
VAJIRAM & RAVI

75 YEARS OF INDEPENDENCE

There is something unique in this soil, which despite many obstacles has always remained the abode of great souls. - Sardar Vallabhbhai Patel

- The year 2021 is going to be a special one as we will be entering the 75th year of our independence. This is a significant milestone in the journey of our republic.
- Today, India is recognised as an emerging world power. We are the **third largest** economy in terms of Purchasing Power Parity.
- With a **median age of less than 30 years**, India is a young nation in an aging world. This youthful energy needs to be channelised constructively for nation building. The youth should be at the forefront of fighting social evils like corruption, casteism, communalism and gender discrimination.
- India needs to grow at a rapid pace to raise the standard of living of the people. But this **growth has to be inclusive and sustainable**. We should strive to bridge the disparities that still exist among people, communities or regions. We should endeavour to bridge the rural-urban divide and the emerging digital divide.
- Private sector will also have to join hands. Public-Private Partnership is the way forward for India's development.
- Equally important is people's participation in the developmental programs. The success of Swachh Bharat Mission — has amply demonstrated that government programs should become mass movements, owned and led by the people.

DEMOCRACY, POLITY & GOVERNANCE

- Democracy as a system of Governance is supposed to allow extensive representation and inclusiveness of as many people and views as possible to feed into the functioning of a fair and just society. The definition of democracy is incomplete unless it is defined in social and individual contexts.
- Democratic ideals represent various aspects of the broad idea of "Government of the people, by the people and for the people." They include **political characteristics** that can be seen to be intrinsically important in terms of the objective of democratic social living, such as freedom of expression, participation of the people in deciding the factors governing their lives, public accountability of leaders and an equitable distribution of power.
- Democratic Governance is a condition in which the promise of justice, liberty and equality enshrined in the Constitution is realised in a democratic political framework, where the Government is sensitive to the people's identities, aspirations and needs and where people feel secure and content.

Challenges

- The biggest challenge and threat that our democracy is facing is the **rampant corruption**. Corruption continues to exist in covert and overt ways at all three levels— political, bureaucratic and corporate sector.
- **Unholy nexus between politicians, civil servants and business houses** during the last few years to influence on public policy formulation and governance has resulted in corruption and corrupt practices.
- **Corruption is a sign of political instability and institutional decay**, challenging seriously the validity and propriety of governance.

- **Criminalisation** has also tarnished the image of Indian electoral politics. The news of **muscle power, money power and worthless propaganda during elections** are demeaning the sanctity of election.
- Even after the elections, the practices of unnecessary and unreasonable horse-trading have also been alarmingly increasing.
- The greatest threat to the Indian democracy and polity today is **disunity among the different communities of the country**.

Conclusion

All the citizens of our country should always remember that India is a Nation of “**Unity in Diversity**”. We all should always unitedly uphold the value of Democracy, Polity and Governance.

INDUSTRY@75

Industrial Growth: Historical Background

- The **advent of Britishers** in India led to the **decay of the Indian handicraft industry** and machine made goods started flooding into the Indian markets post-Industrial revolution.
- But soon after Independence, **through the subsequent five-year plans**, government shifted its focus on industrialisation.
- The **First Five-year Plan** mainly focused on the development of both the private and public sectors. The **second plan on Mahalanobis Model** gave priority to Industrialisation. The **third plan** along with the first and second ones helped build up the capital goods industries in India.
- **Between 1965- 1980**, industrial growth saw a decline mainly due to the **negligence of the consumer goods sector** in the first three plans. But **between 1980-1991**, industries **recovered from downfall** due to an increase in the productivity of Indian Industries and improvement in manufacturing and capital goods sector.
- **Post-1991 economic liberalisation** of India, many reforms were brought which helped shape the future of industries in India.

Current Situation

- India's Ease of Doing Business rank according to the '**World Bank's Ease of Doing Business Report 2020**' is 63rd among 190 countries. This is a **jump of 79 positions** from 142nd in 2014.
- **FDI inflows** between April 2014 - September 2019 stood at **\$319 bn** which is nearly 50% of total FDI inflow in the last 20 years. **During FY 2020-21**, the total FDI inflow of \$35.73 billion is the **highest ever for the first five months of a financial year**.
- Recently, the government has also approved **100 percent FDI** through the automatic route in **coal mining**, 100 percent FDI through the direct route in contract manufacturing, and 74 percent through automatic route in the Defense sector.
- The **start-up culture** in India has seen massive growth under the **Start-Up India scheme** launched in 2016. The government's flagship initiatives like Atal Innovation Mission (AIM), have helped **advance India's position in the Global Innovation Index from 81 in 2015 to 48 in 2020**.
- **NITI Aayog** is playing a big role in tackling development challenges in the country through policy advocacy. 115 districts have been identified across the nation as **aspirational districts**.
- These districts are being ranked based on progress being made (delta ranking) on a real-time basis based on **49 indicators from the 5 identified thematic areas** — Health & Nutrition, Education, Agriculture & Water Resources, Financial Inclusion & Skill Development, and Basic Infrastructure.

