7 PM COMPILATION

16th to 30th October, 2021

Features of 7 PM compilation

- **Comprehensive coverage of a given current topic**
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[Yojana October Summary] Light House Projects – Explained, pointwise

Introduction

On 1 January 2021, the Prime Minister laid the foundation of **six Light House Projects (LHPs) in six cities across six states**; Indore (Madhya Pradesh), Rajkot (Gujarat), Chennai (Tamil Nadu), Ranchi (Jharkhand), Agartala (Tripura) and Lucknow (Uttar Pradesh). The projects are being constructed under **Global Housing Technology Challenge–India** (GHTC-India), which is in turn under the "**Housing for All**" programme.

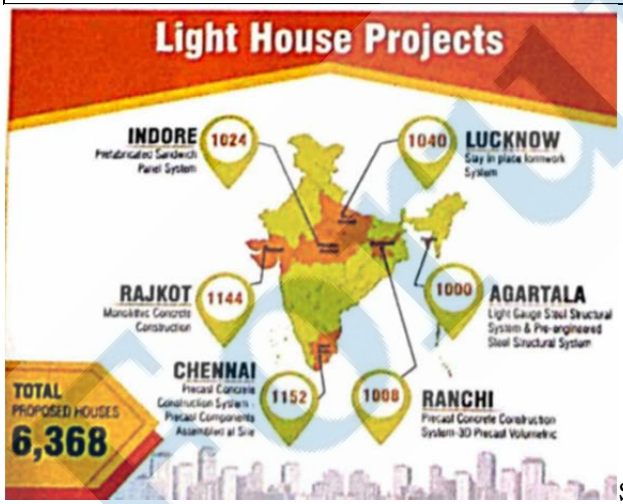
About PMAY-Urban and the need for a new approach

Pradhan Mantri Awas Yojana-Urban (PMAY-U) was launched in June 2015 with the aim to provide all-weather pucca affordable houses to all eligible urban households by the year 2022. So far, 11.2 million houses have been sanctioned under the scheme.

The scheme has propelled massive investment opportunities and provided the much-needed impetus to industrial production and employment.

But, **the conventional system of housing construction is inadequate** to comprehensively address the housing shortage in a time-bound manner. Further, India needs to address issues of climate change by reducing the carbon footprints, impact of thermal comfort systems, construction and demolition waste etc.

Read more: Only 5.4% of houses under "PM Awas Yojana Gramin (PMAY-G)" completed this year



Source: Yojana

Global Housing Technology Challenge-India (GHTC India) was initiated in January 2019.

Through GHTC, 54 innovative technologies from across the world were shortlisted and grouped into six broad streams or categories as per their suitability for different geo-climatic regions of the country.

Out of these, six distinct technologies were taken up for the construction of innovative projects in six states across the country. About 1,000 houses at each location are to be constructed in a year.

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

What are the Light House Projects and their associated benefits?

These are model housing projects with houses built with shortlisted alternate technology suitable to the geo-climatic and hazard conditions of the region. These houses will be disaster-resilient, environment-friendly, cost-effective, and have speedy construction technologies.

Source: Yojana

These are **called Light Houses** as these projects have a demonstrative effect wherein people from all sectors such as Academia, builders/developers, innovators, policymakers, etc will be able to **see and learn the use of innovative technologies** on the ground.

These projects will serve as live laboratories for on-site and off-site learning, facilitating the transfer of technology to the field, and its further replication.

How government is promoting LHPs and other innovative technologies in the housing sector?

Certification of technologies: Out of the 54 innovative technologies identified under GHTC-India, 39 have been evaluated and certified under the **Performance Appraisal Certification Scheme** (PACS) through **Building Materials and Technology Promotion Council** (BMTPC).

Central Public Works Department (CPWD) has issued a Schedule of Rates (SOR) for some of these technologies. This will result in widespread adaptation of technologies in public construction works.

Technology Innovation Grant (TIG) to states: Ministry of Housing and Urban Affairs (MoHUA) has introduced a Technology Innovation Grant (TIG). TIG is a financial grant provided to the States which is in addition to the existing funding under PMAY(U).

Adoption through education: MoHUA is coordinating with the Ministry of Education to adopt innovative technologies as a part of the course curriculum for Undergraduate/Post Graduate students.

Technograhis: On the line of Satyagrahis and Swachhagrahis, a program Technograhis was launched in February 2021 for **free enrolment of all stakeholders** interested in learning different phases of use of innovative technologies in LHPs.

Technograhis will be the change agents of innovative and sustainable technologies. They will get first-hand information about the technologies through site visits, off-site webinars/workshops etc.; and they can adapt them as per their requirements in the construction sector for a 'Make in India' approach in future.

NAVARITIH: The technological adaption for LHPs will get framed under a short-term online certificate course, Navaritih. The course is intended to enhance the capability of the building professionals about the new and emerging building materials and technologies for housing and building construction.

Training modules: The Ministry of Skill Development and Entrepreneurship is also preparing training modules on new technologies for artisans/masons/ electricians/plumbers/carpenters, etc.

In conclusion, the LHPs and other innovative technologies in housing will contribute towards achieving the Sustainable Development Goals, the New Urban Agenda, and the **Paris Climate Accord**. Further, the beneficiaries (house owners) will have access to improved living conditions and the environment in a modern and dignified way.

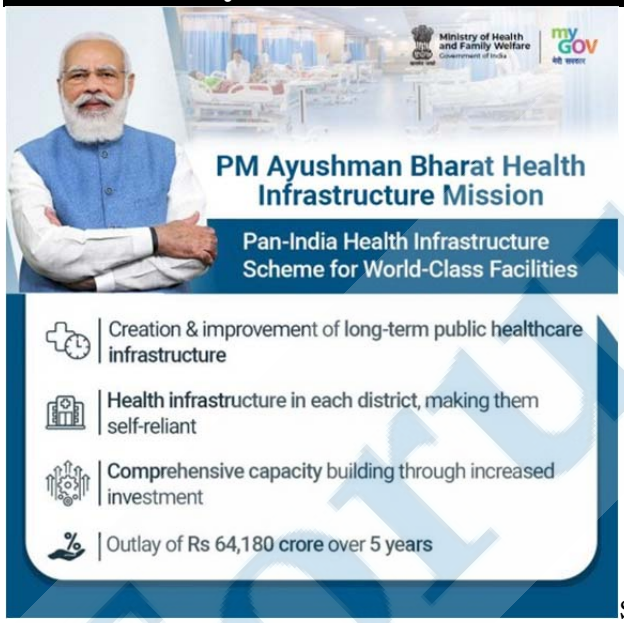
PM ABHIM (Ayushman Bharat Health Infrastructure Mission) – Explained pointwise

Introduction

Recently, the Prime Minister has launched the **Pradhan Mantri Ayushman Bharat Health Infrastructure Mission** (PM ABHIM) also known as **Pradhan Mantri Atmanirbhar Swasth Bharat Yojana** (PMASBY). Earlier, the plan was announced in the Budget 2021-22. Now the mission has been formally launched with an outlay of ₹64,180 crores over a period of five years. The scheme is an addition to the **National Health Mission** and will work towards strengthening public health institutions and governance capacities.

The health infrastructure mission is the largest pan-India Health Infrastructure Scheme that aims to provide a much-needed fillip to India's capacity to address emergent Public Health issues. This will bring about a paradigm shift in India's healthcare infrastructure and make it more resilient.

About the PM Ayushman Bharat Health Infrastructure Mission

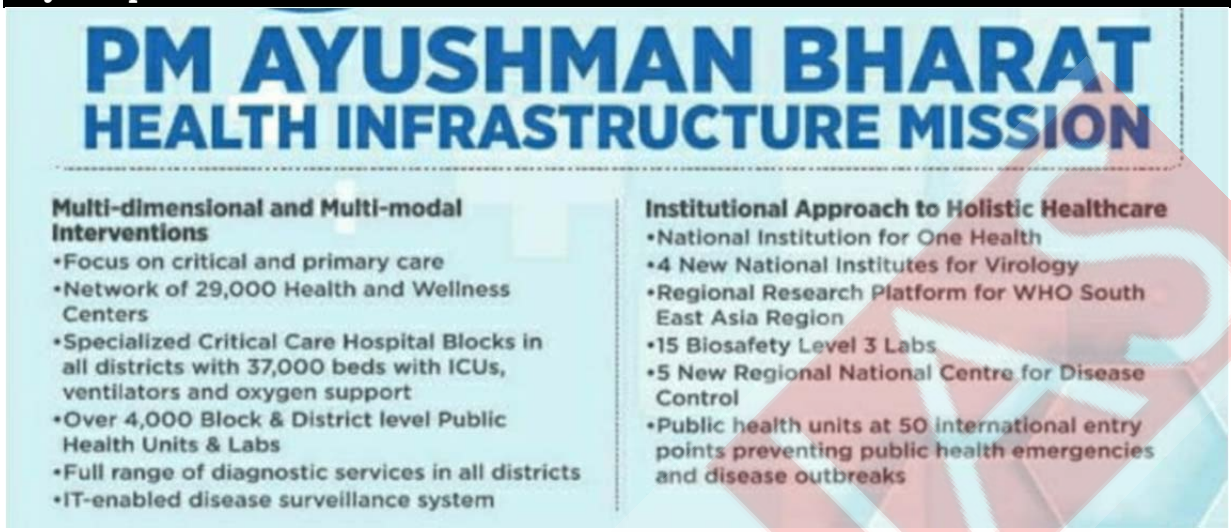


Source: PIB

Objectives of the PMASBY: The mission's objective is to "fill critical gaps in public health infrastructure, especially in critical care facilities and primary care, in both the urban and rural areas". The PM ABHIM also aims to establish an IT-enabled disease surveillance system through a network of surveillance laboratories at block, district, regional and national levels.

