7 PM COMPILATION

17th to 31st January, 2022

Features of 7 PM compilation

- **Comprehensive coverage of a given current topic**
- **Provide you all the information you need to frame a good answer**
- **Critical analysis, comparative analysis, legal/constitutional provisions, current issues and challenges and best practices around the world**
- **Written in lucid language and point format**
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Increasing exports in India and challenges in exports- Explained, pointwise

Topic:- Economy

Sub topic:- Indian Economy: Mobilization of resources and growth

Xenotransplantation: Need, Advantages and Challenges – Explained, pointwise

Introduction

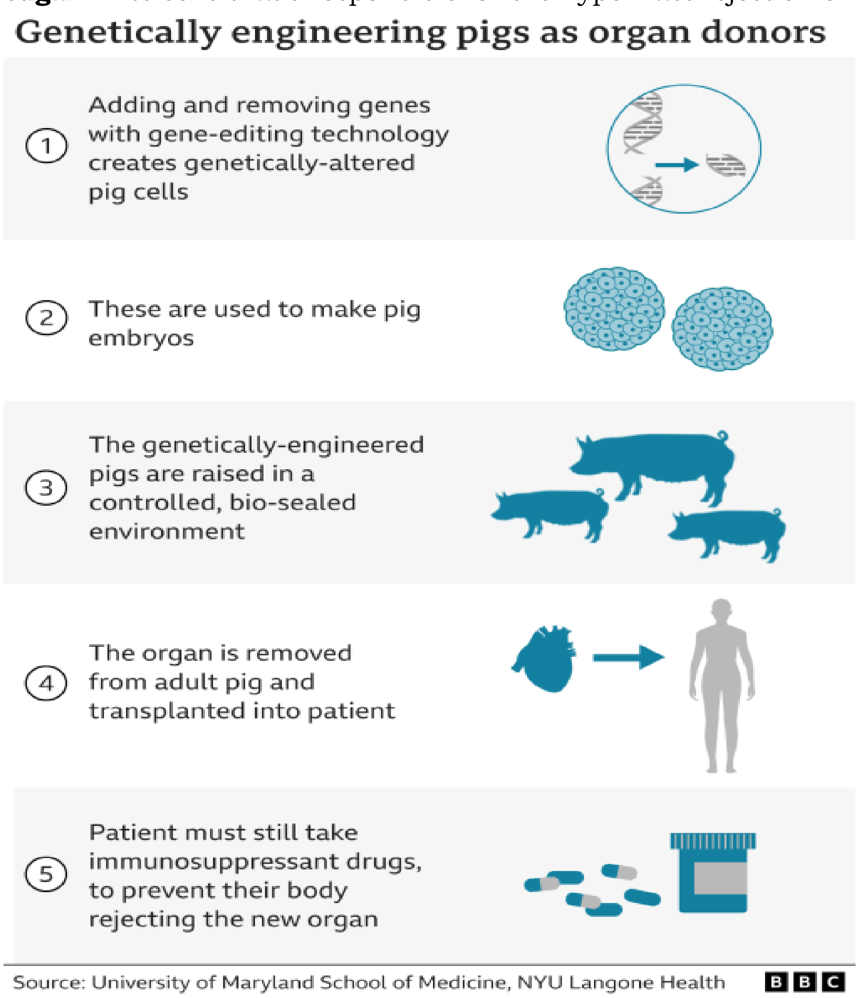
In the first week of January 2022, a genetically modified pig's heart was successfully transplanted into a 57-year-old man dying of heart failure in a New York hospital. This is the first successful transplant of a pig's heart into a human being. However, it's too soon to know if the operation really will work. Nevertheless, this Xenotransplantation is considered a path-breaking surgical procedure.

Transplantation to replace failing organs is one of the spectacular achievements of medicine in the last century. The number of transplants has increased, the list of organs that can be transplanted has grown, and outcomes have gotten better. The 'xenotransplant' is a reminder of the endless possibilities to treat otherwise untreatable diseases.

About the recent Xenotransplantation Operation

The earlier attempts of animal-to-human heart transplants have failed, largely because patients' bodies rapidly rejected the animal organs. The most notable example was that of American infant Baby Fae, a dying infant in 1984 who lived 21 days with a baboon heart.

This time, the surgeons used a heart from a **pig that had undergone** [gene editing] **to remove sugar** in its cells that's responsible for the hyper-fast rejection of organs.



Read more: [In first, US surgeons transplant pig heart into human patient]

What has been the history of Xenotransplantation?

Xenotransplantation involves the **transplantation of nonhuman tissues or organs into human recipients**.

The dream of animal-to-human transplants goes back to the 17th century, with stumbling attempts to **use animal blood for transfusions**. Early kidney and liver transplants were attempted from baboons and chimpanzees as these primates were considered closest to humans.

By the 20th century, surgeons were attempting transplants of organs from baboons into humans. Over the last several decades experts have found it difficult to surmount the challenge presented by the **immune system's rejection of an alien organ**, ending in deadly outcomes for patients.

In the early 1960s, a surgeon Keith Reemtsma in New Orleans performed 13 chimpanzees-to-human kidney transplants. One of the recipients, a schoolteacher, lived for 90 days. However, most of these transplants failed and were gradually given up.

Why does the world need Xenotransplantation

The world needs Xenotransplantation for

Organ shortage and fewer donors: According to the World Health Organization, more than 114,000 organ transplants are carried out annually in the world, but they fulfil only less than 10% of global needs. In India, against a requirement of 25,000-30,000 liver transplants annually only 1,500 transplants are performed due to scarcity. Similarly, nearly 50,000 persons suffer from heart failures annually but only about 10-15 heart transplants are performed every year.

The organ shortage has also led to **a)** The use of **organs from executed prisoners** in some countries, **b) A wide increase in organ trafficking**: It is estimated that 5–10% of kidney transplants worldwide result from commercial transactions between a potential recipient and a paid living donor.

Organ donation has remained low even in developed countries with highly-education population for example, in Japan, the organ donation rate is only 4 per million; in Switzerland, it is 12 per million; in Canada 15; in the UK 18; and in the US 24. Further, countries like India have 1 donor per million population and in China, the level is 0.5 donors per million population.

Must read: Illegal organ trade is not only unethical but is a serious crime against humanity and society

Increasing disease burden: Due to advancements in medicine, the average life expectancy has increased. Many persons are facing organ failure due to old age and lifestyle issues which has increased the demand for organ transplant. The most frequently transplanted organ is the kidney, which accounts for 68% of the total organ transplants.

Issues in obtaining human organs: Some organs can only be obtained from deceased or brain-dead donors, for instance, the heart, liver, etc.

What are the advantages of Xenotransplantation?

1. Organs will be **available immediately and electively**, **2. Eliminate illegal organ trafficking and the use of organs from executed prisoners**, **3.** One **does not have to seek consent** from an animal that can be sacrificed for the organ. However, not all agree with such a narrow utilitarian approach, **4.** The **unlimited supply** will allow transplantation procedures in 'borderline' candidates who might otherwise be declined, 5. The detrimental **effects of brain death on donor organs** will be avoided, 6. **Eliminate the 'cultural' barriers to donation of organs from deceased human** present in some countries like Japan.

What are the potential advantages of Pigs in Xenotransplantation?

1. Pig **organs have similarities** to human organs in respect of anatomy and physiology. For instance, Physiologically, cardiac output and stroke volume, which are major indicators of cardiac function, have been reported to be comparable in pigs and humans, **2.** Pigs **could**

provide an unlimited supply of organs, tissues, and cells, e.g., it is easy to raise and achieve adult human organ size in six months from pigs. **3.** Pigs are **easy to breed and have large litters**, **4.** From a scientific viewpoint, pigs are **genetically modifiable to reduce the chances of rejection** by the human body, **5.** When bred and housed under 'clean' conditions, pigs **could provide exogenous infection-free organs, tissues, and cells**, For instance, there are now companies breeding genetically modified pigs. One such U.S.-based company, Revivicor supplied the pig heart for the New York transplant, **6.** Pigs are produced for food, so **using them for organs raises fewer ethical concerns.**

Breakthroughs so far

- Pigskin grafts are used on burns.
- Chinese surgeons have used pig corneas to restore sight in 2017.
- Recently, US experts have attached a genetically-altered kidney to a brain-dead person.

What are the challenges in Xenotransplantation?

Diseases transmission: Xenotransplantation raises concerns regarding the transmission of hitherto known and unknown diseases to humans with both recognized and unrecognized infectious agents and the possible subsequent transmission to the general human population.

Moreover, new infectious agents may not be readily identifiable with current techniques. Sometimes, the disease might occur years after the transplantation.

Long term functioning of organs: Many animals like pigs have a shorter lifespan than humans, meaning that their tissues age at a quicker rate. Hence, there is a question of whether the organ will function in the long term or not.

Medical Implications: Animal to human transplantation brings with it huge risks for the patient. Even well-matched human donor organs can be rejected after they are transplanted – and with animal organs, the danger is likely to be higher.

Ethical concerns: Activists say it is wrong to modify the genes of animals to make them more like humans. PETA has condemned the pig heart transplant. It said: "Animals aren't tool-sheds to be raided but complex, intelligent beings. It would be better for them and healthier for humans to leave them alone and seek cures using modern science."

What should be done?

Promote research in xenotransplantation: Instead of banning xenotransplantation, the government should study the potential, ensure adequate trials before approving the xenotransplantation procedures, considering the shortage of organs.

Promote organ donation: India should **adopt the Spanish system of "presumed consent"** where everyone, post-death, is considered a donor unless one has opted out of the process during his lifetime. This will help plug the Demand supply gap.

Curb organ trafficking: Organs should be made available to patients on the basis of medical need and not on the basis of financial or other considerations. Further, **giving or receiving payment** (including any other compensation or reward) for organs **should be prohibited**.

An organ may be removed from the body of an adult living donor for the purpose of transplantation if the donor gives free consent. The **donor should be free of any influence and pressure** and **should be sufficiently informed about the risks, benefits, and consequences** of consent.

An increasingly common cause of death and suffering is end stage failure of critical organs. Since new organs replace failing ones successfully, the world will continue to widen the net for sourcing them. But in humanity's quest towards immortality, xenotransplantation shows that in good and bad ways, human lives depend not only on other humans but also on other species cohabiting the planet; all creatures big and small.

Emergency Use Authorisation of Drugs and the Issues Therein – Explained, pointwise

Introduction

On January 14, 2022 about 33 leading public health experts shot off an open letter to the Central and State Ministries of Health, and to the Indian Medical Association. The letter raised several issues, including the fact that expensive diagnostics and medications with limited evidence were being promoted in India under the Emergency Use Authorisation of drugs to manage the pandemic.

They urge the state "to intervene to stop the use of medications and diagnostics that are inappropriate for the clinical management of Covid-19." They urged the government to discourage the use of "alternative therapies, potions, antibodies, 'cocktails', and drugs like Molnupiravir, which are expected to be widely abused".

About Molnupiravir and its Emergency Use Authorisation

Molnupiravir was initially developed to treat influenza. Now it is being repurposed as an oral antiviral candidate to treat Covid-19 patients. It works by introducing errors into the SARS-CoV-2 virus' genetic code, which prevents the virus from further replicating in the immune system.