- In December 2019, NITI Aayog had released the second edition of the **Sustainable Development Goals (SDG) India Index** and an **online dashboard to track the progress on 17 SDGs** of all the States and UTs on a set of 100 National Indicators.
- India has made considerable progress especially in **SDG 6: Clean water and sanitation** by constructing over 11 crore toilets to become open defecation-free in five years.
- The **Digital India campaign** launched in 2015 has ensured the **creation of a digitally empowered society and knowledge economy**. Through the **Bharat Net programme**, which is also the **world's largest rural broadband connectivity programme**, 2.5 lakh gram panchayats are being connected by a fiber-optic network.
- India's **Aadhaar has become the world's largest biometric database** and is playing a pivotal role in preventing leakages via its integration with the DBT scheme.
- **UPI and Aadhaar has drastically reduced the cost of money distribution** among the poor. According to the 2019 global Multidimensional Poverty Index India has lifted 271 million people out of poverty between 2006 and 2016.
- **Mudra loan scheme**, launched in 2015, by providing credit up to 10 lakh to non-farming and non-corporate micro and small enterprises has helped enable every last mile financier to lend credit to all types of businesses in the country.
- **Pradhan Mantri Kisan Samman Nidhi Yojana** launched in 2019 is providing 6,000 per year as minimum income support to all farmers.
- India's Global stature has improved considerably with its recent election as **Chair of the World Health Organization's Executive Board** in May 2020 and being elected as a non-permanent member of the United Nations Security Council (UNSC) for a two-year term in June 2020.
- India is emerging as a global power and is **scheduled to host the G20 in 2023**. Also, in June 2020, US had invited PM Modi to attend and be part of G7 as he wanted to expand G7 which would give India a chance to expand its economy rapidly.
- India has dealt with the pandemic better than any country in the world. We have the **highest recovery rates of around 95%** and a plan in place to distribute vaccines to all of our citizens. **India manufactures more than 60% of all vaccines sold across the globe.**
- The world's largest distributor of vaccines - Serum Institute of India is also located in India.
- **Aatmanirbhar Bharat economic stimulus relief package of 20 lakh crore** amounting to 10% of GDP was released to fight the pandemic.
- 80 crore people were given free food grains till November 2020 under **PM Garib Kalyan Yojana** and 20 crore Women Jan Dhan holders were given 500 per month for 3 months. MNREGA wage rate was increased to 202 per person per day.
- The **new National Education Policy (NEP)**, 2020 will make India a global knowledge superpower. Through the **SWAYAM portal**, the government is bridging the digital divide for students.
- **Under the 'Make in India' initiative** the MSME contribution to the GDP is being targeted to be increased **to 50 percent from the existing 30 percent which will create 5 crore jobs in the next few years.**

Conclusion

With the **"Minimum Government, Maximum Governance"** model along with the concept of cooperative federalism, India is attaining new heights amidst various challenges including Covid-19.

We are a forward-looking civilisation and vibrant democracy that looks to interact with other countries to build a better world – PM Modi

- With the coming of Britishers in India; the indigenous institutes became extinct by the late 19th century. The British schools catered to very few.
- According to the 1879-80 Report of the Director of Public Instruction for the Madras” Presidency, the total number of educational institutions were 10,553. The system was entirely alien and rootless as wished by Lord Macaulay.

Journey Since Independence

- We began the journey of Free India with a relatively low level of attainment of education. Back then we had only 17 universities and 636 colleges and 190,441 schools. The standard of education was unsatisfactory with **too much emphasis on English** and too little on Indian languages — estranged from Indian Knowledge system.
- Significant development has been made post the enactment of the **Right of Children to Free and Compulsory Education Act 2009**. The literacy rate presently stands to 74.04%.
- As per the latest edition of the **Quacquarelli Symonds (QS) World University Rankings** in comparison to 21 institutions in 2019, the latest edition has seen 26 Indian departments entering the top-100 list for their subjects.
- For the first time **India is among the 50 countries with a rank of 48 in the Global Innovation Index**. Even in the **Employability Rankings 2020**, India has improved its ranking from 23 in 2010 to 15 in 2020.
- The Ministry of Education has introduced the **National Education Policy (NEP)**. It lays special emphasis on the development of the creative potential of each individual, in all its richness and complexity with global mindset.
- The NEP will enable students to move towards ‘learning to learn’, with the spirit of critical inquiry, problem solving and creativity. Along with science and mathematics, the curriculum and vocations will equally include arts, crafts, humanities, games, sports, languages, literature, culture, and values.
- Thus by 2022, New India will provide a strong foundation for an education system based upon the principles of accessibility, equity, quality, affordability and accountability.

SUCCESSFUL ENDEAVOUR IN SPACE

The Indian space programme has come a long way in the 57 years since its inception. From a fledgling **Sounding Rocket Launch Facility** established in the early 1960s in **Thumba near Trivandrum**, it has matured into a giant world-class space power.