The scheme also aims to detect, investigate, prevent, and combat public health emergencies and disease outbreaks.

Key components of the Scheme



Source: PIB

The health infrastructure mission has three critical components. These are:

Comprehensive surveillance of infectious diseases: Under this, health and wellness centres will be opened in villages and cities, where there will be facilities for the early detection of diseases. Facilities such as free medical consultation, tests, and medicine will be available at these centres.

Comprehensive diagnostics and treatment facilities: This will involve the development of testing infrastructure. All 730 districts of the country will get integrated public health labs and 3,000 blocks will get public health units. Apart from that, five centres for disease control, 20 metropolitan units, and 15 BSL labs will strengthen this network.

Comprehensive pandemic research: The existing 80 viral diagnostic and research labs will be strengthened, four new National Institutes of Virology(NIVs) and a National Institute for **One Health** are being established.

Laboratory capacity under the National Centre for Disease Control, the Indian Council of Medical Research and national research institutions will be strengthened. Fifteen bio-safety level III labs will augment the capacity for infectious disease control and bio-security.

Read more: Country's first 'One Health' consortium launched by D/o Biotechnology, Post COVID 19

What are the other initiatives provided under the Health Infrastructure Mission?

Free diagnostics at district level: Under the PMASBY, 134 different types of tests will be done for free at the district level, which will not only save costs but also reduce unnecessary inconvenience for poor people.

Mobile hospitals: For the first time in Asia, **two container-based hospitals** with comprehensive medical facilities will be kept ready at all times under the PMASBY. One mobile unit will have 22 containers with 100 beds each.

These mobile hospitals will be stationed in **New Delhi** and **Chennai**. These hospitals can be swiftly mobilized by rail or air to respond to any calamity or disaster in the country.

Strengthening NCDC: The existing **National Centre for Disease Control** (NCDC), which has a mandate to cover disease outbreaks, would be strengthened under PMASBY by adding three new divisions.

These would be the climate change division, occupational health division, disaster management division. Five regional branches of NCDC — one each in the north, south, east, west and central regions — would be established. The overall epidemiological intelligence services would also be upgraded.

What are the other planned initiatives to improve Indian health care?

Saturation approach: The government is also working with a 'Saturation Approach' with the Block, District, State and National levels seamlessly connected for affordable and quality healthcare.

Increase in health and wellness centres: Almost 150,000 health and wellness centres offering a full range of services, including tele-consultation, will be set up both across rural and urban areas by 2022. Each such centre will cover five villages in rural India.

Read more: One billion Covid Vaccines and beyond – Explained, pointwise

What is the rationale behind the Health Infrastructure Mission?

Improve India's health infrastructure on multiple fronts: According to the 2020 Index report by **Oxfam India,** India's health budget is the fourth lowest in the world (expenditure on health as % of the total budget). Neighbouring countries Pakistan, Nepal and Bangladesh spent more on health than India (as % of the budget on health). According to the **World Health Organization (WHO)**, India ranks 184 out of 191 countries in health spending.

Hence, this scheme has been launched **to improve an entire ecosystem of services** from treatment to critical research.

Lack of Primary Healthcare (PHCs) Services: The existing public primary health care model in the country is limited in scope. Only services related to pregnancy care, limited childcare and certain services related to national health programmes are provided in most PHCs. So, the Health Infrastructure Mission was launched to strengthen the existing public primary health care infrastructure with a host of services.

Address the inability of the private sector: COVID-19 overburdened the country's health system and services. The early months of the outbreak were particularly burdensome for the States with weaker health systems.

The inability of the private sector to share the burden drove the point home that healthcare services cannot be left to independent forces. Further, massive hospital bills have caused untold distress even among the middle class.

Apart from that, there is also a large-scale misuse of medicine in the private sector during the pandemic. For instance, The **'Remdesivir panic'** was significantly linked with major overuse of this medicine by unregulated private hospitals, despite the drug lacking efficacy to reduce COVID-19 mortality.

So, the government introduced the health infrastructure mission to strengthen the public health sector.

Fulfilling the recommendation of the Finance Commission: The **Fifteenth Finance Commission** recommended strengthening of urban and rural primary care, stronger

surveillance systems and laboratory capacity as well as the creation of critical care capacity at different levels of the health system. The ABHIM aims to fulfil these recommendations.

What will be the expected benefits of the Health Infrastructure Mission?

Make India's health system future-ready: PM ABHIM aims to produce robust outcomes in Public Health, leapfrogging India to one of the most advanced countries in the world in terms of management of Public Health outbreaks.

Various initiatives under PMASBY such as the National Platform for One Health, regional NIVs, etc, will further strengthen India's capacity to detect & diagnose new infections at a faster pace. Points of entry will be strengthened to ring-fence India against the import of new infectious diseases and pathogens.

Make the Ayushman Bharat initiative as an umbrella initiative: The **Ayushman Bharat-Health & Wellness Centres** was launched in April 2018 followed by **Ayushman Bharat-PMJAY** in September 2018. The **Ayushman Bharat Digital Mission** was launched earlier this year.

The new scheme's focus on Health Infrastructure makes the Ayushman Bharat initiative as an umbrella initiative. Together they provide the following

– Provide affordable, quality and accessible healthcare to all people and reduce out-of-pocket expenditures.

– Provide universal access to basic diagnostic and treatment services, and will take healthcare closer to the communities in both rural and urban areas.

– Covering almost all the domains of health.

Read more: Ayushman Bharat Digital Health Mission – Explained, pointwise

Make India self-sufficient: Setting up of the national, regional, state, district and block level laboratories backed by a robust I.T. ecosystem will lead to self-reliance on detection, prevention and containment of disease outbreaks.

Ensure non-disruption of other services during events like the pandemic: Many non-COVID-19 patients were denied treatment during the pandemic, as hospitals were crowded. Critical care hospital blocks will enable care for those with serious infectious diseases without disrupting other services. In non-pandemic situations, this capacity will be utilised for providing critical care for other disease conditions.

Read more: Health Ministry Releases "National Policy for Rare Diseases 2021"

How can India improve the health infrastructure further?

Encourage participation of states: Like other centrally-sponsored schemes, the Centre will bear 60% of the cost, while the States will have to shell out the remaining. So, the Central government has to encourage States' active participation for the success of the scheme.

Increase health budget: Parliamentary Standing Committee recommended that for reaching National Health Policy targets, the Government must allocate ₹1.6-lakh crore for public health during the current year. This is double the amount of the present central health Budget.

So, the centre has to increase the public funding on health to at least 2.5% of GDP as envisaged in the **National Health Policy, 2017** to improve the health infrastructure and achieve national health policy targets.

Need more health professionals: According to government data, India has 1.4 beds per 1,000 people, 1 doctor per 1,445 people, and 1.7 nurses per 1,000 people. Over 30,000 MBBS seats

and 24,000 postgraduate seats in medicine have been added since 2014. But, the creation of infrastructure has to be matched with additional human resources, so the government has to improve the required manpower.

Check private malpractices: The Clinical Establishments (Registration and Regulation) Act (CEA) was passed in 2010 to provide for registration and regulation of all clinical establishments in the country. The Act is presently applicable to only 11 States across India. The central government is yet to take the necessary steps to promote the implementation of the CEA.

This resulted in large-scale misuse from private sector hospitals, for example, massive hospital bills during the pandemic. So, the government has to ensure proper implementation of the Act to check private sector malpractices.

In conclusion, initiatives like **Swachh Bharat Abhiyan**, **Fit India**, **Khelo India** and Yoga focussed on preventive health. Along with other Ayushman Bharat initiatives, the Health Infrastructure Mission (PMASBY) is another step towards comprehensive healthcare in India.