Molnupiravir received emergency use approval from India's drug regulator, the **Central Drugs Standard Control Organization (CDSCO)**, as a treatment for mild and moderate Covid-19 patients in the last week of December 2021. The CDSCO asked the pharma companies to communicate the risks and side effects of the drug to physicians. **Eight Indian generic companies launched the drug** as the first line of treatment.

Few days before, the director-general of the **Indian Council of Medical Research (ICMR)** raised an alarm over the use of molnupiravir. He mentions, "the known and unknown risks of the drug outweigh its benefits."

Must Read: What is Molnupiravir?

What are the concerns associated with Molnupiravir?

While approving the Molnupiravir, the United States Food and Drug Administration (USFDA) said that **1.** Molnupiravir is **not authorized for use in patients younger than 18 years** of age because it may affect bone and cartilage growth. **2.** The drug is **not authorized for the pre-exposure or post-exposure prevention of Covid-19** or for initiation of treatment in patients hospitalized due to Covid-19. **3.** Additionally, the drug is also **not recommended to be used among pregnant women,** as in lab studies the drug was shown to cause fetal harm.

Apart from that, the drug also has the following concerns.

Low Effectiveness: The drug was found to be only 30% effective in reducing risk from hospitalization or death in trials, much lower than earlier indications.

Worries over Mechanism of the Drug: The drug works by incorporating itself into the RNA of the virus, inducing mutations with the objective of hampering replication.

But this carries the **risk of introducing mutations that can make the virus stronger** and more dangerous. There is also a bigger risk of the drug is of creating mutations in the human DNA itself.

What is the 'Emergency Use Authorisation' (EUA)?

The Drug and Cosmetics Act, 1940 establishes regulatory control over the import, manufacture, distribution, and sale of drugs and cosmetics in India. The Act also established the **Central Drugs Standard Control Organization** (CDSCO) for discharging functions assigned under the Drugs and Cosmetics Act. CDSCO is headed by the **Drugs Controller General of India (DCGI)**.

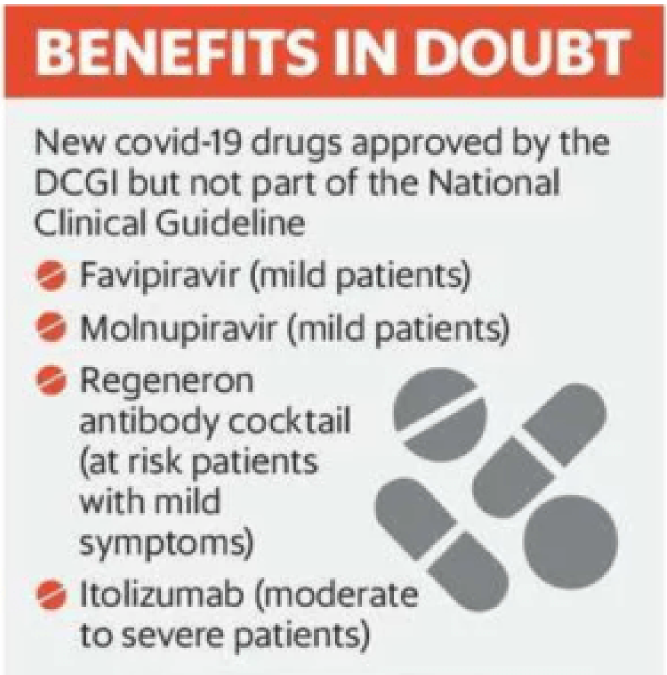
Read more: Medical devices now under Drugs and Cosmetics Act

In a pandemic situation, it may not be possible to have all the evidence that a drug regulator would normally require for approving a drug, vaccine, device or test. When there is a declared

emergency, the regulator (DCGI), can take a call whether it is worth releasing a drug or vaccine that is not fully tested for efficacy and safety.
Such emergency use authorisation to a medical product will make it widely available for use.

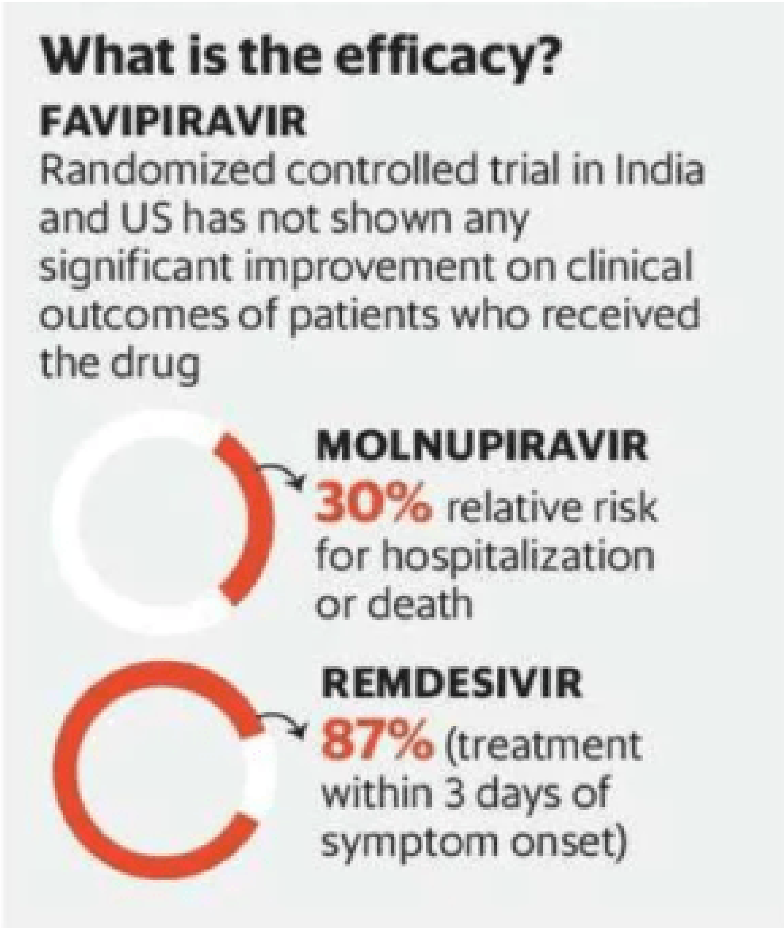
Must read: [Drug Regulations in India – Explained, pointwise]

What are the drugs that have received Emergency Use Authorisation in the treatment of Covid-19?



Source: Livemint

In the last two years, the **CDSCO** has issued Emergency Use Authorisation to many drugs with limited evidence in improving the condition of Covid-19 patients.
For instance, **1. Itolizumab:** It is a monoclonal antibody that was launched at a price of ₹32,000 for four vials. It was approved in July 2020 based on a clinical trial done on 30 patients. **2. Favipiravir:** It is one of the commonly used Covid-19 drugs. It was approved in 2020. According to a study published in November 2020, in the medical journal Elsevier, favipiravir did not have a statistically significant difference in a patient's recovery.
3. An **antibody cocktail** drug by US drugmaker Regeneron Pharmaceuticals, approved in India in May 2021.



Source: Live mint

According to Regeneron, it is not effective against the Omicron variant. The USFDA, too, has revised its guideline and advised against the use of the drug as it is ineffective in the Omicron wave. Despite emerging evidence, the DCGI's office has not issued any clarification on the use of the drug.

What is ICMR's national task force on covid management?

A National Task Force (NTF) for COVID-19 has been constituted by **ICMR**. The task force will initiate research studies and identify priorities for clinical research, diagnostics and biomarkers, epidemiology and surveillance, vaccines and drug development to combat the coronavirus.

The NTF consists of 21 members, including technical/domain experts from the government and outside the government. So far, the Task Force has held over 20 meetings and has systematically contributed towards the scientific and technical response to the pandemic.

Some of the above-mentioned drugs which receive EUA have not been recommended by **NTF** due to a lack of evidence on clinical benefit. The task force's current guidelines prescribe a limited set of drugs for the treatment of Covid-19. They include **anti-asthma drug budesonide** for mild patients, **remdesevir** for moderately ill patients, and **tocilizumab** in extreme cases.

Must read: Anti-Covid pill Molnupiravir: Approved, not recommended

How is the difference of opinion between ICMR and CDSCO hurting India's Covid response?

According to the experts, the **differing views between the drugs controller and ICMR**'s clinical guidelines are now **hurting India's Covid-19 response**, jeopardizing public health. The lack of coordination between ICMR and CDSCO is leading to **irrational drug use, confusion among the medical community** and **additional treatment costs to patients**.

Many drugs are now being prescribed by private hospitals. According to the experts, the average cost of hospitalization due to Covid-19 in a private hospital can range anywhere between ₹50,000 and ₹2 lakh.

Read more: INDIAN PHARMACEUTICAL SECTOR CHALLENGES AND REFORMS

What are the other challenges in drug regulation?

Challenges in monitoring: Once a drug is approved by the regulator, it is hard to monitor how the drug is being administered.

Opaque functioning of DCGI: There is little information on the drug and vaccine approval processes for Covid-19—on the evidence that was considered. The drugs controller is guided by a group known as the '**subject expert committee**'. In the last two years, there has been little or no disclosure on the members approving Covid-19 drugs and vaccines. This opaque decision-making hurts public health, especially since most Indians pay out of their pockets.

Systemic challenges in Drug regulation: Indian State and Drug Regulators often have to deal with problems like poor training, antiquated record-keeping systems, understaffing, pressure from the pharmaceutical industry, etc. This led them ill-equipped to enforce recalls and root cause analysis.

What should be done?

First, India **needs rational use of drugs** in the private and public sectors, especially during the pandemic.

Second, there **cannot be two separate clinical guidelines**. It is absolutely necessary that the ICMR and the drug controller should work together while approving critical Covid-19 drugs. To achieve it, a **synchronized playbook**—where the ICMR and the drugs controller work together—**should be put in place**.

Third, the **CDSCO should follow the USFDA in terms of transparency**: USFDA is considered to be one of the most stringent regulators in the world. Before a drug is taken up for approval, companies in the US have to make a public presentation to an independent panel of experts on the product. This presentation is open to the public.

Once a drug is approved for emergency use, the USFDA releases a detailed statement on the uses of the drug, the side effects, and its effect on various population groups. This is backed by several scientific papers that support the rationale behind the approval. Such best practices should be adopted in India.

Fourth, **address the systemic issues in Drug regulation:** There is a need to provide adequate training to the staff. Also, the vacancies should be filled immediately so that they are not overburdened.

Covid in 2022 is much different from what it was in 2020. Two years ago, physicians had no idea what treatments work and hence there was some rationale in prescribing some of these drugs. But now, there is much clearer evidence of what works and what doesn't. Hence, It is no longer acceptable to prescribe drugs only because of a lack of coordination between DCGI and NTF.

Pakistan's National Security Policy and its Implications for India – Explained, pointwise

Introduction

Pakistan's National Security Policy (NSP) was officially released on January 14, 2022. It offers the first comprehensive view of the political-military-intelligence establishment's approach to its internal and external challenges at a critical juncture in the 75th year of its existence. The policy was cleared by the Pakistani Cabinet is valid for the five-year period 2022-2026 and is subject to annual revisions.

