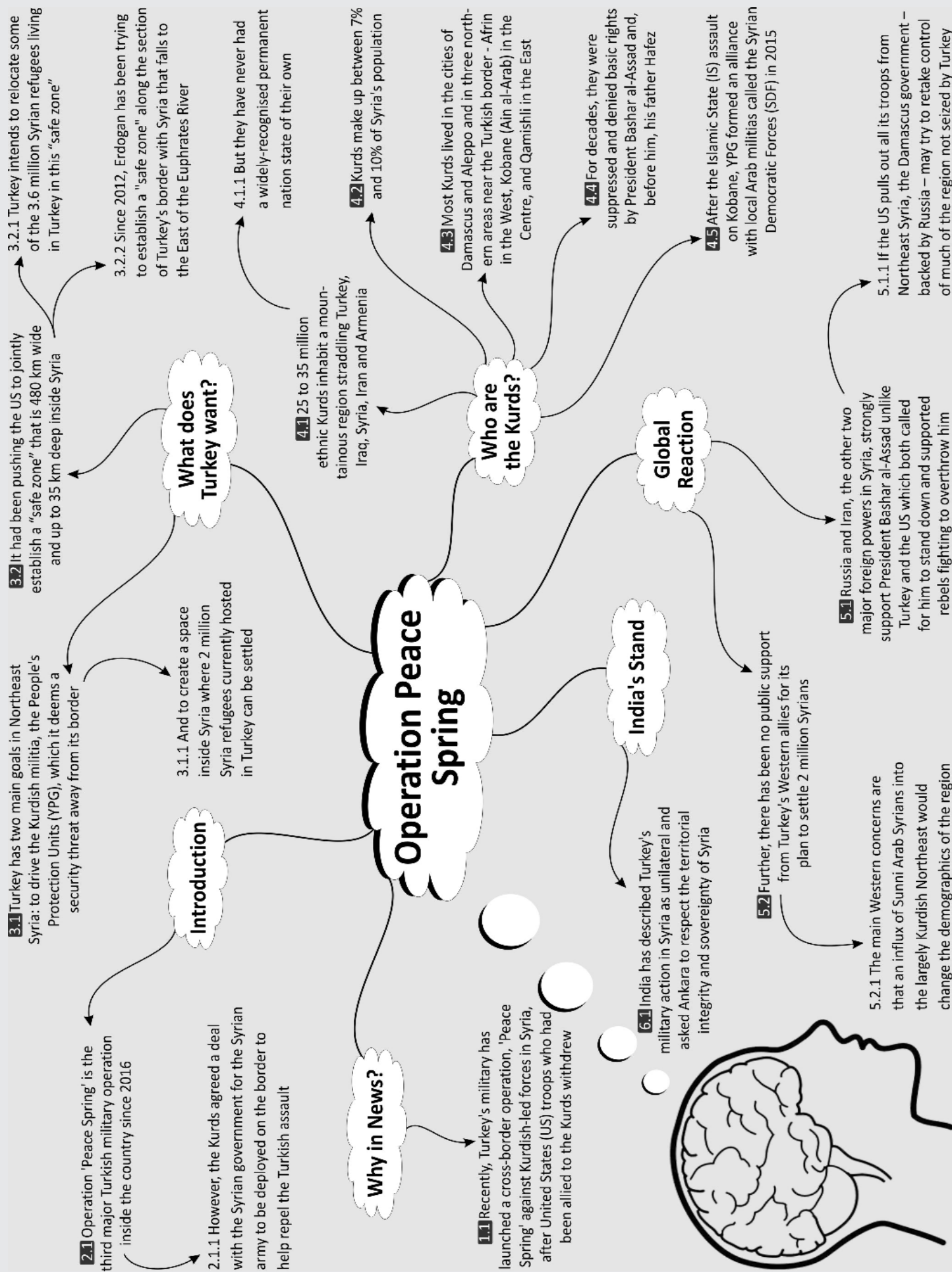


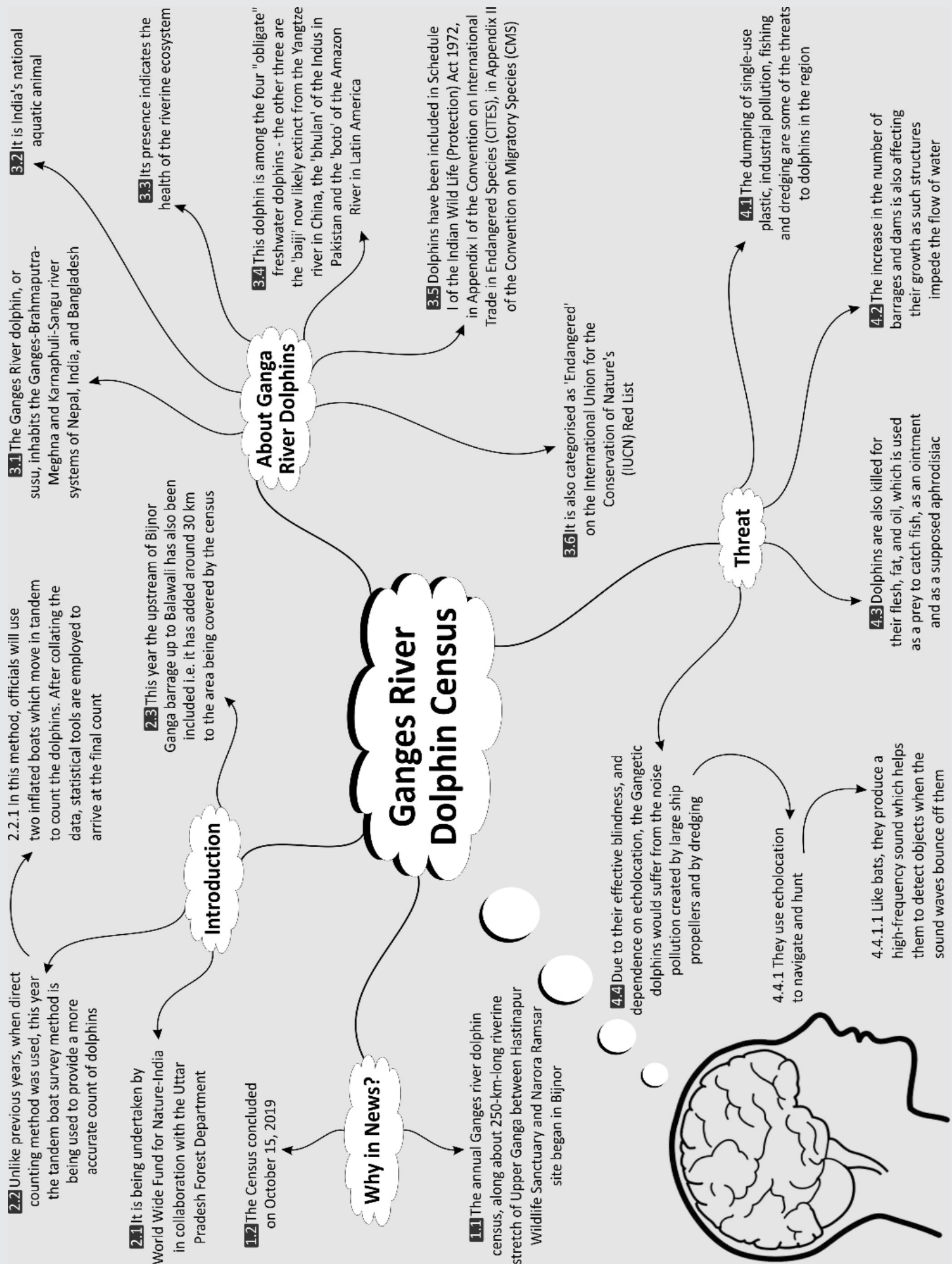












SEVEN MCQ's WITH EXPLANATORY ANSWERS (Based on Brain Boosters)

Pardoning Power of the President

Q1. Consider the following statements in respect of 'pardoning power of the President':

- Under Article 72 of the Constitution of India, the President can grant pardon, and suspend, remit or commute a sentence of death.
- The President of India exercise this power without advice of the Council of Ministers.

Which of the statements given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Answer: (a)

Explanation: Statement 1 is correct. Under Article 72 of the Constitution of India, the President can grant pardon, and suspend, remit or commute a sentence of death.

Statement 2 is not correct. However, the President does not exercise this power on his own — he has to act on the advice of the Council of Ministers. This too has been made clear by the Constitution.

Mamallapuram

Q2. Consider the following statements in respect of 'Mamallapuram':

- Mamallapuram was part of China's Silk Route and the town served as a major destination for China's trade links with the Pandaya Kingdom.
- Famous Chinese monk Hieun Tsang had visited Kanchipuram, the erstwhile capital city of the Pandaya dynasty around 640 AD.

Which of the statements given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Answer: (d)

Explanation: Both statements are incorrect. Mamallapuram, also known as Mahabalipuram, is derived from the word "Mamallan", which means the great warrior,

a reference to King Narasimhavarman I of the Pallava dynasty, who ruled the region from AD 630 to almost AD 670.

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Silicosis

Q3. With reference to the 'silicosis', consider the following statements:

- Silicosis is an incurable lung disease caused by inhalation of dust that contains free crystalline silica.
- It may often be misdiagnosed as pulmonary edema (fluid in the lungs), pneumonia, or tuberculosis.

Which of the statements given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Answer: (c)

Explanation: Both statements are correct. Silicosis is an incurable lung disease caused by inhalation of dust that contains free crystalline silica. Silicosis (especially the acute form) is characterized by shortness of breath, fever, and cyanosis (bluish skin). It may often be misdiagnosed as pulmonary edema (fluid in the lungs), pneumonia, or tuberculosis.

Addressing the Human Cost of Assam Tea

Q4. Consider the following statements in respect of 'Addressing the Human Cost of Assam Tea' report:

- Supermarkets and tea brands in India retain more than half (58.2%) of the final consumer price of black processed tea sold in the country, with just 7.2% remaining for workers.

2. Workers are paid in a 'blend' of cash and in-kind benefits and services.

Which of the statements given above is/are correct?

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

Answer: (c)

Explanation: Both statements are correct. Recently, Tata Institute of Social Sciences and Oxfam India has released the report titled, 'Addressing the Human Cost of Assam Tea' on condition of Assam tea workers. As per the report, workers are paid in a 'blend' of cash and in-kind benefits and services.