Terms to know:

- One Health Approach
- Clinical Establishments Act 2010
- National Health Policy 2017

India's race to secure Lithium – Opportunities and Challenges: Explained, pointwise

Introduction

First traces of Lithium in India were discovered in Karnataka's Mandya district recently. The preliminary find is relatively small: a mere 1,600 tonnes of lithium deposits. Chile, on the other hand, has an estimated reserves of 9.2 million tonnes.

If oil powered the world in the 20th century, Lithium could play the same role in the 21st century. Naturally, even a small find commands great importance.

Echoing a similar sentiment, the discovery is being attached importance at the highest levels of government. This also shows the amount of effort and investment that lithium is likely to garner in the years ahead.

Must Read: **Know all about Lithium**

Why Lithium is so significant for India?

Climate change mitigation: Technologies such as lithium-ion batteries are slated to play a key role in India's plan to reduce its carbon footprint by 33-35% from its 2005 levels by 2030, as part of its climate change mitigation commitments.

Energy Transition: At the heart of the transition from an internal combustion engine (ICE) vehicle to an electric vehicle is the battery, which accounts for at least 30% of the vehicle's cost. And the key to the battery pack is lithium, at least for many years to come.

Electric mobility: Government schemes like Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India or FAME (India) has given impetus to adoption of e-mobility vehicles. By 2030, nearly three-fourth of Indian two-wheelers and all new cars are expected to be EVs and a bulk of them will be powered by lithium-based (battery packs) in the near term.

Energy security: According to the **Central Electricity Authority**, the country will need 27 GW of grid-scale battery energy storage systems by 2030. However, this will require massive amounts of lithium.

What are the issues and challenges faced by India w.r.t Lithium?

Negligible lithium resource base In India: Chile, Australia, Argentina, Bolivia and China have almost all the lithium reserves which have been explored so far globally. Out of this, Chile and Australia produced close to 75% of the total lithium produced in 2018.

India's high import dependence: Almost all EVs in the country run on imported batteries, mostly from China. Between 2016 and 2019, the amount of foreign exchange spent on importing lithium batteries tripled, according to the Union science and technology ministry. Essentially, India finds itself staring at a new form of energy dependence.

Geo-political rivalry with China: The world's four biggest mining firms (Albemarle, SQM, Tianqi and FMC) currently control 77% of the global lithium market. This has set off a race between India and China. China is known to house large lithium reserves and has also secured many lithium mines across multiple countries in order to ensure steady sources of supply for both lithium and cobalt. Hence, India's quest for energy security could be easily derailed by a hostile neighbour.

Note: Argentina, Bolivia, and Chile—are sometimes referred to as the **lithium triangle**.

What steps have been taken by govt to secure Lithium?

i). India had recently unveiled its **strategy for developing a battery storage ecosystem**. It involves setting up at least 50-gigawatt hour manufacturing capacity for advanced chemistry cell batteries.

ii). ₹18,100-crore **Production-linked incentive (PLI) scheme to manufacture lithium-ion cells** within the country has been introduced. With the government's PLI scheme, demand for lithium is bound to increase and it opens new opportunities for domestic exploration.

iii). Government formed Khanij Bidesh India Ltd (KABIL)— a joint venture comprising National Aluminium Co. Ltd, Hindustan Copper Ltd and Mineral Exploration Co. Ltd. it is looking to acquire cobalt and lithium mines overseas. KABIL is also exploring the direct purchase of cobalt and lithium.

iv). The government is also trying to secure **government-to-government (G2G) deals.** For instance, a recent case in point is India's bilateral agreement with Argentina for securing strategic minerals. India and the US are also looking at setting up an alternative supply chain for lithium.

v). Lithium exploration: Apart from the discovery in Karnataka's Mandya district, the **Geological Survey of India** has taken up seven other lithium exploration projects in Arunachal Pradesh, Andhra Pradesh, Chhattisgarh, Jharkhand, Jammu and Kashmir and Rajasthan.

vi). Role of the private sector: Several automobile majors are planning to jointly develop a **manufacturing facility in Gujarat,** which could eventually morph into a global export hub for lithium-ion cells.

vii). India is working on the **world's largest grid-scale battery storage programme,** which includes a 13 gigawatt-hour (GWh) facility in **Ladakh** and a 14 GWh system in **Kutch**. Large battery storage that can store and reconvert electricity can help India's electricity grids as well, given the intermittent nature of power from clean energy sources such as solar and wind.

Are there any alternatives to Lithium?

Research and experiments are already underway to discover alternatives to lithium, based on materials that are more abundantly available.

Solid-state batteries are a promising option due to their high energy density and wide operating temperature. They are expected to become commercially viable within the next 5-10 years.

Other alternatives in the race are **aluminium–air batteries** (Al–air batteries) and **sodium-ion batteries.**

What is the way forward for India?

Concentrate on other advanced battery technologies: As China dominates the space of lithium-ion cell manufacturing, India has to take alternative steps to avoid a repeat of how things played out with solar equipment manufacturing. A section of experts and policymakers believe that one way to avoid a lithium conundrum and a possible Chinese trap is to concentrate on other advanced battery technologies.

– Aluminium-based battery technology: From a resource point of view, aluminium-based battery technology holds great promise. India has huge bauxite reserves, which gives it access

to aluminium at a cheap price. This technology, as and when it matures commercially, will insulate India from dependence on global import.

Early adoption of other battery technologies: Further, India should strive to be an early adopter of other battery technologies such as hydrogen fuel cells and solid-state batteries as well. Solid-state batteries are being explored using metals such as aluminium. India holds an upper hand with respect to the availability of different materials. Thus, the country may witness faster adoption of these alternate technologies as compared to lithium.

India should also try to intensify exploration within as well and exploit the opportunity to re-purpose and recycle used lithium-ion batteries.

One billion Covid Vaccines and beyond – Explained, pointwise

Introduction

India has administered more than one billion Covid vaccines since it started its Covid vaccination drive on January 16, 2021. This made India the second nation to achieve such a target, after China.

India celebrated this historic achievement with the launch of a film and song at capital Delhi's Red Fort by the Union Health Minister. The Archaeological Survey of India, under the Ministry of Culture, participated in the celebrations by illuminating 100 monuments, including the UNESCO world heritage sites, in tricolour.

Leaders from across the world, including Bhutan, Sri Lanka, the US, congratulated India and termed it a huge and extraordinary accomplishment. Given the late start to the vaccination programme and various hiccups related to procurement and delivery, this is a significant achievement. This progress is critical not just for India but for the whole world to end the borderless Pandemic.

About India's Covid Vaccination programme

India's Covid vaccine drive is the largest, and one of the fastest, ever. Estimates suggest that more than 75% of India's adult population has received the first dose and over 31% has received a second dose; more than 48% of whom are women.

According to the health ministry, the first 100 million doses were administered in 85 days, while the last 100 million doses were given in just 24 days.

The 100 crore vaccine is not an easy task, to get a sense of the scale, assume that each vaccination took just two minutes for a healthcare worker. At this rate, it took around 41 lakh man-days or approximately eleven thousand man-years of effort to reach this landmark.

What has led to this extraordinary achievement in Covid vaccination?

Strong political will from top to bottom: Ever since PM's vision to vaccinate all eligible Indian adults against Covid-19 by December 31, 2021, the state and district leaders have responded with urgency.

High-powered committees set up in 2020 charted road maps for vaccine R&D and manufacturing, and the phased delivery of vaccines across India's adult population, starting with those most at risk.

India's lesson from previous vaccination campaigns: India's **Universal Immunisation Programme** is one of the world's most extensive public health programmes. It vaccinates over 27 million newborns with essential primary doses and over 100 million children aged 1-5 years with booster doses every year. Also, over time, India has built **close to 27,000 cold chain facilities** to deliver health services in the remotest locations.

Further, India's **over 2.3 million ASHA and Anganwadi women** frontline workers were trained along with millions of doctors, nurses and auxiliary nurse midwives to ensure that Covid vaccines are delivered equitably, everywhere in the country. India has successfully leveraged its long-standing experience, knowledge and infrastructure to fight Covid-19.

Harnessed India's expertise in vaccine manufacturing: Before the pandemic, Indian vaccines had already saved millions of lives from infectious diseases like meningitis, pneumonia and diarrhoea. Many Indian manufacturers, including **Serum Institute (SII),**

Bharat Biotech, and BioE have helped make these safe and affordable vaccines available across India and to low- and middle-income countries (LMICs). Now, indigenously produced vaccines like Covishield and Covaxin, are not only saving Indian lives but also serving the global population through **Gavi's COVAX facility** and the **Vaccine Maitri initiatives**.

Read more: The Questions Surrounding COVID Vaccine Exports by India

India's IT prowess: India has used its IT prowess to digitally monitor the national vaccination effort. For example, **CoWin** – an open-source platform created in India – tracks vaccine appointments scheduling, provides verifiable digital vaccine certification and enables analysis of vaccine trends and breakthrough infections.