The document identifies a wide range of unexceptionable goals; what stands out is the ambition to **integrate economic development into the traditional military conception of national security**. The 48-page version in the public domain deserves attention from the international community, particularly India, with whom relations have arguably touched a low-water mark.

What is the focus of Pakistan's National Security Policy with respect to India?

The eight sections of the public document contain many formulaic pronouncements. These include,

Firstly, the policy focuses on economic diplomacy in the immediate neighbourhood and doesn't advocate any conclusive measures in ties with any particular country. The policy mentions "Pakistan remains committed to normalisation of relations with its neighbours based on mutual respect, sovereign equality, and a collective effort to find pathways for conflict resolution with the belief that shared economic opportunities are cornerstones for achieving prosperity in Pakistan and the region."

Secondly, the policy seeks peace with India without any hostility for the next 100 years.

Thirdly, the policy leaves the door open for trade and business ties with India without a final settlement of the Kashmir dispute provided there is progress in the talks. But the policy also **states that India had "illegally occupied" J&K,** and **Hindutva-led politics as a threat to Pakistan's security** in terms of political exploitation.

Read more: Understanding Pakistan's Kashmir conundrum

Fourthly, the NSP underlines the state's Islamic credentials. But, it **describes Pakistan as a diverse country** that would ensure equality for all.

Fifthly, the NSP accords just one sentence to the **South Asian Association for Regional Cooperation**, though it has offered to host the next summit.

What are the reasons behind new changes in Pakistan National Security Policy?

Challanges with terrorism as a state policy: With the end of the Cold War, Pakistan chose to opt for cross border terrorism to bring instability to Kashmir and turn Afghanistan into a protectorate. But all its initiatives did not yield any credible results.

Pakistan's support for violent religious extremism has also started to backfire. Militant groups which were once seen as valuable instruments for Pakistan have now turned against the state. Also, severe financial penalties have been imposed on Pakistan by the international system for supporting terrorist activities.

Must read: Pakistan on FATF grey list- What does it mean for India?

Challenges with the Economy: Pakistan's growth rate remains very low, decent growth having been registered mainly during phases of large external aid inflows. Pakistan has done little to bring reforms to its economy. As a result, its economy in 2021 (GDP at $280 bn) is well behind that of Bangladesh ($350 bn). The Indian economy at $3.1 trillion is also more than 10 times larger than that of Pakistan.

Pakistan has gone to the IMF more than twenty times but has been unable to forge long-overdue structural changes in the economy.

Challenges in Foreign policy: In the past, Pakistan played a large role in the Middle East and more broadly in the Muslim world. But today, its equities in the West have steadily diminished.

The US President Joe Biden hasn't called Pakistan's PM even once despite persistent efforts by Pakistan's foreign ministry even though he has been in the Office for more than a year now.
After USA intervention in Afghanistan, Pakistan had a chance to change its course. Instead, it has chosen to bring Taliban back to power. This led to the wrath of the USA. And Taliban on the other hand is signalling it is not a proxy of China.
Challenges with China: Pakistan also has troubling ties with its evergreen ally China e.g., the **China Pakistan Economic Corridor (CPEC)** is caught between corruption, terrorism and an uprising in Balochistan, turning their attention more to Karachi than Gwadar. Pakistan is getting increasingly indebted to China and had to pay Rs. 26 billion as interest to China in 2021 for its failure to repay a maturing debt on time.
Change in the stance of Pakistan's military: The case for major reform to get Pakistan out of the multiple crises confronting it has been articulated by Pakistan's Chief of Army Staff, General Qamar Javed Bajwa.
The "**Bajwa Doctrine**" emphasises the importance of restoring peace within by putting down various internal insurgencies, reviving economic growth, reconciling with the neighbours, rebuilding ties with the US without abandoning the strategic partnership with China, and regaining its traditional political goodwill in the Gulf.
The other reasons for the change include growing and unaccountable defence expenditure, low resource mobilisation, entrenched economic interests, extremist violence, and ethnic fissures accentuated by Punjabi dominance.

What is the significance of Pakistan's National Security Policy to India?

Reversal of Pakistan's earlier contexts: **Pakistan had downgraded ties with India** and stalled trade after India had revoked Jammu and Kashmir's special status in 2019. They have said that it would be impossible to normalize ties with India if it doesn't reconsider its decision on Jammu and Kashmir special status.
But the NSP **offers India the opportunity to engage with Pakistan** outside of the straitjacket of the J&K paradigm, especially since the ceasefire of February 2021 seems to have held. Moreover, there is **no demand for the reversal of August 5, 2019**, changes made by India in the status of Jammu & Kashmir. Instead, the policy demands "a just and peaceful resolution of the Jammu and Kashmir dispute."

Must read: Issue of ceasefire violation between India and Pakistan – Explained Pointwise

The necessity for Pakistan to engage with India: Pakistan's geo-economic transition can't succeed without a fundamental shift in its India policy. Hence, with the new NSP, India **can focus on closer economic ties** with Pakistan. India can play a constructive and mutually beneficial role in facilitating linkages with the rest of South Asia and maximise the potential of its own infrastructure investments.

Read more: Five key takeaways on Pak's National Security Policy document

What are the challenges associated with Pakistan's National Security policy for India?

The NSP is a **"policy", not a "doctrine"**, which basically translates into an aspirational document. Moreover, **almost 50% of the policy is classified** and out of public reach. Only 48 pages of the 110-page document are available to the public.
Pakistan supported **terrorist infiltration into J&K has seen a significant rise since the Taliban took back Afghanistan** from the US in August 2021. There are more weapons being sent across the LoC. More civilians are being targeted in the valley. Hence, it is hard to conclude Pakistan has shed terrorism as an instrument of state policy.
Pakistan has continued the **support to the Khalistan movement** and has upped the ante to revive the movement in Punjab when the elections are near.

Increasing ties with China: Pakistan has been acquiring Chinese weapon systems at scale. Further, Pakistan is becoming a staging ground/ port for Chinese power projection in the Arabian Sea/ western Indian Ocean, like a pincer against India.
Not recognising India as a trading partner: Pakistan's NSP emphasis on geoeconomics without trade and transit links with India. The NSP describes Pakistan's eastward connectivity as being "held hostage to India's regressive approach".

Read more: Sir Creek Issue:India-Pakistan

What should India do?

Enable a two-way flow of trade traffic: India and Pakistan can **re-open the existing road and rail links** and **expand ready-made border customs infrastructure** — the Wagah border.
If provided, Pakistan can become a meaningful transit hub between Central/West Asia and beyond on one side and Southeast Asia and beyond on the other.
Keep its expectations grounded: India should be cautious in its engagement with Pakistan because the army is still calling the shots in Pakistan's internal politics.
If both Pakistan's army and government together worked on "burying the past" with India, then India **should be ready to extend a hand**.

Read more: Shift in India's foreign policy towards Pakistan

Pakistan has to explore options for more ties with India. This can be achieved by steps such as, **a)** Restoration of High Commissioners in each other's capitals, **b)** Making valuable commitments on issues such as cross-border terrorism, etc. **c)** Granting **Most Favoured Nation** status to India. In return, India can also grant the MFN status which it revoked earlier.
Further, it has to understand that the only feasible peaceful solution to Kashmir will have to be non-territorial.

Read more: Significance of India Pakistan Agreement on Consular Access

Work on countermeasures of Pakistan and China: Between 2017-20, India-Afghan trade bypassed Pakistan, via Chabahar or an air corridor. If India concentrates more on Chabahar and uses the UAE as a trading hub to access Central Asia and western Asian markets, it can build up an effective counter move.

Read more: Courting the stans: India's outreach to central Asia is vital to counter the China-Pakistan axis

No one has a higher stake than India in the success of the Bajwa doctrine that calls for a Pakistan at peace with itself and the region. Pakistan's NSP has provided some hope for India. Now it is the time for Pakistan to fulfil those hopes into action.

Deputation of Cadre Officers and the Proposed Amendments – Explained, pointwise

Introduction

The Department of Personnel and Training (DoPT) wrote to the States on January 12 that the Union Government proposes to amend Rule 6 (Deputation of cadre officers) of the Indian Administrative Service (Cadre) Rules 1954. The proposed rules will provide overriding powers to the Union Government to transfer IAS and IPS officers for Central deputation.

The proposed changes remove the requirement of taking the approval of the State governments for central deputation of officers. At least six State governments have written to the DoPT opposing any such move. The rest did not respond, hence the DoPT further revised the proposal.

The States have been given time till January 25 to respond to the proposal. According to a government official, if the States did not respond, the Ministry would send reminders and then notify the rules by publishing them in the Gazette of India.

What are the present rules for the deputation of cadre officers?

Department of Personnel and Training (DoPT) is the cadre controlling authority of **IAS officers**. The same role is played by the **Police Division in the Ministry of Home Affairs (MHA)** and the **Ministry of Environment** with respect to the IPS and the IFoS Officers respectively.

Rule 6(1) of the IAS Cadre Rules says an **officer may, "with the concurrence of the State Governments concerned** and the Central Government, be deputed for service under the Central Government or another State Government…" It says "in case of **any disagreement**, the matter **shall be decided by the Central Government and the State Government** or State Governments concerned shall give effect to the decision of the Central Government."

The **Establishment Officer in the DoPT** invites nominations from the State governments. Once the nomination is received, their eligibility is scrutinised by a panel and then an **offer list** is prepared, usually with the State government on board. The Centre would choose officers only from among those "on offer" from the States.

The States would relieve the officers picked up by the Centre at the earliest. Before any officer of the AIS is called for deputation to the Centre, his or her concurrence is required. Further, the officers have to get a **no-objection clearance** from the State government for Central deputation

States have to depute **All India Services (AIS) officers**, including the Indian Police Service (IPS) officers, to the Central government offices and at any point, **deputation cannot be more than 40% of the total cadre strength of the state**.

> ***Note***: *The total strength of any cadre is calculated by including central deputation reserve (CDR), which is around 40% of the sanctioned posts.*

> **Read more: [Yojana August Summary] Indian Bureaucracy – Explained, pointwise**

What are the **proposed** amendments to Rule 6 (deputation of cadre officers)?

Four amendments are proposed to Rule 6 of the Indian Administrative Service (Cadre) Rules 1954. These include,

First, **presumed as approved in case of delay**: If the State government delays posting a State cadre officer to the Centre and does not give effect to the Central government's decision within the specified time, "the officer shall stand relieved from cadre from the date as may be specified by the Central government."

Second, **the number of deputed officers will be decided by the Centre**: The Centre will decide the actual number of officers to be deputed to the Central government in consultation with the State. For that, the State should make eligible the names of such officers.

Third, **the decision of the Centre will be supreme**: In case of any disagreement between the Centre and the State, the matter shall be decided by the Central government and the State shall give effect to the decision of the Centre "within a specified time."

Fourth, **mandatory deputation in case of public interest**: In a specific situation where services of cadre officers are required by the Central government in "public interest," the State shall give effect to its decisions within a specified time.

Must read: Department of Personnel & Training (DOPT): Year-End Review 2021

Why did the centre propose the amendments to the deputation of cadre officers?