Supermarkets and tea brands in India retain more than half (58.2%) of the final consumer price of black processed tea sold in the country, with just 7.2% remaining for workers.

Green Wall of India

Q5. With reference to the 'proposed green wall of India', consider the following statements:

1. It will be a 1400km-long and 5km wide green belt from Gujarat to Rajasthan along with Aravali Mountain range.
2. It will provide a natural barrier for dust coming from the deserts in Western India and Pakistan.

Which of the statements given above is/are correct?

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

Answer: (b)

Explanation: Statement 1 is not correct. The government of India is planning to create a 1400km-long and 5km wide green belt from Gujarat to Delhi-Haryana border. It will stretch from Porbandar to Panipat and will help in restoring degraded land along the Aravali hill range across Gujarat, Haryana and Delhi.

Statement 2 is correct. It will be India's effort to deal with land degradation in Aravalli range through a massive afforestation exercise and stem the eastward march of the Thar Desert. It will also provide a natural barrier for dust coming from the deserts in Western India and Pakistan.

Operation Peace Spring

Q6. Consider the following statements in respect of 'Operation Peace Spring':

1. It is started by the government of Syria to uproot the establishment of Islamic State from its northern territory.
2. Further, it is supported by Russia and Iran, the other two major foreign powers in Syria.

Which of the statements given above is/are correct?

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

Answer: (d)

Explanation: Both statements are incorrect. Recently, Turkey's military has launched a cross-border operation, 'Peace Spring' against Kurdish-led forces in Syria, to drive the Kurdish militia, the People's Protection Units (YPG), which it deems a security threat away from its border and to create a space inside Syria where 2 million Syrian refugees currently hosted in Turkey can be settled.

Ganges River Dolphin Census

Q7. Consider the following statements in respect of 'Ganga River Dolphin':

1. It is categorised as 'Vulnerable' on the International Union for the Conservation of Nature's (IUCN) Red List.
2. They use echolocation to navigate and hunt.

Which of the statements given above is/are correct?

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

Answer: (b)

Explanation: Statement 1 is not correct. Dolphins have been included in Schedule I of the Indian Wild Life (Protection) Act 1972, in Appendix I of the Convention on International Trade in Endangered Species (CITES), in Appendix II of the Convention on Migratory Species (CMS). It is also categorised as 'Endangered' on the International Union for the Conservation of Nature's (IUCN) Red List.

Statement 2 is correct. They use echolocation to navigate and hunt. Like bats, they produce a high-frequency sound which helps them to detect objects when the sound waves bounce off them.