Awareness campaigns: Both Centre and State governments focussed on mobilising the population. They delivered messages through national and local influencers to address issues of hesitancy, engaged local governments and self-help groups to generate demand, used sophisticated digital strategies to address misinformation and disinformation, and conducted mass media campaigns and vaccine festivals or '**mahostavs**'.

Various state-specific initiatives: Various state governments used their individual innovation in covid vaccination. For instance, the **Maharashtra** government's **Teekakaran Maha Abhiyan** ensured that no one misses the corona vaccination campaign.

Tracking Adverse Events after vaccination: India had set up an expert panel last year to monitor **Adverse Events Following Immunisation (AEFI)** at the national level. Any clinical event or disease that occurs within 28 days of administering a dose of the vaccine is to be reported as AEFI. This reduced vaccine hesitancy.

What are the important points to consider from the Covid vaccination?

Made in India vaccines: Till today, only a handful of countries have developed their own vaccines. India is one of them. At present, four vaccines are manufactured in India — Bharat biotech's Covaxin, Serum Institute's Covishield, Cadila Zydus ZycovD vaccine and Russian-developed Sputnik V.

Also, in a few instances, people prefer foreign brands. But when it came to something as crucial as the COVID vaccine, the people of India unanimously trusted 'Made in India' vaccines. This is a significant paradigm shift.

Note: During the pandemic, the **PLI scheme** ensured self-sufficiency in the manufacture of PPE kits and N-95 masks within a year.

Participatory governance: India's vaccine drive is an example of what India can achieve if the citizens and the Government come together with a common goal in the spirit of **Jan Bhagidari** (people's active participation).

Development of Science and Technology: Major investments were made in high-risk projects, a collaboration between academia and industry was proactively encouraged and infrastructure to support vaccine development was bolstered.

Another outstanding achievement has been the development and manufacturing of the first-ever DNA-based Covid-19 vaccine by the Indian pharma company Zydus Cadila.

Read more: Zydus Cadila begins human trials of its potential Covid-19 vaccine ZyCoV-D

Equitable distribution of Vaccines: Uttar Pradesh, Maharashtra, West Bengal, Gujarat and Madhya Pradesh led in terms of the number of vaccine doses administered so far. But overall the rural-urban divide in covid vaccine distribution is limited due to centralised procurement.

Further, India did not follow any preferential treatment of citizens while delivering vaccines. The CoWIN platform ensured that the vaccine drive was equitable, scalable, trackable, and transparent.

What challenges will India face in further Covid vaccination?

Shortage of vaccines: Indian government earlier set a target to vaccinate all eligible Indian adults by the end of the year. For fully vaccinating all adults, India requires another 90 crore doses. If one includes children over 2, then India will need around 80 crore more doses. So, India needs a total of 170 crore doses for fully vaccinating the population above 2 years of age.

Even though India administered 1 billion doses in just 279 days, the vaccine manufacturing capacity is not enough to vaccinate to meet the government targets. For instance, the SII capacity to produce 220 million doses of vaccine per month is not enough to meet the target.

Mutation of virus and vaccine efficiency: Covid virus is mutating ever since the beginning (**Delta**, **Mu**, Beta, Kappa, etc. are the various variants associated with the virus). At present, there is a global concern on the **Delta+ variant**, the further evolution of which could combine speedy transmission with Beta variant's ability to dodge vaccines. Covid cases are again rising in the UK and Singapore despite having fully vaccinated 67% and 80% of the population respectively.

Multiple studies have suggested that vaccine-induced immunity tends to wane over a period of six to nine months. This is significant for India as the under-18 population remains non-vaccinated and also there is no certainty of booster doses in India like Israel. Immunocompromised and older people above the age of 60 may become more susceptible to infection and severe disease.

Read more: Three doses not two: Israel sets new benchmark for full vaccination. It is on India's horizon as well

Endemicity of Covid: Recently, the **World Health Organization(WHO)** Chief Scientist has said that **India** seems to be entering some stage of Covid-19 endemicity, where there is low- to moderate-level transmission. Even if 100% vaccination is achieved, endemicity will cause symptomatic infections within India.

Challenges associated with Covaxin: Although 90% of the Covid vaccines administered are Covishield, Bharat Biotech's Covaxin is the dominant vaccine in many parts of the country. Further, an expert panel has allowed the use of **Covaxin to the 2-18 age group**.

But the Scientists are concerned that Covaxin's full phase III trial data has not been shared. Also, the vaccine is **yet to receive approvals from the WHO**. This raises questions regarding the administration of Covaxin to adults and children.

Read more: Universal vaccination in India : Challenges and way forward – Explained, Pointwise

What can be done to improve Covid vaccination?

Expand immunisation campaign: With more vaccines like **ZyCov-D**, **Corbevax** and **Covovax** in the pipeline, India's campaign to immunize everyone needs to expand and gain further pace. The government also has to provide booster shots if the real-world data reveals waning protection over time. For instance, recently, WHO has advocated a booster dose for two Chinese vaccines due to their waning efficiency. If such proofs are available, then India also has to move ahead and start providing booster doses.

Read more: DCGI approves clinical trials of Biological E. Covid-19 vaccine CORBEVAX

Fast pacing the recognition of Covaxin: The government has to fasten the pace of the phase III trials of Covaxin and recognition of same by WHO. This will help not only to improve the covid vaccination drive but also help Indian nationals to move to another country with a recognised vaccine certificate.

Hold-on vaccine for children till proving efficacy and safety: Instead of rushing vaccination drive to children, India has to fully vaccinate its adult population first. Within that time, India has to observe the safety and efficacy of covid vaccines on children from global studies.

More Intellectual Property collaborations: Technology transfer from AstraZeneca-Oxford University, helped India to achieve this remarkable feat. So, India has to work on more such IP transfers, global pharma collaborations and intergovernmental cooperation on raw material sourcing to improve India's pharma industry.

Read more: Intellectual Property Rights(IPR) and Universal Vaccination – Explained, Pointwise

Fulfil International Commitments: India's Covid vaccination is guided by the principle of **"Vasudhaiva Kutumbakam"** (the world is one family). So, India has to fulfil its supply obligations to the rest of the world, for both humanitarian and strategic reasons.

In conclusion, there may be reasons to celebrate the achievement of administering 100 crore vaccines, but the current pace of vaccination should be enhanced. All stakeholders should come together to achieve the vaccination goals sooner than later. Until then, social distancing must continue and masks too should not come off.

Proposed Changes to Forest Conservation Act 1980 – Explained, pointwise

Introduction

The Ministry of Environment, Forests and Climate Change (MoEFCC) recently published the proposed amendments to the Forest Conservation Act, 1980.

As per the proposed changes, it would become easier to divert forest land and certain categories of development projects would be exempted from getting clearance from the Ministry.

The Environment Ministry has sent a copy of the proposed amendments to all the States on October 2, seeking their objections and suggestions within 15 days. A draft proposal will be drawn and placed before the Parliament once these suggestions have been taken into consideration.

What is the rationale behind the proposed amendments?

One major reason for changes in the Act is a 1996 Supreme Court judgement in ***TN Godavarman Thirumulpad versus Union of India and Others***. In this judgment, the apex court expanded the definition of forests and said that all the areas that conformed to the dictionary meaning of 'forest' or recorded as "forest" in any government record, were to be considered as forests. Earlier, forests were defined as notified in the Indian Forest Act, 1927.

SC's judgment led to frequent problems, as considering any private area as forest **restricts the right of an individual to use his/her own land for any non-forestry activity.**

– This is particularly problematic in the case of railways and roads. There is land that these ministries own, but they cannot use it without permission from the MoEFCC. And these permissions can take anywhere between 2-4 years, thus **causing delays**. Moreover, several parcels of land acquired by these departments long before 1980 were left unattended and became plantation areas. This land fell under protected forests and these departments had to **re-apply for several approvals and also pay compensation for forestation**.

Strategically vital projects in border areas and elsewhere, too, had to go through the **time-consuming process** of getting necessary clearances. Hence, the amendment seeks to remove this provision.

– Also, the amendment would **reduce the flow from foreign exchange** for the import of wood and wood derivatives to the tune of approximately Rs 45,000 crore by encouraging plantations and afforestation.

– Furthermore, promoting tree plantations on private lands and agricultural farms has, indeed, become imperative now due to the lack of government or community lands for raising new forests. Private participation is vital to meet the targets of covering 33% of the land with forests and creating a carbon sink to lock in 2.5-3 billion tonnes of carbon dioxide, as stipulated under the Paris Agreement on climate change.

Must Read: Acts pertaining to Forests in India

What is the Forest Conservation Act,1980?

The FCA was passed in October 1980 and has been applicable since then for the conservation of forests. The Act **gave powers to the Central government** to approve the use of any forest land for non-forest activities such as infrastructure creation. The Centre's approval was also needed to de-reserve the reserved forests. The Act mandated a committee to be formed for giving such approvals.