There are a **shortage of All India Services (AIS) officers in Union Ministries**. The DoPT was unable to fill vacancies at the director and joint secretary levels in various Central ministries. For instance, actual deputation as a percentage of the mandated reserves fell from 69% (2014) to 30% (2021).

***Note**: Around 40% or 390 Central Staffing Scheme (CSS) posts are at joint secretary level (more than 19 years experience); 60% or 540 posts are at the rank of deputy secretary (9 years) or Director rank (14 years of service).*

Only 10% of mid-level IAS officers were posted with the Union government in 2021, a sharp fall from 19% in 2014. The decrease in the central deputation of IAS officers becomes even starker as the total pool of such officers at this level expanded from 621 in 2014 to 1130 in 2021, an increase of around 80%.

The DoPT said in its communication that the **States "are not sponsoring an adequate number of officers for Central deputation**". For instance, In **Kerala, Tamil Nadu and Uttar Pradesh**, the number of cadre officers and those posted at the Centre stood at 125/20, 322/20 and 536/32 respectively. This number is very low.

The DoPT denotes most of the **states are not meeting the central deputation reserve (CDR) obligations**(around 40%). The CDR utilisation has gone down from 25% in 2011 to 18% presently. This underutilisation at the central level, particularly at the deputy secretary and director level, causes serious gaps in cadre management.

There are instances where **officers are reluctant to take the centre's deputations**. Most officers avoid Central deputation as they enjoy better perks and powers in the States. For instance, **a)** A former West Bengal Chief Secretary, a 1987-batch IAS officer, had never been on Central deputation, **b)** As per the latest offer list on the MHA's website, **only 10 IPS officers from States have offered themselves to be available for Central deputation**, including four Director General rank officers and only two Superintendent of Police rank officers. **c)** As of January 1, 2021, out of around 5,200 IAS officers in the country, only 458 were on central deputation.

Read more: [Yojana August Summary] Reforms in the Civil Services – Explained, pointwise

Why did the state government oppose the move of deputation of cadre officers?

First, **Long term impact of the changes**: There are opinions that the proposed amendment might facilitate the Centre to weaponise the bureaucracy against an elected State government. The contemplated changes have grave implications for the independence, security and morale of IAS officers.

If States begin to doubt the loyalty of IAS officers, they are likely to reduce the number of IAS cadre posts and also their annual intake. Instead, they may prefer State Civil Services to handle as many posts as possible. In course of time, the IAS will lose its sheen, and the best and the brightest candidates will no longer opt for the IAS as a career.

Second, according to the **West Bengal Chief Minister**, the proposed amendment is **against the "spirit of cooperative federalism"** and the "amendment unilaterally mandates the State government to make such a number of officers available for deputation as prescribed under [the] Central Deputation Reserve."

Third, according to Kerala's Law Minister, the proposed amendment was a bid to **subvert the State's authority** guaranteed by the Constitution and **facilitate the concentration of all executive power** in the Central government.

Fourth, the state governments also said that the proposed amendment will **weaken the State's political control over the bureaucracy**. This will **create hurdles to effective governance** and **create avoidable legal and administrative disputes**.

Read more: Why central deputation to 3 Bengal police officers not right?

What can be done to facilitate the deputation of cadre officers?

Mandatory deputation for particular ranks: The centre can make deputations mandatory to be empanelled in particular ranks in future e.g., in 2020, the DoPT changed norms and **made it mandatory for IAS officers from the 2007 batch onwards to mandatorily serve for two years in Central deputation** within the first 16 years of their service if they wanted to be empanelled for a joint secretary rank in the future. The same **can be extended to other All India Services**.

Address the real issue for shortage: Poor working conditions in junior-level posts, an opaque and arbitrary system of empanelment for senior-level posts, and lack of security of tenure at all levels are the real reasons for the shortage of IAS officers. So, the Centre should address these issues on priority.

Promote lateral entry to address the shortage: The shortage in central deputation can be addressed by actively promoting lateral entry.

Disincentivising states not deputing enough officers: If the states depute officers much below the mandated numbers then Union Public Service Commission can adjust the future cadre strength in their reviews. This will compel the states to depute adequate officers.

Proper adherence to existing rules from States: State governments should provide no-objection clearance in a timely manner so that the Central postings can be filled without any delay. The **nominations from the State governments should include all cadre officers** in a rotational manner.

Provide enough time for States to respond: In July 2001, the Centre unilaterally "placed at its disposal" the services of three IPS officers of Tamil Nadu cadre. In May 2021, the Centre unilaterally issued orders for the central deputation of the Chief Secretary of West Bengal just before his last day in service. Similar such instances, create a perception that the officers have been deputed to Center on grounds of inefficiency or as a punishment. The Centre can avoid such practices.

Sardar Patel created the AIS because he considered the AIS essential to knit the administrative framework of a vast and diverse country into an integrated whole, and to provide a connecting link between implementation at the field level and policymaking at the top. Hence, the Centre may relook at the proposed amendments and the States have to respect the rules and facilitate more officers for deputation to the Centre.

The Reliance-Future Deal and Arbitrations in India – Explained, pointwise

Introduction

Future Retail has recently missed the payment of dues it owes to the banks which it had intended to pay by selling its assets to Reliance. Reliance's offer to buy the assets of Future (Future-Reliance deal) expires in March 2022 which may impact Future's ability to repay the debt. The delay in the execution of the deal has been caused by objection to the deal raised by Amazon and the matter has been under litigation since October 2020. This ordinary commercial dispute between Amazon and Future Retail has highlighted the quality of legal and regulatory protection investors receive in India. Further, it also highlights the lack of enforcement of arbitration in India.

About the issues in the Future-Reliance deal and Amazon's stake in it

Future retail [Future Retail Ltd (FRL) is the country's second-largest retailer with 1500 stores. Future retail, in a $3.4 billion deal, agreed to sell its retail business to Reliance retail in 2020. Under this deal, FRL was to sell its retail, wholesale, logistics and warehousing business to Reliance.

In 2019, Amazon had acquired a stake in Future Coupons in an agreement. According to Amazon, under this agreement, it has the first right of refusal in any stake sale in Future Retail and Future Retail's assets could not be transferred without Amazon's consent. Amazon also invested INR 1,431 crore in Future Retail.

Under the Amazon-Future deal, both parties had agreed to refer their disputes to **Singapore International Arbitration Centre (SIAC)**. Hence, Amazon approached SIAC to appoint an emergency arbitrator to get urgent interim relief.

> ***Note****: Arbitration is a process in which disputes are resolved between the parties by appointing an independent third party who is an impartial and neutral person called an arbitrator. Arbitrators hear both the parties before arriving at a solution to their dispute.*

What are the legal challenges in enforcing the SIAC arbitration award in India on the Future-Reliance deal?

SIAC emergency arbitrator had **ruled in Amazon's favour**. It had put the Future-Reliance deal on hold. Currently, under Indian law, there is **no mechanism for the enforcement of the orders of the Emergency Arbitrator**. However, a party can move the Indian High Court under Arbitration & Conciliation Act, 1996 to get similar reliefs as granted by the Emergency Arbitrator.

Amazon had requested Delhi HC for enforcement of the Singapore arbitration award, which was accepted by Delhi HC. This single judge ruling was later stayed by the division bench of Delhi HC, after which Amazon approached the Supreme Court.

The Supreme Court also upheld the interim award of the Emergency Arbitrator of the SIAC.

What is the significance of the SC order on the Future Reliance deal and Arbitration in India?

First, the SC **dismissed** FRL's argument that the "**Emergency Arbitrator is not an arbitral tribunal"** under the Arbitration and Conciliation Act of 1996. The Supreme court held that the award **falls within the ambit of the Arbitration and Conciliation Act** (Section 17) and is enforceable.

> ***Note****: Section 17 of the Act prescribes the mechanism for parties to an arbitration to seek interim reliefs from the arbitral tribunal during the pendency of the arbitral proceedings*

The court held that though the institution of emergency arbitration is not explicitly covered in the Arbitration Act 1996, but its provisions are broad enough to include Emergency Arbitrator. In fact, they help in decongesting the Judiciary.

Second, the Supreme Court also pointed out the **recommendation of the High-Level Committee under the chairmanship of Justice B N Srikrishna** which had been constituted by the Government of India to review the institutionalisation of the arbitration mechanism in India.

The committee had noted that **international practice is in favour of enforcing emergency awards** (Singapore, Hong Kong and the United Kingdom all permit enforcement of emergency awards). So the committee had recommended to enforce the emergency awards in all arbitral proceedings.

Third, The court recognised the "**Doctrine of Party autonomy**" between parties. The court held that in arbitration, both parties agreed upon the principles and platform for conflict resolution. Hence, the court held that upon receiving an adverse award, the party cannot wriggle out of responsibility.

Read more: Challenge arbitration awards carefully

What is the mechanism of arbitration in India?

Arbitration in India is regulated by the **Arbitration and Conciliation Act, 1996**. The Act has been amended in 2015, 2019 and 2021.

The Act is based on the 1985 **UNCITRAL (The United Nations Commission on International Trade Law) Model Law** on International Commercial Arbitration and the UNCITRAL Arbitration Rules 1976.

Salient features of the Arbitration and Conciliation Act

According to the 2015 amendment, **1.** The provisions of the Act apply to international commercial arbitrations even if the place of arbitration is outside India, **2.** The Court must refer the parties to arbitration unless it thinks that a valid arbitration agreement does not exist, **3.** Permit parties to choose to conduct arbitration proceedings in a fast track manner.

The 2019 amendment, established the **Arbitration Council of India (ACI)** for the purpose of grading of arbitral institutions and accreditation of arbitrators, etc.

The 2021 amendments include,

Qualifications of Arbitrators: It does away with the qualifications of the arbitrators under the 8th Schedule of the Arbitration and Conciliation Act, 1996 which specified certain conditions.

Unconditional Stay on Awards: If the Award is being given on the basis of a fraudulent agreement or corruption, then the court can grant an unconditional stay as long as an appeal under Section 34 of the arbitration law is pending. This Section 36 of the Arbitration Act has been amended retrospectively from October 23, 2015.

What are the advantages of promoting Arbitration in India?

1. Arbitration minimizes the court intervention and reduces pendency in courts, 2. It helps bring down the costs of dispute settlement, 3. It encourages foreign investments and boosts investor confidence, 4. It fixes timelines for expeditious disposal, thereby ensuring the right to timely justice.

Read more: Cairn Energy dispute and Government disputes with private entities – Explained, pointwise

What are the challenges associated with Arbitration in India?

India already performs poorly when it comes to the **enforcement of international contracts and agreements**. The recent amendments can further hamper the spirit of the Make in India campaign and deteriorate India's rankings in the Ease of Doing Business Index.

Retrospective application of Amendment may open floodgates of litigation. This will create **legislative challenges**, hence the resolution of commercial **disputes could take a longer duration** from now onwards.

Read more: Retrospective taxation and the Taxation Laws (Amendment) Bill – Explained, pointwise

The vast discretion of the arbitral tribunals led to an over-indulgence in the tribunals by some parties. This was observed by the Supreme Court in **Tarapore and Company v. Cochin Shipyard Ltd case 1984.** The Supreme Court had remarked that an **honest man dreads arbitration more than lawsuits**.