SEVEN IMPORTANT FACTS FOR PRELIMS

1. Who has been awarded 2019 Booker Prize?

*–Margaret Atwood for 'The Testaments' and Bernardine
Evaristo for 'Girl, Woman, Other'*

2. What is the rank of India on Global Hunger Index 2019?

–102nd

3. Who has been elected as the President of Tunisia?

–Kais Saied

4. Which Indian nun was declared saint by Pope Francis recently?

–Mariam Theresia

5. What is the name of recently launched satellite of NASA to study the ionosphere?

–Ionospheric Connection Explorer (ICON)

6. What is the theme of the 2019 edition of International Girl Child Day?

–'Girl Force: Unscripted and Unstoppable'

7. Who has been conferred the National Kishore Kumar Samman for 2018-19?

–Priyadarshan (Director)

○○○

SEVEN PRACTICE QUESTIONS FOR MAINS EXAM

- Q1. What is 'carbon tax'? Is the idea of global carbon tax enough to combat the problem of climate change? Discuss.
- Q2. What do you understand by microbial fuel cells? Discuss its applications.
- Q3. 'One Nation One FASTag' scheme will integrate the collection of toll digitally and ensure seamless mobility of vehicles across India." Critically discuss.
- Q4. Discuss why did India fall in the Global Hunger Index 2019?
- Q5. Discuss the concept of 'elastocaloric effect'.
- Q6. What is the Index of Industrial Production (IIP)? Discuss how useful are monthly IIP figures to draw a conclusion about India's growth?
- Q7. What is plogging? Discuss why PM Modi urged people to start plogging for a litter-free India?



SEVEN IMPORTANT NEWS

1. Vigyan Jyoti Programme

The government of India is planning to launch a programme, 'Vigyan Jyoti' to help girl students inculcate interest in Science, Technology, Engineering and Mathematics (STEM) and also fund them if they get into any top institute for pursuing these under-represented subjects.

Key Highlights

- ◆ It aims to tap 100 girl students in 550 districts from 2020-2025 and these students will be chosen based on their percentile.
- ◆ The programme envisages students' interactions with top

women leaders in the area of science and technology, corporate world, universities and top institutes like the DRDO.

- ◆ The programme also has financial dimension. The girls will be given a modest financial incentive to cover their additional expense like travel to camps.
- ◆ The programme will cover girl students from grade 9 to 12.
- ◆ It also guarantees that if the girl gets into an under-represented area like the IIT then they would receive a fellowship. The programme would also include

counselling the parents of the girl students. This will assuage their concerns of getting into an under-represented area.

Why?

Data compiled by the Department of Science and Technology (DST) shows that females comprised 24 per cent of the total pass-out students in STEM subjects in engineering, 22 per cent at the post graduate level, 28 per cent at M.Phil and 35 per cent at the PhD level. It shows that the low percentage of women in STEM.

2. Plastic Pollution in Andaman Nicobar Island

According to the researchers from CSIR-Institute of Minerals and Materials Technology, the Andaman and Nicobar Islands consisting of a group of almost 572 Islands are under threat from plastic. Sixty of these were analysed and found to be of non-Indian origin. The litter was likely to be transported by the water currents from South-East Asian countries through the Malacca Straits (which is a major shipping route) towards the Great Nicobar island.

Key Highlights

About 10 countries including India contributed to the plastic litter in the island. They were Malaysia, Indonesia, Thailand, Singapore, Philippines, Vietnam, India, Myanmar, China and Japan.

Major portion of the litter (40.5%) was of Malaysian origin. It was followed by Indonesia (23.9%) and Thailand (16.3%). Other countries contributed a minor portion.

The litter of Indian origin only amounted to 2.2%. However, the researchers also point out that litter of Indian origin on beaches and mangroves of the Andaman Islands is continuously increasing. This is probably due to lack of proper guidelines and inadequate staff to monitor these islands.

Further, the huge quantities of marine debris also observed on the islands might be due to improper handling of the solid waste from fishing/mariculture activity and ship traffic.



About Great Nicobar Island

The Great Nicobar Island of Andaman has an area of about 1044 sq. km. According to the 2011 Census, has a population of about 8,069. The Island is home to one of the most primitive tribes of India — the Shompens. The Island includes the Great Nicobar Biosphere Reserve (GNBR) comprising of the Galathea National Park and the Campbell Bay National Park.

3. Graded Response Action Plan

The Environment Pollution (Prevention and Control) Authority (EPCA) will implement the Graded Response Action Plan (GRAP) in the National Capital Region with new standards, which will help fight air pollution. The plan, which has been in place since 2016, works as an emergency measure. This means, it is implemented in phases as the air pollution worsens.

Why?

Delhi's air quality has worsened after the burning of Ravan effigies on Dussehra. Another contributing factor is the change in wind direction, which has brought in pollutants from Punjab

and Haryana where crop burning is under way.

Further, the air quality in New Delhi dropped to 'hazardous', with PM10 levels rising to 613 in Wazirpur. Dwarka and Ghaziabad recorded 'hazardous' levels too as AQI levels touched 449 and 330 respectively, according to Delhi Pollution Control Committee data.

About GRAP

GRAP works only as an emergency measure. As such, the plan does not include action by various state governments to be taken throughout the year to tackle industrial, vehicular and combustion emissions. When the air quality shifts from poor to very

poor, the measures listed under both sections have to be followed since the plan is incremental in nature. If air quality reaches the severe+ stage, GRAP talks about shutting down schools and implementing the odd-even road-space rationing scheme.

GRAP has been successful in doing two things that had not been done before — creating a step-by-step plan for the entire Delhi-NCR region and getting on board several agencies: all pollution control boards, industrial area authorities, municipal corporations, regional officials of the India Meteorological Department, and others.

4. World Vision Report

The World Health Organization (WHO) has released recently its first World Vision Report.

Key Highlights

The report found that globally, over 2.2 billion people have a vision impairment. Out of these 2.2 billion, 1 billion people are suffering from conditions that are preventable or unaddressed.

A majority of the cases among these 1 billion cases are of unaddressed presbyopia at 826 million. This is followed by unaddressed refractive error at over 120 million.

Rural communities, low-income countries and older people bear the brunt of these impairments. For instance, the age-specific prevalence of presenting distance vision impairment in an urban population of Delhi (20% prevalence among 60-69-year-olds) was one-third lower than that of a rural population in Northern India (28%).

Globally, around 1.9 million have conditions such as glaucoma, trachoma and diabetic retinopathy, which could have been prevented. The estimated cost of preventing conditions among these 11.9 million people is over \$5.8 billion.

Surgeries for cataract, which is the leading cause of blindness globally, have shown improvements over time, in low middle-income countries.

In India the rate of cataract surgery has increased nine-fold (6,000 per million population) between 1981 and 2012. This has been possible due to the National Programme for Control of Blindness, which was launched in 1976 and under which cataract surgeries were performed on 6.5 million people in 2016-2017.

5. Prevalence of HIV Cases

According to latest figures received from Mizoram State AIDS Control Society (MSACS), nine new cases of HIV positive are detected all over the state every day at the Integrated Counselling and Testing Centre (ICTCs) against 25 working days in a month.