This law has been instrumental in reducing deforestation, as it requires approval from the central government when forests have to be diverted for non-forestry purposes. From 1951 to 1976, about 1.6 lakh hectares of forest area was being diverted every year. The figure came down to 32,000 hectares annually between 1980 and 2011 due to the implementation of the FCA

What are the amendments that have been proposed?

Following changes have been proposed to the FCA:

i). All land acquired by the Railways and Roads Ministries prior to 1980 to be exempted from the Act. These lands had been acquired for expansion, but subsequently, forests have grown in these areas, and the government is no longer able to use the land for expansion.

If the amendment is brought in, these Ministries will no longer need clearance for their projects, nor pay compensatory levies.

ii). Allowing the construction of structure for individuals: For individuals whose lands fall within a state-specific Private Forests Act or come within the dictionary meaning of forest as specified in the 1996 Supreme Court order, the government has proposed to allow construction of structures for bonafide purposes, including residential units up to 250 sq m as a one-time relaxation.

iii). Exemption to defence structures: Defence projects near international borders will be exempted from forest clearance.

iv). Oil and natural gas extraction from forested lands will be permitted, but only if technologies such as Extended Reach Drilling are used.

v). Doing away with levies for non-forestry purposes during the renewal of a lease.

vi). Protected forest and plantations along linear projects like highways and railways that currently require prior central government permission can be used by NHAI or the ministry of railways **without forest clearance**.

vii). Through the amendments, the Central government will have **powers to initiate criminal proceedings against violations**. This includes even the state governments, which the Centre can penalize.

What are the issues/concerns associated with the proposed amendments?

i). Changes proposed in the current definition of forests. Changes aim to implicitly define what does not constitute forests by creating a set of exceptions to the Act. These exceptions include forests in border areas where strategic projects need to be built, private land where plantations are to be established, and forest land which was acquired before 1980 for the construction of railways and highways. Currently, the definition of Forest includes land recognised as forest by the government as well as that which comes under the dictionary meaning of forest land based on the Supreme Court decision in **the T N Godavarman case**.

ii). More emphasis is on creating an enabling regulatory environment for setting up plantations. These plantations will not attract the provisions of the FCA. But, changes do not define what the nature of these plantations should be and where they can take place.

iii). Exploring and extracting oil and natural gas from beneath the forest lands is proposed to be allowed by drilling holes from outside the forest areas without harming the underground water aquifers. This provision, however, may turn controversial as experts still differ on the efficacy of this technology.

iv). Corporate ownership: The relaxation of forest rules will facilitate corporate ownership and the disappearance of large tracts of forests.

v). Impact on the powers of Gram Sabha: An integral part of the forest clearance process is the requirement of **consent of the Gram Sabha**. The creation of exceptions to the requirement of forest clearances directly results in the cancellation of the application of this progressive legal provision.

vi). Several environment experts and organisations pointed out that the amendments do not seek to get comments from the ones who'd be most affected – the **forest dwellers and remote area citizenry.**

vii). Negative impacts on wildlife: Exemption for Roads and Railways on forest land acquired prior to 1980 will be detrimental to forests as well as wildlife

viii). Fragmentation of forests: One time exemption for private residences on private forest will lead to fragmentation of forests, and open areas such as the Aravali mountains to real estate.

ix). The draft also fails to lay due emphasis on promoting agro-forestry, which has a huge potential to expand green cover in rural areas, apart from generating additional income for the farmers.

x). Against federal structure: The most prominent issue in the amendments is the overarching powers of the Centre, under which it can penalise the state governments too. Several states design their own forests rules, at times in violation of the Central Act, other times to preserve their forest areas. In both the cases however, Centre can penalise states, which experts said is against the federal structure.

What is the way forward?

India's forest and tree cover at present is less than 25%, as against the recommended 33% of the geographical area. To begin with, a scientific audit of the forest cover is needed.

The changes being proposed to the FCA need to be done in consultation with forest-dwelling communities whose livelihoods and rights are likely to be affected by the remaking of this law.

In conclusion, the de-regulatory approach to changes being made to India's environmental laws needs to be scrutinised.

Limiting deforestation should guide regulatory decision-making, not compensating with plantations.

Energy access and its importance – Explained, pointwise

Introduction

Energy is vital in raising standards of living and enhancing development. It is critical in building and saving lives — in situations of intense heat, for instance, access to air cooling systems is imperative. Energy access is also necessary to improve worker productivity. According to the **World Bank** estimates, 759 million people live without access to basic electricity and live with energy poverty. The majority of them are in low and middle-income countries.

On the other hand, the rich countries enjoy relative energy affluence in energy usage. This highlights the energy crisis the world faces today and the need for reducing energy poverty.

What is energy equity and energy poverty?

Energy inequality translates to lower living standards, which hurts the poor deeply. There are two dimensions to this.

The **first** is inequality within energy systems, manifest in underprivileged people who don't have access to energy like electricity.

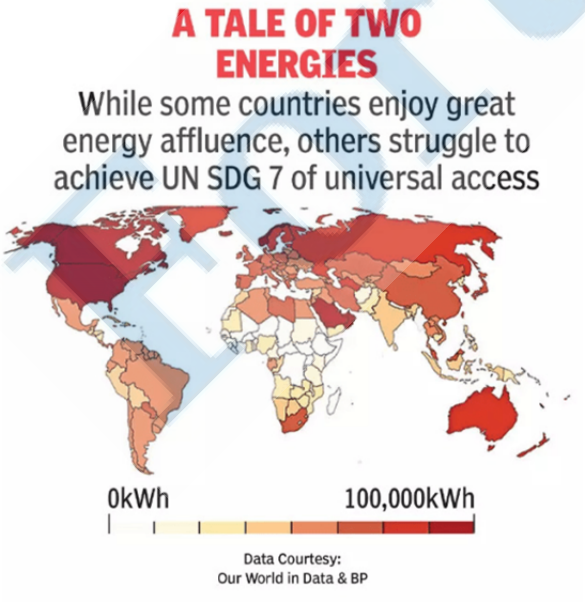
The **second**, at a worldwide level, there is global energy inequality, with wealthier countries consuming more energy, per capita and in absolute terms, compared to poorer countries.

For instance, The **per capita electricity consumption** in **Canada** is 17179 kWh and in the **US** it is 13338 kWh. But the per capita electricity consumption in **Somalia** is just 20 kWh and in **Chad,** it is just 13 kWh.

Note: In 2018-19, **India's** per capita electricity consumption was at **1181 kWh**.

If a section of people has a lack of access to sustainable modern energy services and products, then the **World Economic Forum** terms the condition as **energy poverty**.

What is the present status of energy access?



Source: TOI

Millions of people globally struggle with energy poverty. UNCTAD finds over half the people in the world's least developed countries (LDCs) have no access to electricity.
Surveys show a significant amount of rural population, living without access to electricity in 2019. Almost 3 billion people globally still depend on unclean energy like wood, coal, and charcoal for cooking and heating.

What is the link between energy access and the poverty cycle?

Energy access is key to poverty alleviation. Energy inequity traps poor people in a cycle of poverty. Inequality in energy access undermines economic activity and efforts to raise people out of poverty.
There are situations where poor people spend more of their incomes on energy than affluent families — at times, the poor spend more per unit of energy than wealthier people. For example,
– energy delivered through a grid is less expensive than using batteries to power appliances.
– Poor people also often have older vehicles that are less fuel-efficient. So, they use more fuel to travel the same distance as others.
Thus, the poor people spend more on energy and can't save or invest in other important areas.
Moreover, energy inequality spins out cycles of poverty — the UN finds worldwide, women pay the heaviest price for energy poverty. For example, Girls in households depending on unclean fuels lose up to 30 hours each week gathering wood or water — this impacts their education and livelihoods.
This is why access to affordable, inclusive, and clean energy is the **UN's Sustainable Development Goal (SDG) 7**.

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

How does energy access improve standards of life?

Energy is the keystone humans need to achieve their potential through education and economic productivity. Steady energy availability shores up essential social services, including life-saving healthcare. Energy access makes people demand the right to electricity. The electricity connection is the first step that leads to the use of appliances and services associated with electricity like TVs, electric cookers, refrigerators, mobile phones, etc.
State regulations powerfully shape energy access. There are regulations in many countries which stipulate one needs to be a house owner to have an electricity connection. Now, in many such countries, people tend to own houses.

How does the pandemic highlight the importance of energy access?

The **World Bank** finds that the Covid-19 pandemic's harsh impacts have made basic electricity unaffordable for 30 million more people worldwide.
The pandemic has also had an impact on poor sections of people living in developed countries. For example, even in the US, poorer communities suffered more because of working conditions that exposed them to the virus. The poor couldn't stay at home, working on their computers remotely. Lacking energy access, they had to go out to earn their livelihoods.
In many countries, the poor received inadequate healthcare, due to lack of quality energy and associated power outages, etc.