Arbitration proceedings have **become more complex with time**. Arbitrators have strived to simplify the proceedings by limiting the pleadings, insisting on written arguments, reducing the number of sittings, etc. But the parties and their lawyers habitually derail the proceedings by filing extensive and superfluous motions, interrogatories, resulting in unending oral and written submissions.

Read more: Arbitration Awards and The Public Interest

What should be done to facilitate arbitration in India?

India can improve the arbitration by implementing the recommendation of **B N Srikrishna Committee**. The recommendations include **1.** Set up an **autonomous body, styled the Arbitration Promotion Council of India (APCI)**, having representatives from all stakeholders for grading arbitral institutions in India, **2.** Creating a **special Arbitration Bench** to deal with commercial disputes, in the domain of the Courts, **3.** National Litigation Policy (NLP) must **promote arbitration in government contracts**, **4. Designate Legal and Treaties Division** of the Ministry of External Affairs **to deal with all Bilateral Investment Treaty (BIT) arbitrations**, 5. Create an Inter-Ministerial Committee (IMC) constituting officials from Ministries of Finance, Commerce, External Affairs and Law to facilitate BIT Arbitrations.

Read more: Exclusive arbitration body for financial disputes

The future-Reliance deal is a grim reminder of the status of Arbitrations in India. Hence, the government has to implement these reforms to facilitate India as an international hub of arbitration and a Centre of robust **Alternative Dispute Resolution (ADR)** mechanism catering to international and domestic arbitration, at par with international standards.

Environmental Impact Assessment and the Star Rating System – Explained, pointwise

Introduction

Recently, the Union Ministry of Environment proposed a plan to implement a 'star-rating system' in the Environmental Impact Assessment Process (EIA). The plan is a follow-up of the Union Cabinet meeting that occurred earlier this month, that focused on facilitating the Government's broader commitment to 'Ease of Doing Business'. Under this scheme, State-level environment committees that appraise industrial projects on their potential environmental risk would be incentivised with points for "transparency, efficiency and accountability".

The proposal focused on how quickly the State Environmental Impact Assessment Agencies give environmental clearances to proposed infrastructure projects. This faces stark criticism from environmentalists on the grounds that it contravenes basic principles of environmental regulation. The Environment Ministry, on the other hand, has said that the intention is not to hasten clearances but accelerate the pace of decision-making.

What is Environmental Impact Assessment (EIA)?

Must read: Environmental Impact Assessment

How Infrastructure projects are approved by Environmental Impact Assessment Agencies?

Prospective projects above a certain size and with a potential to significantly alter the natural environment must be first approved by the State Environment Impact Assessment Authority (SEIAA) comprising State officers and independent experts. Projects that are even bigger or involve forest land — **category A** — must be cleared by an **expert committee formed by the Centre**.

Note: *The SEIAAs are responsible for providing environmental clearance for the bulk of the infrastructure, developmental and industrial projects. They are set up under the Environment Protection Act 1986. Their main purpose is to assess the impact of the proposed project on the environment and people, and to try and minimise this impact.*

SEIAA projects are **category B** and relatively smaller though they make up the bulk of projects(over 90% clearances) that are presented for approval. 'B' category projects include the bulk of building and construction, small mining, and small industry projects and are considered to be 'less polluting.'

About the Star Rating System scheme

The star rating system proposed is **to "rank" and "incentivise" States** on how "quickly" and "efficiently" they can accord environmental clearances.

It spells out **seven criteria to rate SEIAAs** on "transparency, efficiency and accountability". **On a scale of 7**, an SEIAA will get more points (two marks) for granting a clearance in less than 80 days. Similarly, an SEIAA will get low points (one mark) for granting clearance within 105 days and no marks will be awarded for more than 105 days.

If less than 10% of the projects for scrutiny prompted a site visit by committee members, to examine ground conditions, an SEIAA would get one mark. More than 20%, on the other hand, would be a demerit or zero marks.

SEIAA with a score of seven or more would be rated 'five star.' The government said that if an SEIAA demands clarification, the time taken to respond won't be deducted.

Read more: Centre to rank states on faster green nods, fewer details sought

How does the Star rating system scheme hamper the Environmental Impact Assessment?

First, State committees are currently hampered by having too few independent environmental experts and **decision-making is being left to bureaucrats**. Bureaucrats might have a tendency to neglect the environmental concerns of the projects due to the associated economic benefits of the projects.

Second, The **Legal Initiative for Forest on Environment (LIFE)**, a prominent environment organisation, described the proposal as "violative" of the provisions of the Environment (Protection) Act.

Third, The task of the SEIAA is to undertake a 'detailed scrutiny' whereas this notification makes them rubber stamp authorities.

Fourth, It **undermines the role of regulatory oversight** in environmental protection, which is recognised in several Supreme Court verdicts as one of the key instruments to ensure the right to life.

Fifth, The scheme might lead to **unhealthy competition amongst states** to clear the projects as early as possible.

Read more: Centre's move to rank states on pace of green clearances will spark unhealthy competition, dilute regulation

What are the other recent steps that undermine Environmental Regulation?

Several steps by the government have come under scrutiny. For instance,

First, the extension of the deadline for compliance with **emission norms for most thermal power plants.**

Second, **dilution of the Coastal Regulation Zone Notification**: This new regulation not only had an effect on how common areas used by fisherfolk are managed but also bifurcate coastal zones along rural areas based on population density.

Third, **proposed amendment to the Forest Conservation Act**: According to the proposal, it would become easier to divert forest land and certain categories of development projects would be exempted from getting clearance from the Ministry.

Fourth, the Environment ministry last year pointed out that the **average time taken to issue environmental clearances had reduced** by a significant margin in the past two years. However, it has not clarified if this reduction in time has improved the level of scrutiny of projects on critical environmental yardsticks.

There has been fear that these steps may **reduce the environmental protection regime** in the country.

Read more: EAC Recommends the Great Nicobar Development Plan for EIA Study

What are the other challenges faced in Environmental Impact Assessment?

Quality of EIA report: One of the biggest concerns with the environmental clearance process is related to the quality of EIA reports that are being carried out.

Applicability: There are several projects with significant environmental impacts that are exempted from the notifications. Ex. Low scale sand mining.

Inadequate public participation: In many countries like Nepal, Argentina and Australia, public involvement is mandatory at various stages of the EIA process (i.e., screening, scoping, report preparation and decision-making), but in India, public consultation **occurs only once** during the entire process.

Weak monitoring: Monitoring is not done through an independent agency. Environment management plans of strategic industries like nuclear energy are not put into the public domain.

Read more: Year End Review: Ministry of Environment, Forest and Climate Change

How can the EIA process be improved?

Independent Agency: Entire EIA process right from screening to monitoring should be done by independent agencies and the government must **establish a National Accreditation Body for agencies carrying out EIA**. Further, a centralized baseline data bank should also be created

Capacity building: The centre should **take steps to increase trust** in the system and **ensure that all States have competent experts** who can conduct appraisals without fear or favour.

Promote strategic Environment Assessment (SEA): SEA is a systematic process for evaluating the environmental implications of a proposed policy, plan or programme. It helps in choosing a project and not just evaluating it. It offers alternatives and guides project financing. The directives of SEA are reflected in the National Environment Policy 2006. Similarly, Nepal also carries out SEA's. Hence, India should also work to implement it.

Robust and Inclusive public hearing: The EIA process should provide key role for local people, especially tribals, through Panchayats and Urban Local Bodies (ULBs) at every stage. The traditional knowledge of locals needs to be incorporated.

The government has to **understand EoDB rankings are not the sole determinants** of actual investment flows. For instance, Tamil Nadu ranks lower than both UP and Bengal in EoDB rankings. But the state attracts some very big projects like the recent Ola's e-scooter plant in Krishnagiri.

The recent **India State of Forest Report (ISFR) 2021** highlighted concerns such as a decline in forest cover in the Northeast, degradation of natural forests, etc. So, the government must take steps to protect the environment in all feasible ways, especially by curbing the diversion of forest land for non-forest use.

[Yojana January Summary] Infrastructure: History & Challenges – Explained, pointwise

Introduction

According to the Government, India is expected to become a USD5 trillion economy by 2024 and aspires to become a USD10 trillion economy by 2030. Between 2022 and 2030, approximately 700 to 900 million square metres of urban space will be constructed every year. However, Infrastructure development remains a key constraint in India's economic development.

Industrial growth is contingent upon the development of other infrastructural facilities such as transportation, energy, electricity, and communications. This highlights the attention required on infrastructure development in India.

Why does India need to invest in infrastructure development?

Creation of Jobs: Infrastructure development such as construction of roads and railways, real estate etc. is labour-intensive. It leads to an increase in employment opportunities in formal and informal sectors and thus helps in fuelling domestic demand.

Improving Farmers' Income: Investment in infrastructure would play a critical role in ensuring the doubling of farmers' income through a focus on increased transportation, irrigation, warehousing, storage, processing and marketing infrastructure.

Health and Well-being: Infrastructure development of superior healthcare facilities, electronic health records and better-equipped health infrastructure at primary levels (Telemedicine) will help improve the health outcomes, reduce poverty and increase productivity of the labour.

Logistic Costs: Building world-class roads, railways, ports, inland waterways, will cut down logistic costs and improve competitiveness and promote exports. This would bring more revenues to the government and help **promote socio-economic development**.

Read more: How the economy gets a boost from efficient logistics

About India's infrastructure development post Independence

***Note**: Cambridge historian Angus Maddison's work shows that India's share of world income shrank from 22.6% in 1700 (almost equal to Europe's share of 23.3%) to 3.8% in 1952.*

The **Industrial Policy Resolution (IPR) of 1948** proposed a mixed economy. Earlier, the 'Bombay Plan', proposed by eight influential industrialists envisaged a **substantial public sector with State interventions and regulations** in order to protect indigenous industries.

India set up the **Planning Commission in 1950** to oversee the entire range of planning; including resource allocation, implementation, and appraisal of **five-year plans**. These Plans were centralised economic and social growth programmes modelled after those prevalent in the USSR.

First five-year plan 1951-56: This plan was based on the Harrod–Domar model. It focused on agriculture and irrigation to boost farm output. Important infrastructural developments included **a)** Plan to create Five Indian Institutes of Technology (IITs) as major technical institutions. **b)** The **University Grants Commission (UGC)** was set up to take care of funding and take measures to strengthen higher education, **c)** Contracts were signed to start five steel plants, which came into existence in the middle of the Second Five-Year Plan.

Second Five-Year Plan: The plan focused on the development of the public sector and 'rapid Industrialisation'. The Plan followed the **Mahalanobis model**. **Power and steel** were identified as the key bases for planning.