Key Findings

At 2.04 per cent, Mizoram recorded the highest HIV prevalence rate in the country. It is followed by Manipur (1.43 per cent) and Nagaland (1.15 per cent). The heterosexual route is

the commonest route of transmission of HIV positive cases. It was recorded at 66.08 per cent. The use of needles and syringes accounts for 28.16 per cent of transmission. Parent to child transmission is 2.96 per cent while homosexual/bisexual transmission is

1.03 per cent. The remaining 1.77 per cent transmission is not specified.

Analysis of the HIV positive cases confirmed at the testing centres show that people in the age group of 25-34 years are the most vulnerable in Mizoram followed by those in the age brackets of 35-49 years and 15-24 years. The HIV/AIDS prevalence rates in these three age groups are 42.38%, 26.46% and 23.03% respectively.

Concern

The land-locked and Christian-majority Mizoram, which shares porous borders with Myanmar and Bangladesh, has the dubious distinction of being the highest HIV prevalent state in the country.

Narcotic substances such as methamphetamine and heroin are smuggled in from Myanmar. Most drug users in Mizoram use pseudoephedrine

pills which are otherwise a cure for nasal and lung congestion. The drug barons often smuggle the pills into the Golden Triangle (areas in Myanmar, Laos and Thailand notorious for drug production) where they are processed and turned into methamphetamine (meth) or 'party drug'. The meth is then redirected into Mizoram.

6. Elastocaloric Effect

Researchers from multiple universities, have found that the elastocaloric effect, if harnessed, may be able to do away with the need of fluid refrigerants used in fridges and air-conditioners. These fluids are susceptible to leakages, and can contribute to global warming. The results of the research were published in the journal Science.

What is Elastocaloric Effect?

In the elastocaloric effect, the transfer of heat works much the same way as when fluid refrigerants are compressed and expanded. When a rubber band

is stretched, it absorbs heat from its environment, and when it is released, it gradually cools down.

In order to figure out how the twisting mechanism might be able to enable a fridge, the researchers compared the cooling power of rubber fibres, nylon and polyethylene fishing lines and nickel-titanium wires. They observed high cooling from twist changes in twisted, coiled and supercoiled fibres. Researchers reported that the level of efficiency of the heat exchange in rubber bands "is comparable to that of standard

refrigerants and twice as high as stretching the same materials without twisting".

Significance

The researchers developed a fridge the size of a ballpoint pen cartridge that was able to bring down the temperature of a small volume of water by 8°C in a few seconds. They suggested that their findings may lead to the development of greener, higher-efficiency and low-cost cooling technology.

7. The G20 Global Smart Cities Alliance on Technology Governance

India has joined the league of 15 of the world's leading city networks and technology governance organisations that will work towards advancing the responsible and ethical use of smart city technologies.

Need

India is at the forefront of the urban transformation and is committed to ensuring that cities develop in a way that is smart and sustainable. Hence, smart city technologies can help decrease traffic congestion, combat crime, improve resilience during natural disasters and reduce greenhouse emissions. Without proper governance, these technologies pose

significant risk, notably to privacy and security.

Significance

As urban populations grow, smart city technologies become more and more essential not only to improve the quality of life of citizens but also to simply keep our cities livable.

India's joining the league is a critical first step towards accelerating global best practices, fostering greater openness and public trust as well as mitigating risks regarding the collection of data in public spaces.

About Alliance

It was established in June 2019, in

conjunction with the G20 Summit in Osaka, Japan.

It comprises 15 of the world's leading city networks and technology governance organisations.

The Global Smart Cities Alliance's founding set of institutional partners include the presidents and host nations of the Group of 20 (G20) in 2019 and 2020; Japan and the Kingdom of Saudi Arabia; the Smart City Mission of India; Cities for All; Cities Today Institute; Commonwealth Local Government Forum; Commonwealth Sustainable Cities Network among others.

SEVEN IMPORTANT HIGHLIGHTS FROM PIB

1. SARAS Aajeevika Mela

The SARAS Aajeevika Mela is being organised by the marketing arm of the Ministry of Rural Development, Council for Advancement of People's Action and Rural Technology (CAPART) at India Gate Lawns in New Delhi. The objective of this Mela to bring the rural women Self Help Groups (SHGs) formed with support of 'Deendayal Antyodaya Yojana-National Rural Livelihoods Mission', under one platform to show-case their skills, sell their products and help them build linkages with bulk buyers.

Key Highlights

- ◆ The Mela is a true example of women empowerment as over 200 stalls have been set-up by nearly 500 rural SHG craftswomen from 29 States and UTs. They will show-case varied range of products like handicrafts, handlooms, natural food products and a food court with regional cuisines.
- ◆ In the last four and half years the number of rural women joining SHGs have jumped from two and a half crore to nearly 6 crore 30 lakhs to better their lives and that of the society. Further, till date about 88,000 crore rupees of loans were availed by SHGs and their NPA is mere 2 percent.
- ◆ Through participation in SARAS Aajeevika Mela, these rural SHG women get vital national level exposure to understand the demand and taste of urban customers.
- ◆ Another attraction of the Mela is the tamarind value chain from Jharkhand, portraying end-to-end journey right from plucking of tamarind, deseeding, cleaning and packaging to the final product on sale in the Demo Zone.

2. India and Comoros

Seeking to expand bilateral relations in various fields, India and Comoros have signed 6 MoUs including one on defence cooperation. Other MoUs sought to cement cooperation in the fields of health and medicine, arts and culture and tele-education (e-Vidya Bharati) and tele-medicine (e-Arogya Bharati). MoUs on exemption of Visa for diplomatic and official passport holders for short visits and protocol on foreign office consultation were also signed.

Key Highlights

- ◆ In an extraordinary gesture of friendship, the Comorian President conferred the 'Order of the Green Crescent', the highest civilian honour of the Union of Comoros, on the Vice President of India.
- ◆ The Vice President called for enhancing defence ties in maritime domain between India and the island nation of Comoros as part of a collaborative security architecture in the Indian Ocean.
- ◆ Vice President of India has also thanked the President of the Union of Comoros in the fight against terrorism as well as for reforms in the United Nations (UN) Security Council, including its continued support to India's candidature for a permanent seat in the UN Security Council.
- ◆ India will gift medicines and medical equipments worth USD 1 mn, USD 1 mn for transport vehicles, USD 2 mn for procurement of high-speed interceptor boats and 1000 MT of rice. India also announced Line-of-credit of USD 41.6 mn for setting up an 18MW power plant in Moroni and a vocational training centre.

About Comoros

The Comoro Islands form an archipelago of volcanic islands situated off the South-east coast of Africa, to the East of Mozambique and North-west of Madagascar. The islands are politically divided between Union of the Comoros and two territories of France: the Department of Mayotte and the Glorios Islands, a part of the Scattered Islands in the Indian Ocean.