Read more: Offshore wind energy in India – Explained, pointwise

What are the challenges India faces in ensuring energy equity?

India had robust economic growth over the last 15 years. In the future, India is likely to join the US, China, Germany, and Japan as the top five economies of the world. India is also projected to have the largest energy demand globally. But India faces the following challenges.

Vulnerability of poor and marginalised sections: According to many studies, the poor in India are particularly vulnerable in terms of energy poverty compared to the poor in more affluent societies.

Heavy dependence on fossil fuels: Coal, oil, and natural gas are the most important primary energy sources in India. But due to inadequate domestic supplies, India is importing them, which will limit India's ability to provide energy access.

Read more: Coal crisis in India – Explained, pointwise

Problems faced by the power sector: Indian power sector faces various challenges. Such as Transmission & Distribution losses, **weak financial health of Discoms**, aging power plants, and transmission networks, Interstate Disputes in power exchange, etc. All this requires rapid attention.

Read more:Problems faced by power sector in India

What can India do to provide energy access?

Focus on basic energy access: The government has to find the energy gap and keep the focus on efforts to solve it. For that, India needs to prioritize basic energy access, from electricity to cooking technologies, etc., for the extremely poor. Alongside, developing countries need to broaden energy access for businesses and the middle class.

Better planning: In 2018, India reported around 35.2% of its population of 1.38 billion people live in slums. India will see a massive urban housing construction in the next ten years at a scale no other country has seen.

India has to plan the projects with adequate natural ventilation or sunlight access. Else it will lead to a host of issues. Such as an increased purchase of highly energy-intensive cooling devices, the rise of urban heat islands, microclimatic conditions, etc.

Focus on Marginalised sections: India made a concerted effort to provide hundreds of millions of people access to electricity through schemes such as **PM Saubhagya Scheme**. Now, it's important to engage the energy marginalised and understand their needs.

Focus on energy-related meetings: To avoid gender bias in appliance selection, India can create energy centers and conduct energy-related meetings at local levels. This will create a focus on women's energy needs and empower women. Thus, improving equity in society.

Make energy production climate-resilient: One of the world's greatest challenges is to reduce energy poverty while supporting economic growth. On the other hand, India has the largest projected energy demand globally. So, India must plan to transition as rapidly as possible while securing its ability to generate electricity in the near future.

Read more: Green Energy Initiatives in Budget 2021- Explained

Contribution from Developed Countries: At COP26, the world's richest countries should step up financing to help developing nations' transition, to a lower-carbon economy, while meeting their development needs. This will act as a major boost to Equitable energy access.

In conclusion, energy equity is paramount to the right type of energy transition. The world doesn't want to be powered by renewables, while energy poverty still impacts poor people harshly. So, the energy transition should not only focus on emissions and technologies but also should focus on simultaneously providing energy access to all while achieving the emission targets.

Quadrilateral economic forum and India – Explained, pointwise

Introduction

Recently, the first meeting of the foreign ministers of the US, India, Israel, and the United Arab Emirates (UAE) took place virtually. After the meeting, India, Israel, the United Arab Emirates and the United States have decided to launch a new quadrilateral economic forum.

The four countries agreed that they have a "unique set of capabilities, knowledge, and experience" that can be used to create a new network of cooperation. But the quadrilateral economic forum has certain challenges which India need to take care of.

About the new quadrilateral economic forum

The quadrilateral economic forum builds on the ongoing cooperation between the U.S., Israel and the UAE (Abraham Accords) to include India. The forum is described as an international forum for economic cooperation.

Aim: The aim of the new quadrilateral grouping is to establish an **international forum for economic cooperation**. The grouping will specifically look for the "possibilities for joint infrastructure projects" in transportation and technology.

Focus areas: The new quadrilateral grouping will "expand the economic and political cooperation in the Middle East and Asia, including through trade, combating climate change, technology cooperation including Big Data, energy cooperation, and increasing maritime security."

The Quad will also focus on global public health and ways to counter the COVID-19 pandemic.

Future of the new Quad: Each country will appoint a senior professional to a joint working group. This joint working group will formulate options for cooperation in the focus areas identified by the new Quad.

Apart from that, the four ministers also decided to convene an in-person meeting in Dubai soon to discuss the further developments of the Quad.

Read more: Geo-Economics Of Two Quads

What does the new quadrilateral economic forum mean for India?

Enhances India's West Asia policy: One of the gains of India's foreign policy has been non-ideological engagement with the Middle-East. In the past, there were three pillars to India's West Asia policy — the Sunni Gulf monarchies, Israel and Iran. Now that the gulf between the Sunni kingdoms and Israel is being narrowed, especially after the Abraham Accords.

With the normalisation agreements signed between Israel and the UAE and Bahrain under the tutelage of US, India now faces fewer challenges in West Asia. The new Quad will further aid India's West Asia policy.

Improve India's ties with Quad countries: Over the years, India has built vibrant bilateral ties with all the countries in the grouping. For instance,

-Israel is one of India's top defence suppliers.

-The UAE is vital for India's energy security and also hosts millions of Indian workers. Further, the UAE also showed interest to mediate between **India and Pakistan**.

Economic benefits: The **International Federation of Indo-Israel Chambers of Commerce** (IFIIC) has predicted that the potential for agreements backed by **Israeli innovation**, **UAE funding and Indian manufacturing** could cross $100 billion by 2030. With

the New Quad India's economic opportunity with countries in West Asia can be expanded drastically.

Future minilateral partnerships in the region: The new Quad platform will help India to pursue wide-ranging minilateral partnerships in the region. With major powers like France, Russia, China getting drawn to this region, the alliance will help India to shape its position in changing the geopolitics of this region.

Read more: India and the new Quad in West Asia

What are the benefits for India being a member of both Quads?

India is already a member of the **Quadrilateral Security Dialogue (QSD)** with the U.S., Australia and Japan, which have common concerns and shared interests in East Asia. The new Quadrilateral Economic Forum will have a specific focus on West Asia. These East and West Asian groupings can multiply India's position significantly in the following ways.

Ensure regional peace and security: As Prime Minister Manmohan Singh would often say, the principal objectives of our foreign policy should be to ensure regional peace and security and "create a global environment conducive to India's economic development." Both the East Quad and the West Quad seek to address these precise objectives.

Reinforce maritime economic and security: After 1991, India has re-established its maritime links with the Indian Ocean and the Indo-Pacific regions. Almost all the Indian trade is now happening through the waters around the peninsula. This has recreated ancient maritime links, from **Vietnam** in the East to **Egypt** in the West, and has raised the profile of maritime security.

While **both Quads** reinforce these maritime economic and security interests across the **Indian and Pacific Ocean** regions, India has been prevented from rejuvenating its land links with Eurasia by the China-Pakistan axis.

Assert India's centrality in Asia: With a member of both the Quad's India now became central to the US and its allies' relationship in Asia. Further, this also expands India's trade possibilities via land and sea.

Read more: Quad Leaders' Summit – Explained, pointwise

What are the challenges associated with the new quadrilateral economic forum?

Non-alignment: Joining both the Quad might affect India's traditional non-alignment policy in West Asia and East Asia as this will be seen as India's open support to capitalist countries.

The dominance of the US: There are many occasions when the US followed its own interests in the international arena. Being a member of both the Quad, the US may prefer the focus to be more on defence and military capability. Further, India might not be able to actively follow its national interests if both the Quad member countries oppose India's decision.

Focus only on economic issues: The new Quad group will help to focus on non-military issues like trade, energy, and environment and on promoting public goods. But West Asia is the prominent region with extremism and terrorism. So, India's renewed terror challenge from Pakistan's proxies and with the rise of the Taliban will remain and the new Quad members from West Asia might not take actions against Terrorism.

Read more: Implications of the rise of Taliban for India – Explained, pointwise

What India should do?

Maintain Strategic autonomy: India should not compromise its strategic interests. The U.S. is seeking to lessen its footprint in West Asia as part of its pivot to East Asia to tackle China's rise. This resulted in redrawing of West Asia's traditional equations and regional rivalries. So, India should be careful not to get sucked into the conflicts of West Asia.

Retain a healthy relationship with Iran: India has to retain a healthy relationship with Iran even as it seeks to build a stronger regional partnership with the U.S.-Israel-UAE bloc.

This is significant as India will have to work closely with countries such as Iran to deal with the challenges emanating from Afghanistan in future.

Improve relations with non-Quad countries: India should reassure non-Quad countries in Southeast and West Asia, that they remain important partners. India has to stay the course with its policy of multi alignment and multi-engagement in an increasingly multipolar world.

Read more: The Abrahan Accord as India's West Asia bridge

In conclusion, right from the NAM (Non-Aligned Movement) days, West Asia has been the focus of India's foreign policy and will remain so in the near future. So, India needs a careful balancing act in West Asia to secure its long-term strategic interests.