Along with this plan and **Industrial Policy Resolution 1956** (long considered the economic constitution of India), there was a determined thrust towards substitution of basic and capital good industries. The developments included, **a) Hydroelectric power projects** and **five steel**

plants at Bhilai, Durgapur, and Rourkela were established with the help of the Soviet Union, Britain (the UK), and West Germany respectively. **b) Coal production** was increased. **c) More railway lines** were added in North East. **d)** The **Tata Institute of Fundamental Research (TIFR)** and the **Atomic Energy Commission of India** were established as research institutes.
The **nationalisation of 14 public sector banks** was a major event during the **Fourth Plan** (1969- 74) which had a huge impact on the Indian economy & infrastructure.
The **Indian National Highway System** was introduced, and many roads were widened to accommodate the increasing traffic during the **Fifth Plan** (1974-78)

Recent infrastructure developments in India

Urbanisation and related infrastructure
Urbanisation in India has become an important and irreversible process, and it is an important determinant of national economic growth and poverty reduction. In order to promote affordable housing, the Government has **1)** Granted infrastructure status to affordable housing, **2)** Passed the **Real Estate (Regulation and Development) Act**, 2016(RERA), and **Benami Transactions (Prohibition) Amendment Act 2016**, **3)** Established Real Estate Investment Trusts (REITs), **4)** launched **Pradhan Mantri Awas Yojana (PMAY)** and **Affordable Rental Housing Complexes (ARHCs)** (for urban migrants/poor), 5) Apart from that the government also provided higher tax breaks on home loans, land-related reforms, optimising development control rules, rationalising of the stamp duty and registration charges, etc.

Mass rapid transit and related infrastructure

The concept of mass rapid transit for New Delhi first emerged from a **traffic and travel characteristics study** which was carried out in the city in 1969. While extensive studies were in progress, the city expanded significantly, resulting in a two-fold rise in population, and a five-fold rise in the number of vehicles between 1981 and 1998.
To rectify the situation, the Government of India and the Government of Delhi jointly set up a company called the **Delhi Metro Rail Corporation (DMRC)** with **E Sreedharan** as the Managing Director. Later, the Delhi Metro became the second underground rapid transit system in India, after the Kolkata Metro.
Other infrastructure projects
Some of the mega initiatives include the **Sagarmala** and **Bharatmala Pariyojana** projects, the establishment of the **National Investment and Infrastructure Fund**, revisiting Public-Private Partnership (PPP) models on the lines of the Kelkar Committee recommendations, etc.

Read more: How waterways can help improve competitiveness

Other initiatives include **Delhi-Mumbai Industrial Corridor (DMIC)**, the **Bengaluru-Mumbai Economic Corridor (BMEC)**, the **Chennai-Bengaluru Industrial Corridor (CBIC)**, and others.
PM Gati Shakti
It is the National Master Plan for Multi-modal Connectivity. The Gati Shakti scheme will subsume the Rs 110 lakh crore **National Infrastructure Pipeline (NIP)** that was launched in 2019.

Must read: PM Gati Shakti – National Infrastructure Master Plan – Explained, pointwise

What are the challenges in infrastructure development?

First, infrastructure provisioning **requires massive investments**, often over a prolonged duration of time. Further, infrastructure projects coupled with procedural delays and returns are expected after a long period of investment.
Second, given the high fiscal requirements, particularly of large-scale infrastructure development projects, **public investments alone may not be sufficient** to fund infrastructure development in India.

Third, Projects have been delayed: **Land acquisition** is often the biggest impediment in the infrastructure development of India. There are other issues such as **litigation issues**, **alienation of local communities** and the **violation of environmental norms**, etc.
The latest report of the **Infrastructure and Project Monitoring Division** showed that delays in projects costing over Rs 150 crores had resulted in a cost overrun of more than Rs 4 trillion.
Fourth, **Low Credit Off-take**: According to the RBI's paper, the growth rate in credit off-take has steeply declined to 5.8% in November 2020, as against 14.2% in 2013. This will reduce private investment in infrastructure projects. At present, there are concerns about the **declining credit off-take** trends from banks as they don't want to get into another **Non-Performing Asset** (NPA) crisis in future.

What should be done to improve infrastructure development?

1. Encourage private participation in infrastructure development through various forms of Public-Private Partnerships (PPPs), especially in real estate/housing sector. **2.** The quality of infrastructure development in India needs urgent attention if the country intends to realise its economy and growth potential, **3. Address certain key issues**: For the proper implementation of infrastructure projects, India needs to **address structural and macroeconomic stability concerns**, emanating from high public expenditure, **4. Solve the credit off-take challenge**: The Economic Survey for 2020-21 mentioned that India needs ₹4.5-lakh crore investments per year from the private sector to boost NIP sectors. So, the government has to address the issues associated with low credit off-take for successful private investments.
Proper implementation of infrastructure projects will help India to realise its dream of becoming the "business capital" of the world. But, to achieve that, all the challenges in infrastructure development must be addressed on a priority.

Achieving Net Zero by 2070 and the Associated Challenges – Explained, pointwise

Introduction

In the recent **Glasgow climate summit (COP26)**, India announced new climate targets. One such ambitious target is achieving Net Zero by 2070. Achieving Net Zero by 2070 requires India to fundamentally alter its development model during this decade. This is because of various challenges associated with the Net Zero emissions targets.

Must read: India announces new climate targets at COP26 – Explained, pointwise

What is the Net Zero emissions target?

Net Zero is aimed at balancing the greenhouse gas emissions into the atmosphere. It means that whatever carbon emissions have been added to the atmosphere through various processes are removed, thus stabilizing the amount of greenhouse gases in the atmosphere.

More than 70 countries have promised to become Net Zero by the middle of the century, and this is being considered vital for meeting the Paris Agreement goal of keeping global temperatures within 2 degrees Celsius from pre-industrial times.

Read more: Net Zero Emissions Target for India – Explained, Pointwise

Why does India need a fundamental shift for achieving Net Zero by 2070?

Despite accounting for 17% of the world's population, India has the lowest per capita emissions of the world's major economies. According to the World Resources Institute, India's total greenhouse gas emissions were about 3.3 billion tonnes in 2018.

However, scientific studies indicate that the present development model will cause the greenhouse gas emissions to continue to increase every year. If current model is followed as such (business-as-usual scenario), India's emissions will reach above 4 billion tonnes per year by 2030 and 7 billion tonnes by 2050.

To achieve Net Zero by 2070, India must reduce the net carbon emissions to 2 billion tonnes by 2050. These last 2 billion tonnes of emissions would be associated with the agriculture sector which will require considerable time and effort to reduce.

To achieve this India needs to **first flatten emissions curve and then drive them down** so that India can get close to Net Zero by mid-century. In short, India will **have to bend its emission curve**.

Business-As-Usual (BAU) scenario*: It is a scenario for future patterns of activity which assumes that there will be no significant change in people's attitudes and priorities, or no major changes in technology, economics, or policies so that normal circumstances can be expected to continue unchanged.*

Must Read: **India's near-term climate targets – Current performance and future expectations**

What are the impediments between the BAU scenario and the achieving net-zero by 2070 scenario on various parameters?

Business-As-Usual (BAU) scenario	Achieving net-zero by 2070 scenario
Energy mix: Today, India has about 400 GW of installed generation capacity with 205 GW of installed coal capacity and another 40 GW under construction. India currently has about 170 GW of renewable capacity. The remaining capacity is from natural gas. According to the recent commitments, India will meet 50% of its energy requirements from renewable energy by 2030. It is expected to reach 75% in 2050.	Achieving Net Zero by 2070 requires India to increase the renewable capacity from 475 GW to about 620 GW by 2030. By 2050, 90% of India's power generation has to come from renewable sources compared to 75% in the BAU scenario.
Electric Vehicles: India's installed capacity in 2050 in the Net Zero scenario is about 2,300 GW compared to 2,100 GW in the BAU scenario. Much of this increased electricity consumption comes from the switch to electric vehicles (EVs). In the BAU scenario, about a third of India's passenger vehicles and two-wheelers will be EVs by 2050.	Achieving Net Zero by 2070 requires 40% of all the passenger vehicles and buses to be EVs. In addition, virtually all the two-wheelers and three-wheelers will be EVs. A quarter (25%) of India's commercial vehicles also have to become EVs.
Industrial Sector: In the BAU scenario, about 15% of the energy usage in industrial sectors like cement, steel comes from zero-carbon sources.	In achieving Net Zero by 2070 scenario, about 60% of Industrial sector energy will have come from zero-carbon sources.
Fossil Fuel and Carbon Tax: Today the Central and State Governments derive some INR 6 trillion, or about 20% of their revenues from taxing fossil fuels. This represents around 3% of India's GDP. In the BAU scenario, there is **no need for carbon taxes** because fossil fuel usage continues at about today's levels.	In the Net Zero by 2070 scenario, fossil fuels will decline in usage dramatically, thus massively reducing Central and State Government revenues. These revenues can be made up by a carbon tax framework.

What should India do for achieving Net Zero by 2070?

India has to **massively revamp the power sector**: India requires **huge investments in building grid and battery storage**. Further, India will **have to retire coal by 2050**. This necessitates fundamental changes to current coal and thermal power policies.

A complete change in the tax structure: India has to shift to **carbon taxation** framework that will contribute about 2-3% to the GDP with carbon tax at about $70-80 per tonne.

Aggressive EV promotion policies: Like in the European Union, India will probably need to implement an EV mandate immediately that becomes progressively stricter. Moreover, India will also have to rapidly build out a fast-charging network.

Read more: India's electric vehicle push will lead to brighter, greener future

A shift towards greener sources: Many key industrial sectors such as cement, steel, chemicals, and fertilisers will have to accelerate their shift from fossil fuels to electricity and **green hydrogen**. A strict emissions trading system with high carbon taxes will likely be required to drive transformation in the industrial sector.

Read more: [Yojana October Summary] Energy Security: Nuclear Power – Explained, pointwise

Reformulate policies: All stakeholders including policymakers, company executives, financial institutions, investors, research institutes, civil society, need to engage in serious, multi-year collaborative dialogue to reformulate India's policies and plans to achieve Net Zero by 2070.

Read more: [Yojana December Summary] Self-reliance in Energy Sector – Explained, pointwise

Facilitate carbon-neutral planning: The Government has to encourage all States and UTs **to make their respective carbon-neutral plan**. The UT of Ladakh and the state of Sikkim are already planning such a carbon-neutral plan.

Further, at the local level, cities like Bengaluru, Chennai, and the Panchayat of Meenangadi in Wayanad, Kerala also planning such a carbon-neutral plan.

In conclusion, reaching Net Zero will require immediate and sweeping changes to the overall tax structure, as well as major changes to regulations and policies in many sectors. Each of the Net Zero@2070 policy packages requires a complete transformation in the Indian economy. But, considering the climate emergency, it is a much-needed transformation.

Public Accounts Committee (PAC) – Functioning, Challenges and Suggestions for Improvement – Explained, pointwise

Introduction

The Public Accounts Committee (PAC) of the Parliament has completed hundred years of existence. India being a Parliamentary democracy establishes accountability of the government to the people through Parliamentary supervision and control. Public Accounts Committee is considered the most important financial Committee of Parliament in the financial accountability process.

About the Public Accounts Committee (PAC)

It is one of the three **Financial Parliamentary committees**, the other two being the **Estimates Committee** and the **Committee on Public Undertakings**.