3. “mHariyali” Mobile App

Minister of State for Housing & Urban Affairs has launched the mobile app, “mHariyali” for environment protection in government colonies. The app is aimed to encourage public engagement in planting trees and other such green drives. The App provides for automatic geo-tagging of plants. This app will also enable nodal officers to periodically monitor the plantation.

Key Highlights

In June 2019, the government of India has directed all ministries/ departments to take up and implement on the ground within the next 100 days of various public welfare/ development activities to improve the quality of life of citizens.

Earlier this month, as part of activities to promote ease of living, the Directorate of Estates, Ministry of Housing and Urban Affairs carried out the following activities in 103 selected government colonies (76 in Delhi and 29 in other states) through public/stakeholders participation:

- ◆ Cleaning and greening of open space through plantation.
- ◆ Rain water harvesting – Awareness and construction.
- ◆ Sensitization on source segregation of household waste and orientation and capacity building on home composting.

A mass plantation drive “Haryali Mahotsav” was launched in Delhi, in which approx 500 plants were planted and about 150 people, including students, participated. To date, 21,756 plants, including fruit plants have planted in these 103 colonies and more than 3800 people have participated.

25 rain water harvesting structures were constructed and 307 systems were augmented. For generating awareness about source segregation of waste and home composting solutions, 57,782 SMSs were sent to allottees of government colonies, and 76 exhibitions were held to sensitize the public.

4. India and Sierra Leone

India and Sierra Leone have signed six agreements to expand the bilateral relations in various fields and also agreed to push for United Nations Security Council (UNSC) reforms so that one-third of mankind residing in Africa and India occupy their rightful place in decision making bodies of the UN.

Key Highlights

India has announced the decision to establish a High Commission in Sierra Leone, even as both the countries have agreed to enhance cooperation in agriculture, food processing, information technology, infrastructure development and capacity building.

India’s developmental assistance to Sierra Leone so far aggregated to US\$ 217.5 million for various sectors including agriculture, energy, water resources and telecommunication.

India has announced a Line of Credit to the tune of US\$ 30 million for irrigation development in Tomabum to achieve self-sufficiency in rice production. An agreement was also signed with the EXIM Bank of India in this regard.

Further, a MoU was signed for Sierra Leone to participate in India’s Pan-African tele-Education, tele-Medicine initiatives, ‘e-Vidya Bharati’ and ‘e-Arogya Bharati’. India will soon initiate steps to set up the Centre of Excellence in IT in Sierra Leone. India will also be dispatching 1000 MTs of rice to Sierra Leone, as a goodwill gesture, in the coming months.

India is conducting a “Jaipur Foot” camp in Sierra Leone under the “India for Humanity” initiative for fitting of artificial prosthetic limbs for the disabled. This is an initiative undertaken in the context of 150th birth anniversary of Mahatma Gandhi.

5. India would Achieve 1,75,000 MW Target on Time

Reports have appeared in a section of media, citing a CRISIL report, that India may fall short of its declared renewable energy target of 1,75,000 MW by the year 2022. But, the Ministry of New and Renewable Energy has refuted such claims.

Key Highlights

By the end of September 2019, India has installed more than 82,580 MW of renewable energy capacity with around

31,150 MW of capacity under various stages of installation. Thus, by the first quarter of 2021, India would have installed more than 1,13,000 MW of renewable power capacity. This would constitute nearly 65 per cent of the targeted capacity.

Besides this, around 39,000 MW of renewable power capacity is at various stages of bidding which would be installed by September 2021, taking the percentage of installed capacity to over 87 percentage of the targeted

capacity. With only 23,000 MW of renewable power capacity left to bid, India is confident that the target of installing 1,75,000 MW of renewable power capacity will not only be met but exceeded.

Globally, India stands 5th in solar power, 4th in wind power, and 4th in total renewable power installed capacity. If large hydro included, India stands 3rd in renewable power capacity globally. India's renewable energy programme is much beyond production of electricity and covers a basket of applications including use of solar thermal energy for

cooling, heating, drying and other industrial applications.

Renewable energy has emerged as a true multi-benefit system, combining ecological necessities with domestic priorities, economic and job creation opportunities.

Background

The government of India has set an ambitious target of having 175 GW of clean energy capacity by 2022, which includes 100 GW from solar, 60 GW from wind, 10 GW from bio-power and 5 GW from small hydro-power.

6. GEMINI Device

For seamless and effective dissemination of emergency information and communication on disaster warnings, Potential Fishing Zones (PFZ) and Ocean States Forecasts (OSF) to fishermen, the government of India has launched the 'Gagan Enabled Mariner's Instrument for Navigation and Information' (GEMINI) device.

Key Highlights

While PFZ Advisories provide information on the probable locations on fish aggregation in the seas, OSF provide the accurate state of the ocean. OSF also include the forecasts on winds, waves, ocean currents, water temperature, etc. at every 6 hrs on daily basis for next 5 days helping fishermen in maximizing their earnings, ensuring safety and in planning of fishing activities.

Though the advisories and forecasts are disseminated through multiple communication modes, none of them could provide such information, including the disaster warnings when the fishermen move away from the coast beyond 10-12 km (typical ranges of mobile phones and

VHF). That remained as a major limitation in disseminating the information to fishermen who go in the sea beyond 50 nautical miles; sometimes up to 300 nautical miles and beyond to conduct multiday fishing.

The satellite based communication is the only suitable solution for the dissemination of such emergency information and affordable satellite based communication system should be made part of the dissemination chain to deal with cyclones, high waves and tsunamis.

The GEMINI device will receive and transfer the data received from GAGAN satellite/s to a mobile through Bluetooth communication.

Why?

The lacuna was severely felt during the Ockhi cyclone in 2017, when fishermen went out, for deep sea fishing before the onset of the cyclone and could not be informed about the developing cyclone. This communication gap resulted in loss of life, serious injuries to those rescued and severe damages to fishing boats and fishing gear.

7. LOTUS-HR

India and the Netherlands has launched the second phase of the Local Treatment of Urban Sewage streams for Healthy Reuse (LOTUS-HR) programme.

Key Highlights'

The LOTUS-HR project is jointly supported by Department of Biotechnology, Ministry of Science and Technology, Government of India and Netherlands Organization for Scientific Research /STW, Government of Netherlands.