Terms to know:

- Abrahamic accord

SC Judgment on Pegasus spyware case – Explained, pointwise

Introduction

The Supreme Court (SC) has appointed an independent expert technical committee to examine allegations that the government used an Israeli spyware, Pegasus, to snoop on its own citizens. Committee will be overseen by a former apex court judge, Justice R.V. Raveendran.

Noting that the snooping allegations are grave and truth should be out, the Bench led by Chief Justice of India N.V. Ramana asked the committee to submit its report expeditiously. The next hearing will be after eight weeks.

The court has also asked the Raveendran committee to **make recommendations on a legal and policy framework to protect citizens against surveillance** and **enhance the cyber security** of the country.

The order came on the basis of petitions filed from several quarters, including veteran journalists, the Editors Guild and individuals who were the victims of the alleged snooping.

Must Read: **Pegasus spyware issue – Explained, pointwise**

What is the rationale behind this move by SC?

SC order has cited several reasons which compelled the court to form a committee. These include

– Reports that the snooping exercise had widely impacted the **rights to privacy** and **freedom of speech** of ordinary citizens.

– No clear stand was taken by the Union of India regarding actions taken by it.

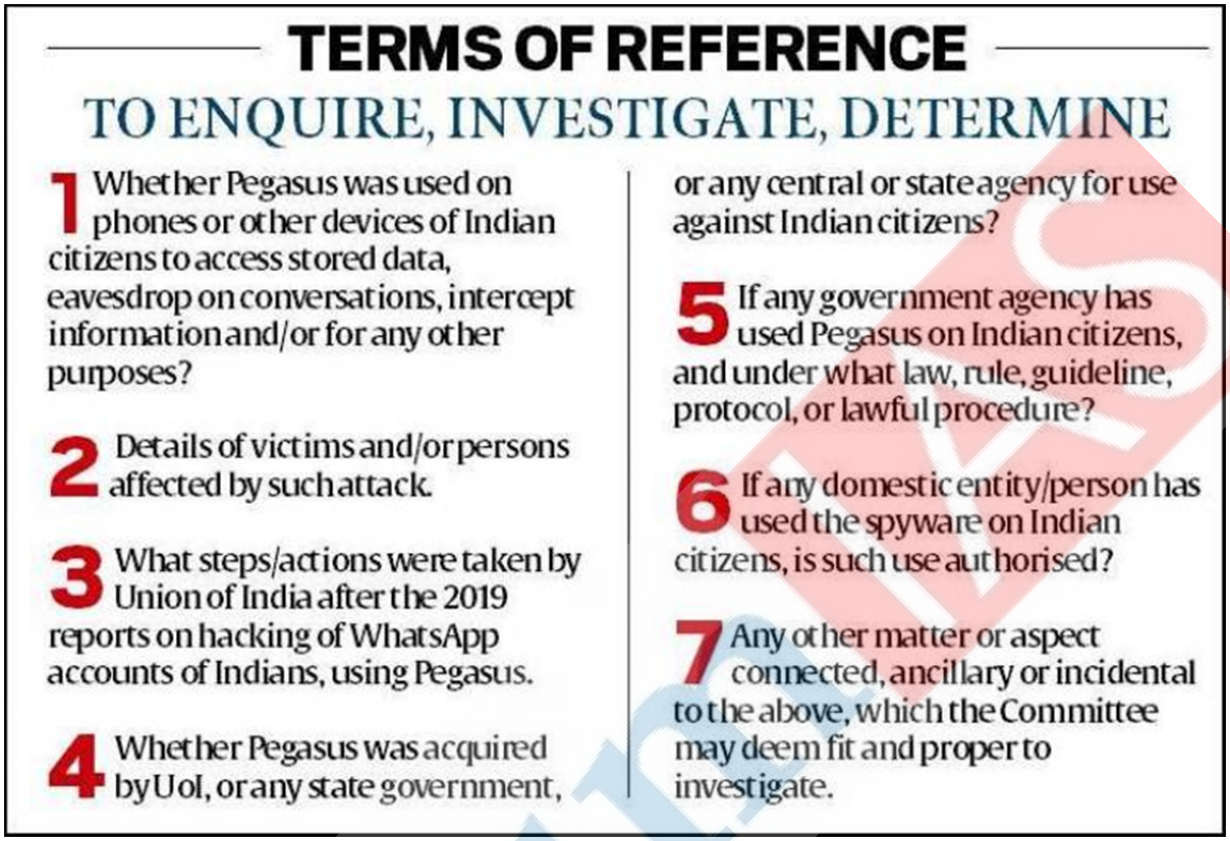
– Seriousness accorded to the allegations by foreign countries and involvement of foreign parties.

– Possibility that some foreign authority, agency or private entity is involved in placing citizens of this country under surveillance.

– Allegations that the Union or State Governments are parties to the rights' deprivations of the citizens.

As per SC, surveillance, or even the knowledge that one could be spied upon, affects the way individuals exercise their rights. Therefore, it could not ignore allegations that Pegasus affected the **individual rights of the citizenry** as a whole.

It also expressed particular concern about the **protection of journalistic freedom**. The Court has approached the issue as one that raises an "**Orwellian concern**", recognising that intrusive surveillance not only violates the right to privacy but also has a chilling effect on the freedom of the press.



Terms of reference of the committee

What are SC's views on considerations of national security?

As per SC, the government may decline to provide information when constitutional considerations exist, such as those pertaining to national security. The state can violate a person's privacy if it is **absolutely necessary** to protect national security and interests.

But, this does not mean that the State gets a free pass every time.

The **claim has to be backed by evidence** to prove that the disclosure of the information sought by the court would affect national security concerns.

The court accepted that **judicial review in national security matters** was limited. However, it does not licence the Government to call for an "omnibus prohibition" against judicial review.

What are SC's views on surveillance vis-a-vis privacy of an individual?

The court has stated that spying on an individual, whether by the state or by an outside agency, amounts to an infraction of privacy. Surveillance is not illegal. But, any limitation on a fundamental right must be proportional and based on evidence

Court has thus effectively recognized that an act of surveillance must be tested on four grounds:

– first, the action must be supported by legislation

– second, the state must show the Court that the restriction made is aimed at a legitimate governmental end

– third, the state must demonstrate that there are no less intrusive means available to it to achieve the same objective
– fourth, the state must establish that there is a rational nexus between the limitation imposed and the aims underlying the measure.

What is the significance of the SC's order?

The order of the court constituting the committee attains significance for the following reasons:
i). Court's continuing insistence on transparency and disclosure by the Union government. When the batch of petitions came for active hearing before the Supreme Court of India in August, the Union government first sought time to study them, and thereafter refused to provide any meaningful response. Therefore, the court accurately assessed the need for disclosures by the Union government on Pegasus, beyond denials.
ii). Supreme Court's firm approach towards the national security submissions by the Union government. Herein the court stated that it would not push the Govt to provide any information that would impact national security and mere invocation of national security by the State does not render the Court a mute spectator.
iii). Rejecting the suggestion by the Solicitor-General to constitute a government committee of experts. Here, the court correctly notes that even though the Pegasus revelations were first made on November 1, 2019, there has been little movement on any official inquiry. It also records the genuine apprehension of the petitioners, many of whom are victims of Pegasus.
iv). The constitution of this committee also marks an important step towards accountability for the victims and the larger public on the use of Pegasus.

What are the challenges before the expert committee?

i). One of the challenges that the panel will face immediately is **establishing its legitimacy** so that victims impacted by the Pegasus Spyware attack come to it. It's important that the committee establish trust so that all victims are willing to come forward to it, are willing to provide the technical data, and perhaps even willing to hand over their devices to them for analysis.
ii). There are concerns about the **independence of the committee** too. It's very important that the committee at the initial phase declares its clear independence from the government that it takes the issue seriously. The conduct and statements of the members both in public and during the investigation will matter a lot.
iii). The committee will need answers from serving officials in the police, security agencies and intelligence. They will encounter **pushback and resistance in answering questions**.
iv). Ultimately, the other problem, of course, is the **government choosing not to cooperate in the investigation**. It would be a political decision whether or not to participate in the investigation.

What is the way forward?

Swift investigation: Although the committee has been formed, its conduct in investigating the allegations must go further. The investigation must be swift, and its finding must be made public.

Need for more safeguards: The expert committee must also propose more vigorous safeguards to improve existing laws and procedures for surveillance. The **Telegraph Act** on phone wiretaps and **Information Technology Act** on interception of electronic devices suffer from the infirmity of civil bureaucracy signing off on each other's requests.

– Judicial oversight would enable a measure of independent checks and balances.

The investigation won't move forward without the cooperation of the parties involved. In such a scenario, the SC must not hesitate in **using the special powers** guaranteed under the Constitution to compel the government to cooperate with the investigation.