The Public Accounts Committee is the oldest of all House panels. It was introduced in 1921 based on the **Government of India Act, 1919** (Montague-Chelmsford Reforms). W M Hailey was its first Chairperson, and Bhupendra Nath Mitra was its first Indian Chairperson.

Members: With the Constitution coming into force on January 26, 1950, the Committee became a Parliamentary Committee functioning under the Speaker. The PAC consists of 22 members of parliament, of which 15 are from Lok Sabha and 7 from Rajya Sabha. A Minister is not eligible to be elected as a member of the Committee.

Term: The term of office of the members is one year. The Public Accounts Committee is constituted every year under Rule 308 of the **Rules of Procedure and Conduct of Business in Lok Sabha**.

Chairperson: The **Chairperson** is **appointed by the Speaker of the Lok Sabha**. Since 1967, the chairperson of the committee is selected from the opposition.

Role of CAG: The Committee is assisted by the **Comptroller and Auditor General (CAG)** in the examination of Accounts and Audit Reports. CAG has been described as a friend, philosopher, and guide to the PAC.

What are the functions of the Public Accounts Committee?

First, Its chief function is to examine the audit report of the Comptroller and Auditor General (CAG) after it is laid in the Parliament. The PAC reports its finding to the Parliament.

Second, PAC acts as the watchdog of the public purse by examining the audit report on appropriation account and finance account.

Third, It scrutinises the appropriation account to verify: **1)** If the funds were legally available, **2)** If a competent authority sanctioned its use, **3)** If the rules laid by the procedure were followed.

Fourth, It further establishes the accountability of the Government by examining the budgetary appropriations and accounts of the Government, and Reports of Comptroller and Auditor General (under article 151) on the execution of the projects and programmes by the various ministries.

Fifth, The Committee examines public expenditure not only from the legal and formal points of view to discover technical irregularities but also from the point of view of the economy, prudence, wisdom and propriety to bring out the cases of waste, loss, corruption, extravagance, inefficiency and nugatory expenses.

What is the significance of the Public Accounts Committee?

While other **Department Related Standing Committees** can adopt reports with dissent notes by some members, the **PAC must adopt all reports by consensus**. This is unique about the PAC, and helps it **maintain neutrality**.

Customarily, the leader of the largest opposition party in the Lok Sabha is the Chairperson of the PAC. Hence, It plays a crucial role in **scrutinizing the use of Government funds**.

The PAC at times, through its criticism of the inefficient public expenditure of the Government, creates a strong public opinion against the Government. The incumbent Government to remain in power tries to rectify the inefficiency in its public expenditure and policymaking. Thus, the committee **helps in enforcing accountability of the executive** to the people.

Read more: The role of Public Accounts Committee in establishing accountability

What are the challenges faced by the Public Accounts Committee?

PAC in India is not able to enforce the accountability of the Government to the people in the true sense because **1)** Even if the PAC brings out the irregularities in the public expenditure there are no mechanisms to enforce the corrective measures, **2)** It examines the expenditure which has already been done by the Government. Further, the PAC has no power to limit the expenses. **3)** The recommendations of PAC are advisory in nature and are not binding on the Government. **4)** The PAC has got no mandate to examine the policy in the broader sense. **5)** The PAC cannot issue an order. Only the Parliament can take a final decision on its findings.

Apart from that, the PAC face challenges like,

1) **Lack of technical knowledge**: Usually, the PAC members are generalists, and CAG's reports require independent expert evaluation in the simplest of terms. **2)** Separate subcommittees of the PAC consider expenditures incurred by the ministries of defence, railways, external affairs, finance and so on. These reports are made available on Parliament's website. However, these reports **lack in-depth scrutiny** of the government's accounts.

What can be done to improve the performance of the Public Accounts Committee?

Implement the recommendations: The report of the "**All India Conference of Chairpersons of PACs of Parliament and State/UT Legislatures"** suggested few essential reforms. Such as

Amendment to the CAG Act to facilitate **a)** The Comptroller and Auditor General (CAG) should be made responsible to Parliament, like in the UK and Australia, **b)** The PAC should be consulted on the appointment of the CAG, **c)** Public Private Partnership projects should be examined by CAG as public money is spent on them.

PACs should **take up *suo motu* cognisance of public issues and Government's flagship programmes** and examine financial wrong-doings.

The **recommendations should be made mandatory**. Also, the PAC should have the **powers to examine the retired officials** apart from the incumbent ones.

The PAC **proceedings should be open to the press** except in sensitive matters.

Induct better talent: The PAC chairperson should have a reasonable understanding of accounting principles and practices. Hence, there is a **need to choose a professional** who can present complex audit reports in simple terms. If CAG reports are complex, it becomes difficult for the PAC to go through the details and unjustified government spending might go undetected.

Conduct an Independent audit: Two independent private sector accounting firms can be selected by the PAC to provide analytical comments about CAG reports confidentially to the PAC. It would help in realizing transparency in government spending.

Improving the effectiveness: The Speaker of the Lok Sabha has suggested that there should be a committee of Chairpersons of PACs (Parliament and State Legislatures) and that committee should have a comprehensive discussion on the working of the PACs and brainstorm on the manner in which the working of such committees can be more effective.

Other required changes: **a)** At present, huge volumes of funds are allocated repeatedly to recapitalize public sector banks (PSBs). The CAG needs to assess the extent and manner in which taxpayer funds are used to recapitalize PSBs. **b)** Similarly, the implementation of farm loan waivers is also puzzling. The PAC should check if the net present value of the amounts waived added up to more than the announced total amounts. **c)** Accounting statements of several State Governments, too, need careful examination by the PAC as they collectively spend more than the Central Government.

Read more: Credibility of govt accounting – On Public Account Committees

The Public Accounts Committee (PAC) plays a crucial role in ensuring the accountability of the government. The committee helps in enforcing accountability of the executive to the people. Hence, it is in the interest of the nation to strengthen the PAC.

[Kurukshetra January Summary] Agri-startups and Enterprises – Explained, pointwise

Introduction

India has become the third-largest start-up ecosystem hub. India is home to the highest number of unicorn startups after the US and China. Among them, Agri-startups are providing relevant and innovative solutions to a number of challenges faced all across the agricultural value chain.
These Agri-startups have been connecting the missing link between the farmers, input dealers, wholesalers, retailers and consumers; connecting each of them and providing strong marketing linkages and quality products on time. Further, these Agri-startups are not only creating new employment avenues but are also leaving a ripple effect on the socio-economic fabric of the Indian demography in which they are operating.

Why Agri-startups are essential?

The agricultural sector contributes to more than 15% of the country's GDP. Also, it is one of the biggest employers, with approximately 70% of the rural population employed in the agricultural space.
However, the sector has been considerably **slow in the adoption of technology**, largely due to insufficient penetration and those **engaged in agriculture being unaware** of existing technological advancements.
Apart from this, the **vast unorganised credit structure** and **absence of proper market linkages** add to their woes by contributing to their meagre income. This is where agri-tech startups come into the picture.

Read more: Nabard announces ₹ 700-cr venture capital fund for agri, rural startups

About the status of Agri-startups in India

The focus of agri-startups hovers around the following key sub-sectors

Supply chain	Infrastructure	Finance	Farm Data and Analytics	Information Platform
• E-distributor	• Growing system and components	• Payments	• Integrated Platform	• Information Dissemination
• Listing Platform	• Aquaponics	• Revenue sharing	• Remote sensing software	
• Marketplace	• Hydroponics	• Lending	• Farm Mapping	
	• Drip Irrigation		• Farm Management	
			• Field Operations	

Source: Kurukshetra

India continues to be among the **top six countries** globally, with the highest number of deals in agricultural technology. (**The US, Canada, the UK, Israel** and **France** comprise the other five countries.)
Currently, 3.8% or 600+ of the total recognised startups in the country are in the Agri-startup space as per the **Economic Survey of 2019-20**. Of these, 54% are classified as agri-tech while the rest are in the field of dairy farming, food processing and others.
In **2020 alone**, over 20 agri-tech startups have together raised more than Rs. 920 crores across venture debt, equity and conventional debt rounds. It is estimated that $10 billion will be invested in Indian agri-tech startups over the next 10 years.
Few prominent startups include **SatSure** (The solutions of this startup are being used by the Andhra Pradesh government, large banks and insurance companies in India), **Fasal's microclimate forecasts, Aibono** (provides precision farming technologies backed by real-time

synchronisation of supply and demand), **Cropin** (provides a full suite of farm management, monitoring and analytics solutions through its new product called 'Smart Risk'), etc.

Read more: Agritech startups have great potential in India

What are the reasons for the rise in Agri-startups?

First, India's digital ecosystem is witnessing healthy tailwinds such as **affordability and availability of high-speed internet and maturing digital content** ecosystem e.g., more than 25% of farmers in India today have access to smartphones.

The confluence of these factors presents an exciting opportunity for innovation in agriculture, wherein market players can leverage next-generation technology such as data digitisation, data platforms data analytics, Artificial Intelligence (AI), Machine Learning (ML), the loT and Software as Service (SaaS) to disrupt the status quo in agri-startups.

Second, increasing **demand for innovation** in agriculture and **declining last-mile delivery to farmers** has increased pressure on extension services which must be re-engineered to a new role focused on organising user/producer groups, linking farmers to markets, engaging in research, planning and technology selection, enabling changes in policies and linking producers to a range of other support and service networks. This role is being played by agri-techs.

Third, huge vacancy levels in public extension systems, particularly in remote and disadvantaged regions have further constrained the **extension support and services to the farming community**. Hence, the Agri-startups utilise these gaps in support and services.

Read more: Boosting agrifood life sciences is key to India's agricultural future

How Agri-startups are disrupting agriculture and empowering farmers digitally?

The agriculture industry is classified into 4 broad divisions. 1) Agri-inputs, 2) Agri-financial services, 3) Food processing companies, and 4) Farm mechanisation. With the advent of agri-tech startups, these divisions have seen several fundamental changes in the way they function. These include,

a) Agri-startups with novel technologies such as Al, ML and data analytics are making it **easier for farmers to improve their methods of farming** such as identifying the right crop to be sown for better yield. **b) Offering mechanised equipments** that are potentially unaffordable for farmers to purchase, **on a rental basis** thus making the equipment readily available to farmers. **c)** Agro-based mobile applications make it even more convenient for farmers to **access information**, **d)** Enable farmers to have **direct access to the market** without the need of intermediaries, leading to an increase in their income. **e) Help to access formal credit**: Agri-startups facilitate financial inclusion by enabling farmers to upload their records digitally and apply for credit.

Further, **Farming-as-a-Service model (FaaS model)** is also emerging as the future of agriculture. This model offers innovative solutions for agriculture and allied services through a subscription-based or pay-per-use model which enables stakeholders to make effective data-driven decisions to help boost productivity and efficiency.

Read more: Seeding a data revolution in Indian agriculture

How is the Government supporting the Agri-startups?

The Government of India has taken several initiatives to boost support to the agri-startups. These include, Government schemes like the setting up of the **National Centre for Management and Agricultural Extension in Hyderabad (MANAGE)** and the **Department of Science and Technology** have given a tremendous boost to Agri-startups. The focus area of the DST has been on accelerating agri-tech startups by providing mentoring, industry networking and investor pitching guidance.