The project was initiated in July 2017 and aims to demonstrate a novel holistic (waste) water management approach that will produce clean water which can be reused

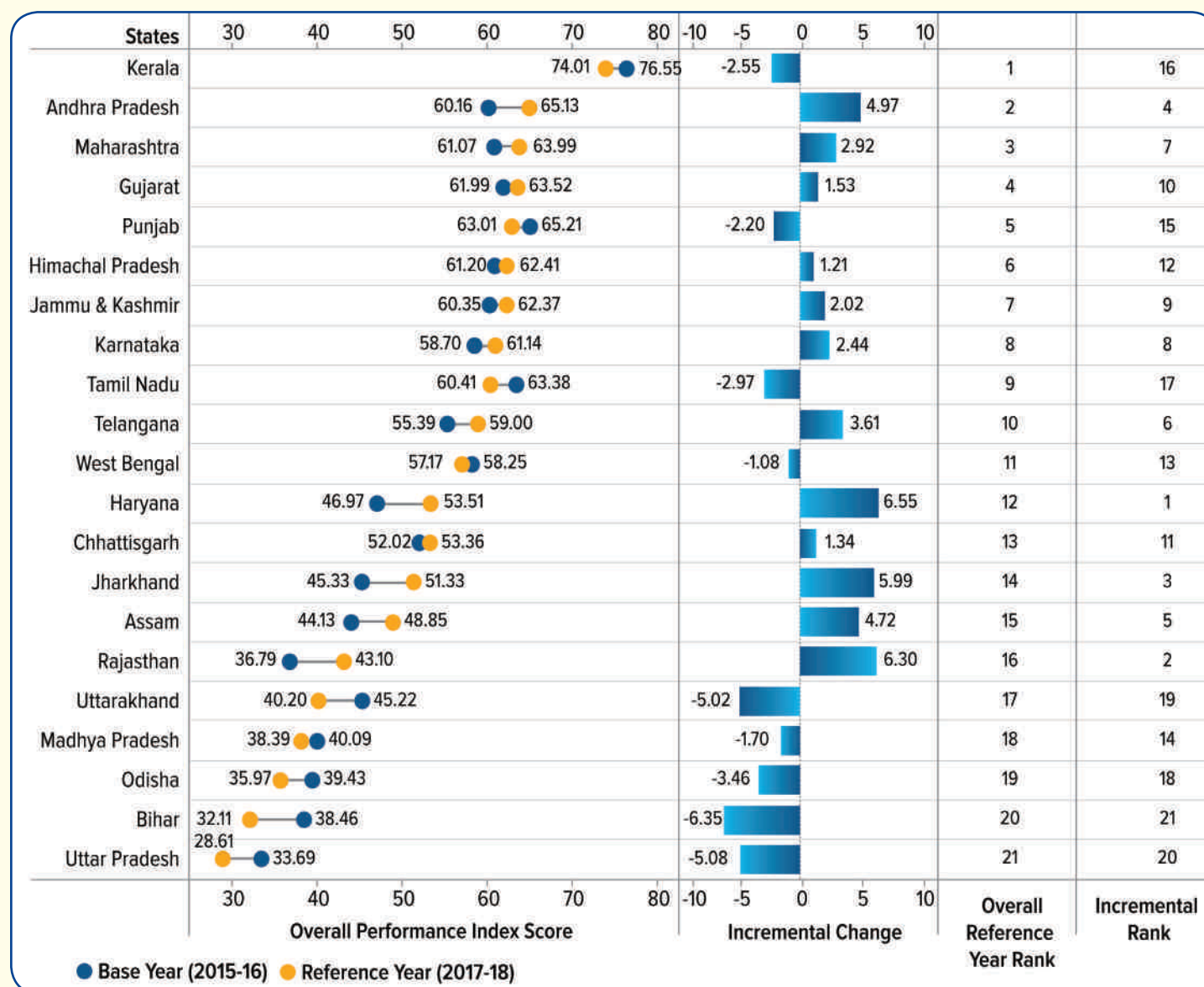
for various purposes. The innovative pilot scale modular plant upon commissioning will treat 10,000 L sewage water per day and will showcase a self-sustaining model for the end user.

This pilot scale facility will employ multiple technologies so that the data generated at the pilot scale becomes a tool-box of treatment technologies for replication at other sites in Delhi as well as other parts of India where similar drains exist. The rationale is that the mixing and matching of technologies from this tool-box will depend on the quantity (flow rate) and quality (pollutant load) of drain water, land availability, site accessibility as well as topography.



SEVEN IMPORTANT CONCEPTS THROUGH GRAPHICS

1. Larger States - Incremental scores and ranks, with overall performance scores and ranks in Base and Reference Years



Key Facts

- Among the larger states, Haryana, Rajasthan and Jharkhand are the top three states in terms of incremental performance, while Kerala, Andhra Pradesh, and Maharashtra are the top three states in terms of overall performance.
- In terms of incremental performance in Index scores from Base Year to Reference Year, the top three ranked states in the group of larger states are Haryana (up 6.55 points), Rajasthan (up 6.30 points) and Jharkhand (up 5.99 points).
- However, in terms of overall performance, these states are among the bottom two-third of the range of Index scores, with Kerala (74.01), Andhra Pradesh (65.13) and Maharashtra (63.99) showing the highest scores.
- Andhra Pradesh and Maharashtra are the only two states that are among the top one-third states on both overall performance as well as incremental performance.

2. Categorization of Larger States on Incremental Performance and Overall Performance

Key Facts

Incremental Performance	Overall Performance		
	Aspirants	Achievers	Front-runners
Not Improved (0 or less)	Madhya Pradesh Odisha Uttarakhand Uttar Pradesh Bihar	West Bengal	Kerala Punjab Tamil Nadu
Least Improved (0.01-2.0)	—	Chhattisgarh	Gujarat Himachal Pradesh
Moderately Improved (2.01-4.0)	—	—	Maharashtra Jammu & Kashmir Karnataka Telangana
Most Improved (more than 4.0)	Rajasthan	Haryana Jharkhand Assam	Andhra Pradesh

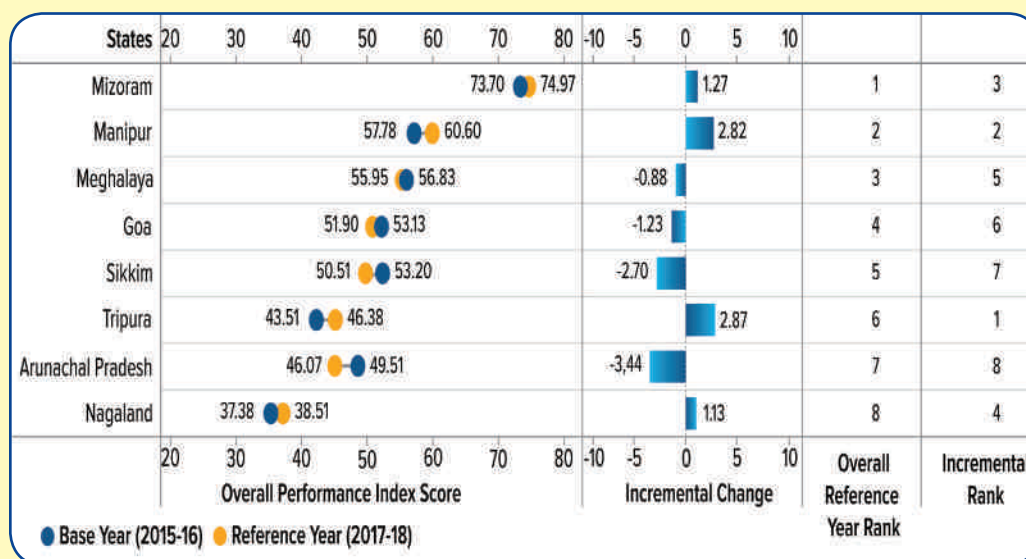
- The states are categorized on the basis of Reference Year Index score range: Front-runners: top one-third (Index score >58.88), Achievers: middle one-third (Index score between 43.74 and 58.88), Aspirants: lowest one-third (Index score <43.74).
- The states are categorized into four groups based on incremental performance: 'Not Improved' (<=0 incremental change), 'Least Improved' (0.01 to 2.0 points increase), 'Moderately Improved' (2.01 to 4.0 points increase), and 'Most Improved' (>4 points increase).