Conclusion

As malware turns ever more advanced, the kind of intervention SC did is just what India needs to build a system that offers meaningful protection of the right to privacy without compromising on national security.

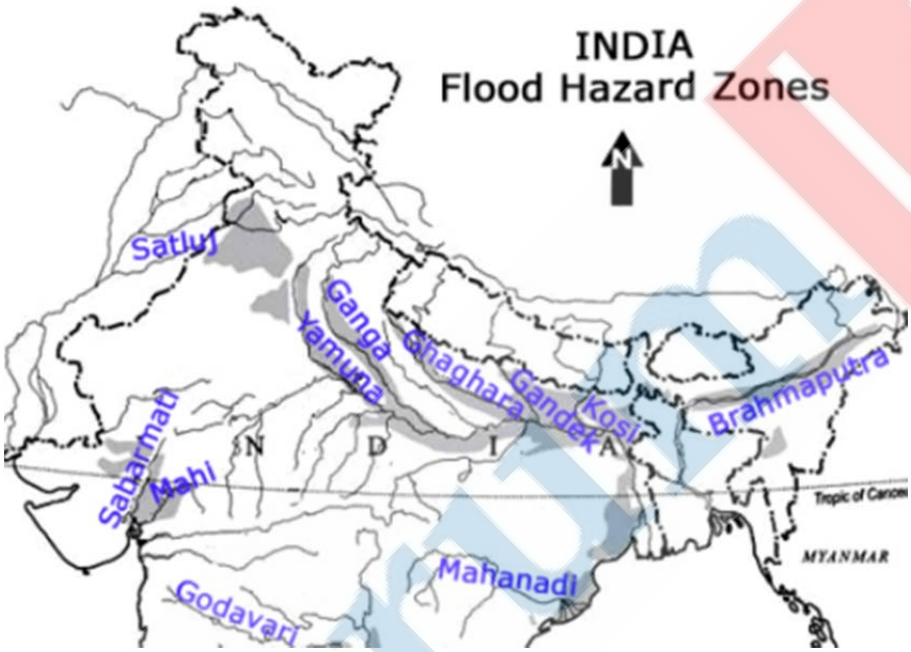
The Court-supervised panel's success in unravelling the truth may depend on how much information it can extract from the Government and its surveillance agencies.

[Yojana October Summary] The Himalayan Floods – Explained, pointwise

Introduction

Rivers originating in the Himalayas are the lifeline for one-fifth of the global population. The two syntaxes of this mountain are drained by **the rivers Indus** (west) and **the Brahmaputra** (east). **The Ganga** river system largely drains the central part of the Himalayas. Floods in the Himalayas are part of natural processes and are inevitable. However large floods, like those in Leh (2010), Kedarnath (2013) and Rishiganga (2021), are becoming more frequent.

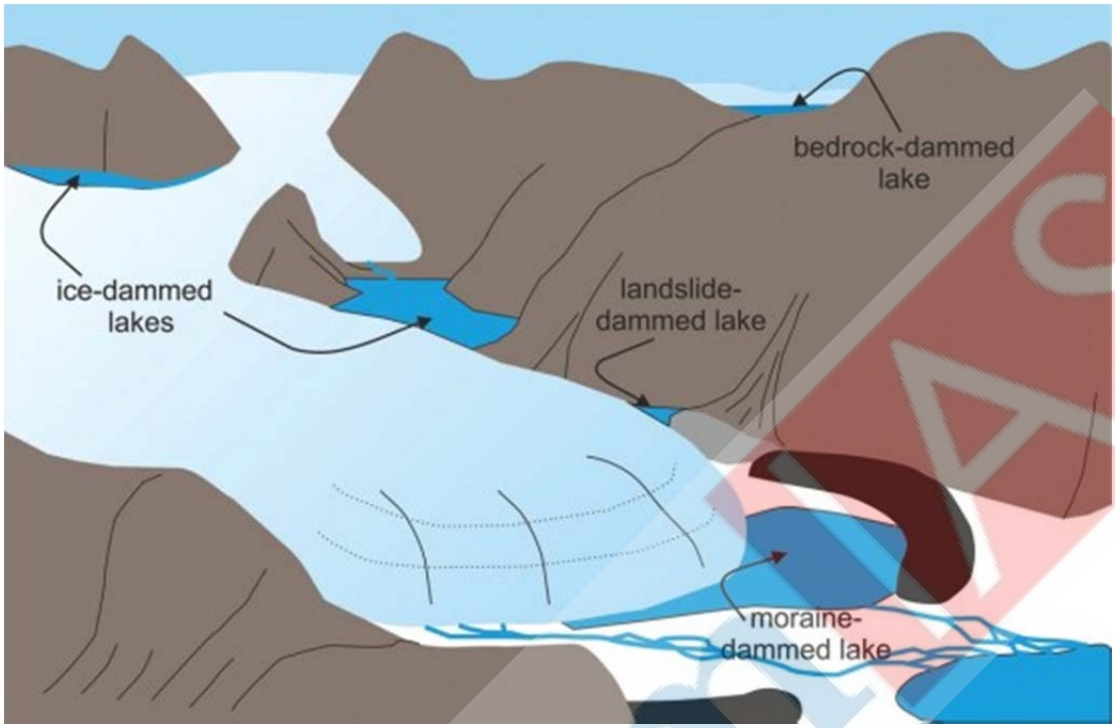
What are the reasons for an increase in the Himalayan floods?



Increase in population: During the past fifty years (1961 -2011), the number of people living in the Himalayan region has grown from 19.9 to 52.8 million. This has resulted in growing urban centres.

Intense rainfall events and Cloudbursts: The rise in surface temperature is increasing the availability of atmospheric energy and total precipitation. The reports of the **Inter-governmental Panel on Climate Change**, indicate an overall increase in the **frequency of high-intensity rainfall events** in the Himalayas.

Note: High-intensity rainfall events are extreme amounts of precipitation in a short period of time.



Glacial dammed Lake outbursts (GLOFs): **Retreating glaciers**, usually result in the formation of lakes at their tips. These lakes are called **proglacial lakes**. These proglacial lakes are often bound by sediments, boulders, and moraines. If the boundaries of these lakes are breached, then flooding will take place downstream of that glacial lake.

Read more: Glacial Lake Outburst Flood (GLOF) in Uttarakhand -Explained

Shyok river in the Himalayan-Karakoram region frequently witnesses such GLOFs. The 1779 and 1932 events are well documented.

The 2013 Kedarnath incident in the Garhwal Himalayas, besides widespread rainfall, was compounded by a breach of a moraine-dammed lake in the Chaurabari glacial region.

Landslide dammed lake outbursts (LLOFs): These floods occur due to breach of dammed lakes which form as a result of obstruction of water flow of river by debris of landslides. Landslides may occur due to rainfall, seismic activity like earthquakes, etc.

Small channels may take a long time before causing floods. For instance, landslide dammed lake (Gohana Tal) of Birahi Ganga river, survived for 76 years and caused floods in 1970. It devastated the town of Srinagar (Garhwal), and significantly damaged the Ganga canal downstream in Haridwar.

Sutlej river valley (Himachal Himalayas) also witnessed massive devastation due to LLOFs in the years 2000 and 2005.

What are the challenges in forecasting the Himalayan floods?

Lack of flood data: India does not have flood level observation beyond hundred years. This is not enough to understand the **long-term variability of floods** and the forcing factors behind large events.

Challenges in determining the rate of rising in flood: Regional high-intensity rainfall is generally followed by gradual rise of waters which makes flood prediction reliable. On the other

hand, the events like GLOFs and LLOFs will induce a faster rate of rise in water levels which makes it hard to predict sudden floods.

What can be done to mitigate the Himalayan floods?

Use of technology: The rate of rising of flood and flow velocity can be measured effectively by Differential Global Positioning Systems (DGPS), Artificial Intelligence (AI), and LiDAR (**Light Detection and Ranging**) technologies. So, the government has to install a dense network of flood gauging systems.

Similarly, state-of-the-art Internet of Things (loT) and radars can be used to **quickly disseminate the data** to remote locations and flood management centres.

Read more: Govt launches LiDAR survey reports to augment water in forest areas

Create Slack Water Deposits (SWDs) for data: SWDs are couplets of sand and silt which represent earlier flood events. These are deposited at several locations along the river channel during a flood event. A study of SWDs can help long term trend of flood events (beyond 100 years) which can help understand long-term variability of floods and forcing factors behind large scale flood events. The government has to analyse these SWDs and create a repository of data.

Note: At present, a study is exploring SWDs in the Indus, the Sutlej, the Ganga, and the Brahmaputra river to understand the history of floods.

Damage Predictive Models for the Himalayas: Proper understanding of the orography of the Himalayas and the past flood events has to be used to prepare damage prediction models. Further, the model should include Landslide and glacial lake monitoring systems. This can help in deciding the focus, magnitude, and type of infrastructural development to be done in the Himalayas.