According to a NASSCOM report, the Indian Government specifically supports agri-tech startups through its **Startup India Program**.
Startup India Seed Fund Scheme (SISFS): The scheme aims to provide financial assistance to startups.
Ministry of Agriculture and Farmers' Welfare is supporting the startups through initiatives like the **Agriculture Grand Challenge** which further validates Agri-startups.
Department of Agriculture, Cooperation and Farmers Welfare (DACFW) has launched a new component called 'Innovation and Agri- Entrepreneurship Development'. It has been launched under the **Rashtriya Krishi Vikas Yojana (RKVY-RAFTAAR)**.

Read more: **Agritech Challenge: AIM, NITI Aayog & UNCDF announce first AgriTech cohort under South-South Innovation platform**

Apart from that, the other programmes include
a) The Department of Biotechnology runs **Biotech Parks and incubators programme**, b) NITI Aayog runs a comprehensive **Atal Innovation Mission**, c) **AGNIi-Accelerating Growth of New India's Innovations** – under the Office of Principal Scientific Adviser, d) **DigiSaksham**, e) Ministry of Development of North Eastern Region has launched **Initiative for Development of Entrepreneurs in Agriculture (IDEA)** which intends to promote agri-business, f) **Start-up Accelerators of MeitY for pRoduct Innovation, Development and growth (SAMRIDH)**, g) **Dairy Entrepreneurship Development Scheme** under Department of Animal Husbandry, Dairying and Fisheries.

Read more: **Challenges Facing Dairy Sector in India – Explained, Pointwise**

What are the challenges faced by Agri-startups?

In a market worth more than $350 billon, the combined revenue of all agri-tech startups in India is estimated to be less than $100 million. This is due to various challenges like,
1) Small and scattered landholdings of farmers **reduce** the scope of technology **scale-up**, leading to poor cost-effectiveness, **2) Rate of return** on technology investment has **not proven very profitable** in case of agri-tech startups as compared to other IT-based startups, **3)** Agri startups and enterprises are finding it **hard to retain technical talent** working in this sector, **4)** Technology adoption and penetration is a very slow process which certainly **diminishes investors' interest**. **5) High-priced technology solutions are unaffordable** for a large user group, i.e. small and marginal farmers, **6)** Most of the technology solutions available are not localised to emerging markets, **7) Making farmers adaptive** to the required skills for working on advanced technologies **requires significant effort**, **8)** Facilitating the **adoption of proven technologies** through subsidy is yet to gain momentum, **9) Regulations**, though favourable, **are complex** in nature.

Read more: **[Kurukshetra December Summary] Fostering Innovation and Entrepreneurial Skills among Rural Youth – Explained, pointwise**

What should be done to promote Agri-startups?

First, there is a need to **develop mobile training programmes** for the capacity building of farmers and help them adapt and adopt to new technological advancements.

Second, **increased and timely support** to early-stage startups will boost agri-tech startups in India.
Third, there is a **need for corporate and government accelerators** to help agri-tech startups. This is because only 9% of all funding in the last 5 years was focused on growth-stage startups. For this, large companies **need to effectively collaborate with startups**.
Fourth, the government need to **set up agri-tech-focused incubators and grants**.
Fifth, **Karnataka** alone is home to 70% of agri-tech startups. The other states need to come up with favourable policies to attract startups and investors similar to Karnataka.
Sixth, banks and financial organisations need to offer **more creative models of financing** for farmers, entrepreneurs, incubators, and accelerators.
Seventh, in order to make agri-startups successful, it is crucial to **enable seamless hybridisation** of relevant technology by building a promising '**new-age distribution model**'. Agri-startups have to reorient and customize their models for a sector that has low technology adoption rate.
In conclusion, technology is just one component; an evolved distribution system with a human touch is what will make the agri-startup models scalable over time. Agri-startups are poised to play a vital role in increasing the productivity of the agriculture and allied sectors and power Indian economy's structural transformation. Government should create an enabling environment for them to thrive.

Increasing exports in India and challenges in exports- Explained, pointwise

Introduction

India's goods exports have reached a record-high of US$393 billion, after having stagnated in the range of US$250-330 billion (annual) for a decade. Along with this, India's global share of exports has also risen to an all-time high, and has likely crossed 2% in the last quarter. According to statistics released by the WTO, India's share in total world merchandise exports was 1.68% in 2017. The significant feature of India's increasing exports is its sustainability.

However, despite the positive signs, India's manufacturing competitiveness is a matter of worry e.g., the share of manufacturing in GDP fell from 16% in 2012 to just 13% last year. A surge in manufacturing exports, as well as import substitution, can help reverse the worrying trends. While higher commodity prices contributed to the recent increase in exports, which could reverse too; trends across several large sectors seem sustainable.

What are the significant things to consider with India's increasing exports?

Electronics: Electronics is the largest sector by value in the global goods trade, where India has been noticeably absent so far. But in 2021, India exported $16 billion, a fraction of a percent of global trade but double the level of 2018.

Many global firms are now assembling handsets in India: 10 of them benefit from **production-linked incentive (PLI) schemes**, implying handset assembly is now competitive in India. Other electronics assembly and component firms are also setting up factories in India. This would enhance the domestic value-add in these exports.

Speciality chemicals: Pharmaceutical exports continue to grow, and after two decades of steady compounding, growth in the speciality chemicals industry is now beginning to increase. Over the past advantages in bulk chemicals, India's global share has doubled to 3% in fine chemicals (including pharma process engineering skills and a complex ecosystem).

***Note**: Speciality chemicals are materials used on the basis of their performance or function. Some categories of speciality chemicals are adhesives, agri-chemicals, cleaning materials, cosmetic additives, construction chemicals, flavors, food additives, fragrances, etc*

Textiles and apparel exports: These exports hit a record-high $38 billion in 2021, after being stagnant in the $32-33 billion annual range since 2013. So far, yarns and fabrics, which are benefiting from price increases. Some garment manufacturers have customers asking for a 50% rise in output on top of record output last year.

Read more: Govt sets exports target for textile industry at $100 bn, up from $33 bn

Engineered goods: The Engineering Goods sector comprises metal products, industrial machinery and equipment, automobiles and their components, transport equipment, bicycles, medical devices and renewable equipment. The Engineering Goods exports have **registered a growth of 54% during April-December 2021** as compared to the same period in the previous year (2020).

Read more: How sustainable is India's exports boom?

What are the reasons contributing to India's increasing exports?

Manufacturing in several sectors moving out of China: A shrinking industrial workforce is pushing labour-intensive work out of China. This can continue for at least the next decade, and India is emerging as one of the alternatives for labour intensive-sectors.

Benefit of Government policies: Union and State Governments have been taking steps to ease the processes and creating incentives to facilitate capex (Capital expenditure) subsidy, provision of land, speedy permissions, electricity and skilling reimbursement and tax deferrals. Further, the 13 production-linked incentive (PLI) schemes, with proposed incentives of almost INR 2 lakh crore over five years. Most of the PLI Schemes are in the execution phase now. As these schemes ramp up, they can add substantially to exports going forward.

Read more: Government approves Rs. 4,400 crore investment in ECGC Ltd. in 5 years to provide support to exporters as well as banks

As an illustration production scale-up of electric two-wheeler manufacturing by a firm that is new to the business, occurred at a very fast pace because of quick allocation of land and approvals related to construction.

Read more: Government approves continuation of the National Export Insurance Account (NEIA) scheme and infusion of Rs. 1,650 crore Grant-in-Aid over 5 years

Access to cheaper capital: This allows firms to target larger products, investing in R&D, capacity and further global expansion.

Growth of specific sectors: There has been growth of speciality chemicals industry. There were just six such industries in 2015, but now there are 18 firms in the sector with over a billion dollars in market capitalisation. This is due to the high price of chemicals. Similarly, the US ban on Xinjiang cotton is likely helping the Indian cotton value chain.

Read more: MSME Minister launches India Export Initiative and IndiaXports 2021 Portal

What are the challenges in increasing exports further in India?

Slow Progress on some PLI schemes has been slower than expected, like in autos and apparel, mainly due to the need to recalibrate and refocus incentives.

Challenges in job creation: Goods exports can add nearly 2.5% to GDP over the next five years. This is also important for job creation. Gains must continue for 15 years or more for India's export share to be at a similar level as its share of the global workforce. For that to occur, growth must pick up in other sectors as well, like autos, capital goods and defence.

Low participation in Global Value Chains (GVCs): Compared to the major exporting nations in the East and Southeast Asia, India's participation in the GVCs has been low. This has also resulted in **low Market Penetration in High-Income Countries** e.g., India slipped to the eighth position in 2020 in terms of its share of merchandise exports among developing economies, according to a WTO report.

High diversification of Indian exports: Instead of specialization, Indian exports are characterised by high diversification. Hence, Indian exports are spread over many products and partners, leading to its lacklustre performance.

Read more: Buoyant exports but unfavorable trade balance: Why there is a dichotomy

What can be done to increase India's increasing exports further?

Implement the recommendations of SCALE Committee: The **Steering Committee for Advancing Local Value-Add and Exports (SCALE committee)**, comprising top Indian CEOs; has worked out action plans for 24 priority sectors. These include electronics, auto components, textiles, steel, aluminium, marine products, etc. The committee suggested the following,

1) India needs a sustained effort to reduce problems in the areas such as cost and ease of doing business, Market access via trade treaties, Technology and quality issues, Supporting Brand India for manufacturing, **2) Addressing cost issues**: The government needs to urgently address cost issues related to land, power and capital, apart from addressing scale, which lowers cost disabilities, **3) Making companies more competitive**: Addressing concerns around infrastructure and logistics, labour flexibility and strengthening MSMEs could also help in lowering costs for companies and make them more competitive in global markets, **4)** India need to push the "**China plus one strategy**" to attract investment from multinationals while positioning India as an export hub.

Read more: Agricultural Exports- India's potential, initiatives, challenges and solutions

Apart from that, India should

Utilise the opportunity: Technology and geopolitics are expected to reshape global value chains over the next decade and new opportunities will emerge e.g., the disruptions in the automobile sector, with several new entrants (like Apple and Sony), an accelerating transition towards electric vehicles, changes in mobility, and the emergence of new manufacturing models (like custom assembly), could provide new opportunities for Indian firms. Indian firms must utilise these opportunities without any delay.

Skill development is necessary not just for workers and entrepreneurs, but also for regulators and administrators to regulate the advancements.

Continued investments in infrastructure may be necessary to remove bottlenecks for export growth to sustain.

Strategic policies to improve India's contribution in GVCs: Export growth of capital intensive products from China are mainly due to its participation in the GVCs. For achieving this, China integrated its domestic industries within the GVCs. India should sign **Free Trade Agreements**, integrate domestic industries with GVCs and improve India's market penetration into High-Income Countries.

Read more: Time to harvest the tailwind in exports

In conclusion, India's share of exports can be improved to a greater level if certain bottlenecks are resolved. The Prime Minister has set a clear target of doubling India's share of world exports to 3.4%. For that, India should specialize more in the areas of its comparative advantage and achieve significant quantity expansion.