- Andhra Pradesh has the highest proportion of indicators (63 percent) among the larger states which fall in the category of "Most Improved" or "Improved".
- Among the top ten performers, seven had made further improvements in overall performance scores (Andhra Pradesh, Maharashtra, Gujarat, Himachal Pradesh, Jammu & Kashmir, Karnataka and Telangana).
- However, among the six least performing states (Uttar Pradesh, Bihar, Odisha, Madhya Pradesh, Uttarakhand, and Rajasthan), five had decline in the overall performance scores, with the exception of Rajasthan which improved the score by 6.30 points.
- Among the eight EAG states (Empowered Action Group states includes Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Rajasthan, Uttarakhand, Uttar Pradesh, and Odisha), only three of the states Rajasthan, Jharkhand and Chhattisgarh showed improvement in the overall performance between 2015-16 and 2017-18.

3. Smaller States - Incremental scores and ranks, with overall performance scores and ranks in Base and Reference Years

Key Facts

- Among the smaller states, Mizoram ranked first in overall performance, while Tripura and Manipur were top two states in terms of incremental performance.
- The overall performance score of four smaller states declined in 2017-18.
- Arunachal Pradesh registered largest decline in the overall performance score from 49.51 to 46.07. Mizoram remains the best performer in terms of overall performance, and registered an increased from 73.70 to 74.97 in overall performance.
- Compared to the larger states, the magnitude of change in the overall performance scores among the smaller states was smaller.



4. Categorization of Smaller States and UTs on Incremental Performance and Overall Performance

Key Facts

Small States			
Incremental Performance	Overall Performance		
	Aspirants	Achievers	Front-runners
Not Improved (0 or less)	Arunachal Pradesh Sikkim	Meghalaya Goa	–
Least Improved (0.01–2.0)	Nagaland	–	Mizoram
Moderately Improved (2.01–4.0)	Tripura	Manipur	–
Most Improved (more than 4.0)	–	–	–

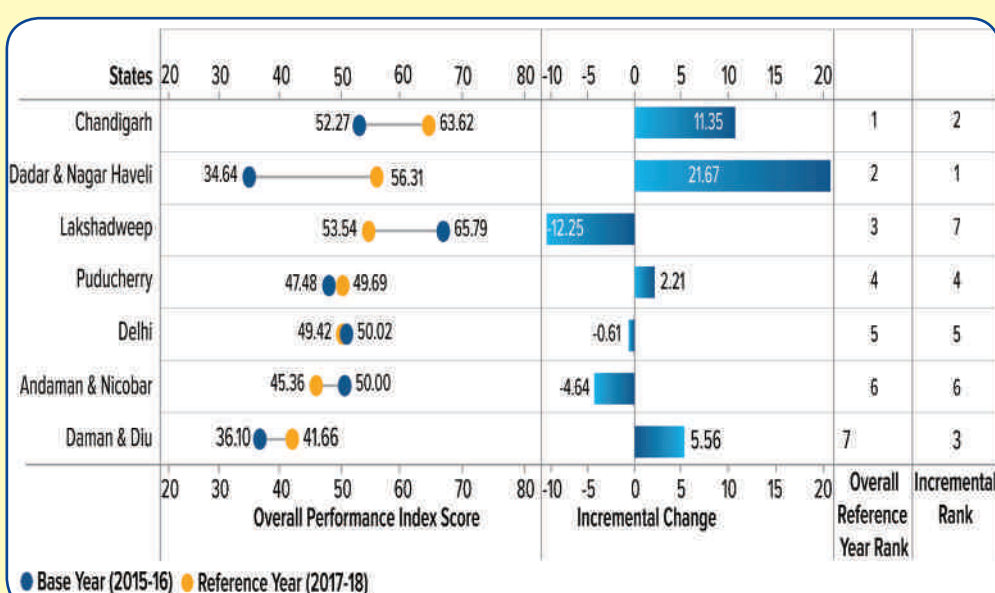
UTs			
Incremental Performance	Overall Performance		
	Aspirants	Achievers	Front-runners
Not Improved (0 or less)	Andaman and Nicobar	Delhi Lakshadweep	
Least Improved (0.01–2.0)			
Moderately Improved (2.01–4.0)		Puducherry	
Most Improved (more than 4.0)	Daman and Diu		Chandigarh Dadra and Nagar Haveli

- The states are categorized on the basis of Reference Year Index score range: Front-runners: top one-third (Index score >62.82), Achievers: middle one-third (Index score between 50.67 and 62.82), Aspirants: lowest one-third (Index score <50.67).
- The States are categorized into four groups based on incremental performance: 'Not Improved' (<=0 incremental change), 'Least Improved' (0.01 to 2.0 points increase), 'Moderately Improved' (2.01 to 4.0 points increase), and 'Most Improved' (>4 points increase).
- Among the smaller states, Sikkim and Arunachal Pradesh had bigger decrease in overall Health Index scores.
- The UTs are categorized on the basis of Reference Year Index score range: Front-runners: top one-third (Index score >56.30), Achievers: middle one-third (Index score between 48.98 and 56.30), Aspirants: lowest one-third (Index score <48.98).
- Among the UTs, Chandigarh ranked first in overall performance, while Dadra and Nagar Haveli improved the most.

5. UTs - Incremental scores and ranks, with overall performance scores and ranks in Base and Reference Years

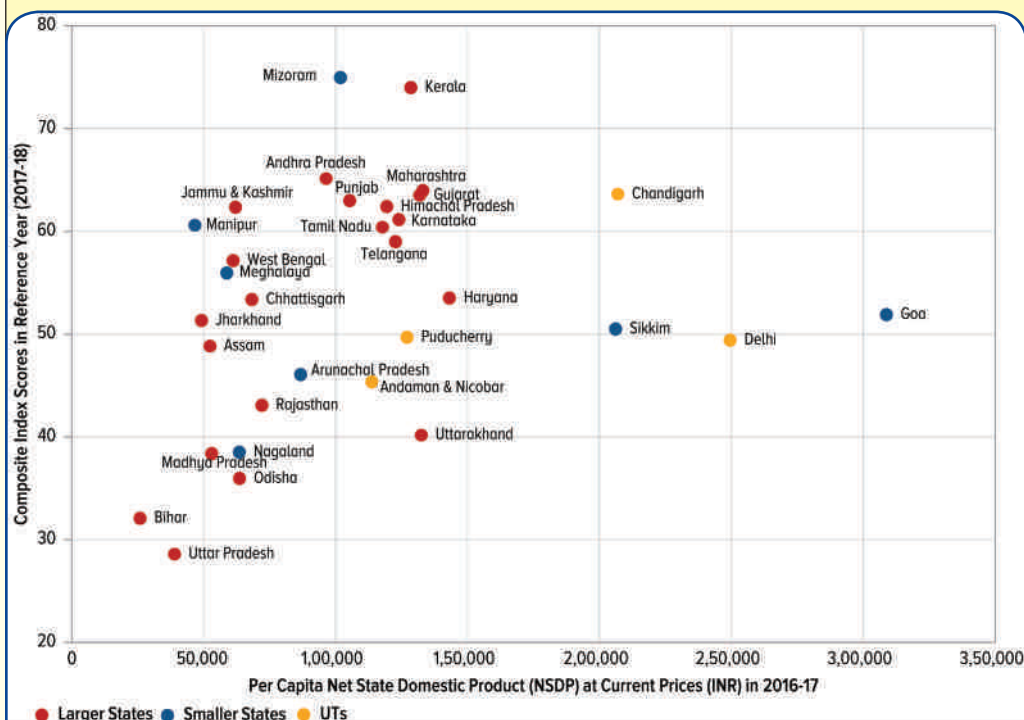
Key Facts

- Chandigarh, and Dadra and Nagar Haveli ranked first and second in terms of overall performance ranking because of the impressive 11 and 22 points increase respectively in the overall performance.
- Three UTs registered decline in their overall Health Index scores: Lakshadweep, Andaman and Nicobar Islands, and Delhi.
- However, the large decline in the overall Health Index scores of Lakshadweep and Andaman & Nicobar Islands is largely driven by the deterioration of health outcome indicators. Of the five health outcome indicators, 3 indicators deteriorated in Lakshadweep (low birth weight, full immunization, institutional delivery), and 4 indicators in Andaman & Nicobar (full immunization, institutional deliveries, TB case notification, and TB treatment success rate).



6. Composite Index scores in Reference Year and per capita Net State Domestic Product at current prices (INR) in 2016-17

Key Facts



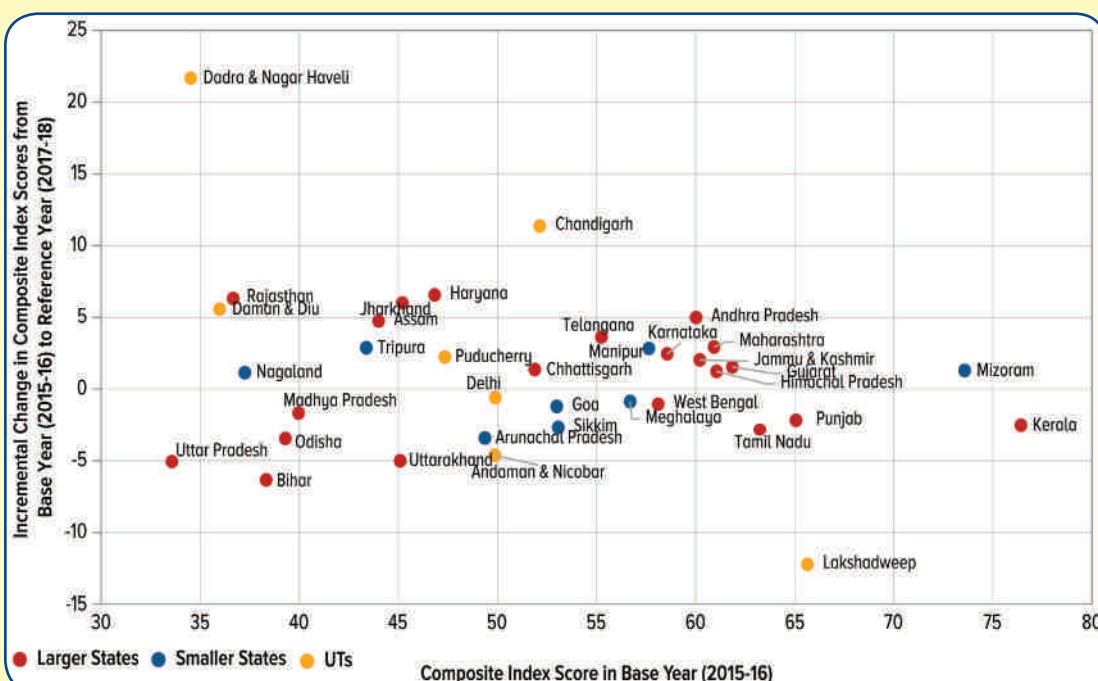
Source: Directorate of Economics & Statistics of respective State Governments.

- There was a general positive correlation between the Health Index scores and the economic development levels of states and UTs as measured by per capita Net State Domestic Product (NSDP).
- However, a few states with relative low level of economic development performed well in the Health Index, such as Jammu and Kashmir, Manipur, Mizoram, Andhra Pradesh, and Punjab.
- The lessons from these states may provide some insights on how to improve Health Index scores in states with similarly low level of economic development. On the other hand, some states and UTs with relative high level of economic development did not perform as well in Health Index score, such as Goa, Delhi and Sikkim.

7. Incremental change in Composite Index scores from Base to Reference Year and Composite Index score in Base Year

Key Facts

- There is narrowing gap in performance from Base Year to Reference Year among UTs.
- There was a convergence in Health Index scores from Base Year to Reference Year across UTs, that is, UTs with higher Health Index scores in the Base Year tended to deteriorate whereas least performing UTs in the Base Year tended to improve their performance in the Reference Year.
- Among the larger and smaller states, there was neither divergence nor convergence in Health Index scores over time.



सिविल सेवा परीक्षा के सर्वाधिक महत्वपूर्ण खंड
करेंट अफेयर्स के लिए ध्येय आईएस आपके समक्ष प्रस्तुत करता है



परीक्षा के दृष्टिकोण से जरूरी करेंट अफेयर्स से जुड़ी तमाम
महत्वपूर्ण जानकारी के लिए सब्सक्राइब करें ध्येय आईएस यूट्यूब चैनल को

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