Beginning of Space Programme

- The Indian space programme began in a modest way in 1962 with the formation of the **Indian National Committee on Space Research (INCOSPAR)**. The formal beginning of the Indian space programme can be traced to the **launch of a Nike-Apache sounding rocket on November 21, 1963 from Thumba**.
- Later, Thumba became an international sounding rocket launching facility and such rockets were launched for upper atmospheric, geomagnetic and space research by many countries.
- **In 1969, the Indian Space Research Organisation (ISRO) was formed.**

Progress and Achievements

- The 70s were the learning phase during which many experimental satellites were built, including **India's first satellite Aryabhata**, which was launched in 1975 from a **launch centre in the former Soviet Union**.
- **Bhaskara 1 and 2**, the two experimental earth observation satellites, provided the rich experience. Today, **India is a world leader in the satellite-based remote sensing area**.
- **APPLE, India's first experimental communication satellite**, launched by the European Ariane rocket, reached its final geosynchronous orbital home in June 1981.
- Aryabhata, the two Bhaskaras, as well as APPLE **were launched free of cost**, which reflects **India's successful international space cooperation policy**.
- ISRO conducted two significant experiments in the 70's — **SITE and STEP** — to obtain hands-on experience on the utilisation of satellites for television broadcasting and telecommunications.
- ISRO developed its **first Satellite Launch Vehicle SLV3** and successfully launched in July 1980. As a result, **India entered into the select league of six countries** with the capability to launch satellites on their own. Later, **India developed ASLV**, a more capable launch vehicle compared to SLV-3.
- **INSAT- 1B**, India's **first multipurpose operational satellite** was launched in 1983. It brought revolution in in India's telecommunications, television broadcasting and weather forecasting fields.
- In 1988, **IRS-1A**, the first operational satellite **built in India** started imaging the earth from orbit. During the 1990s, ISRO began building INSAT-2 series of multipurpose satellites indigenously.
- Today, India has a fleet of advanced remote sensing satellites equipped with high resolution and multispectral cameras dedicated to the themes of cartography, resource survey and ocean and atmospheric applications.
- Apart from these polar orbit-based observation satellites, **weather watching satellites INSAT-3D and INSAT-3DR** — circling the earth in the 36,000 km high geosynchronous orbit, are providing valuable inputs to weather forecasting. Apart from these satellites, the **Indian National Satellite (INSAT) system** today is one of the largest domestic communication satellite systems in Asia-Pacific region.
- High throughput satellites such as **GSAT-11, GSAT29 and GSAT-19 are supporting the "Digital India" campaign** by boosting the broadband connectivity to the rural and inaccessible Gram Panchayats in the country.

Launch Vehicles by ISRO

- Till now, ISRO has developed **five launch vehicles (SLV-3, ASLV, PSLV, GSLV and GSLV Mk III which is also known as LMV3)** and mastered the technology of rockets that use solid, liquid as well as **cryogenic propellants**.
- **Polar Satellite Launch Vehicle (PSLV)** is the **third generation launch vehicle** of India. It is the first Indian launch vehicle to be equipped with liquid stages. With 49 successful flights over the years, PSLV has emerged as the reliable and versatile workhorse launch vehicle of India.
- On February 15, 2017, PSLV created a world record by successfully **placing 104 satellites** (launched by PSLV-C37) in orbit during a single launch.
- **Geosynchronous Satellite Launch Vehicle Mark II (GSLV Mk II)** is **fourth generation launch vehicle** having three stages (including the cryogenic upper stage). Cryogenic technology involves **storage of liquid hydrogen and liquid oxygen** at very low temperatures.

- With the successful qualification of the **indigenously developed Cryogenic Upper Stage** in the GSLV-D5 flight in January 2014, ISRO demonstrated its mastery of cryogenic rocket propulsion.
- **GSLV Mk III**, India's **fifth generation satellite launch vehicle** has two solid strap-ons, a core liquid booster and a cryogenic upper stage. The vehicle is designed to **carry 4-ton class of satellites** into Geosynchronous Transfer Orbit or about **10 tons to Low Earth Orbit (LEO)**.
- With the **successful injection of Chandrayaan-2** in to Earth Parking Orbit in July 2019, **GSLV Mk III successfully entered into its operational phase**.
- India's **Reusable Launch Vehicle Technology Demonstrator (RLV TD)** was successfully flight tested in May 2016.
- The first experimental mission of ISRO's **Supersonic Combustion Ramjet (SCRAMJET)** engine towards the realisation of air breathing propulsion system was also successfully conducted in August 2016. With this, India became the **fourth country to flight test the SCRAMJET engine**.

Science Missions

- ISRO entered into the realm of science missions with a unique mission, **Space Capsule Recovery Experiment-1 (SRE-1)**. Launched by PSLV in January 2007, SRE-1 with its scientific experiments orbited the Earth for 12 days and was successfully deorbited and recovered over Bay of Bengal.
- The **space science missions** of India - **Chandrayaan-1, Mars Orbiter Mission, Astrosat and Chandrayaan-2** - have caught the attention of millions.
- Launched by PSLV in October 2008, the Chandrayaan-1 spacecraft was successfully navigated to the Moon. With this mission, **India became the fourth country** to send a **probe to the lunar surface** after the United States, the Soviet Union and Japan.
- Later, when **Chandrayaan-1 conclusively discovered water molecules** on the lunar surface, it was widely hailed as a path-breaking discovery.
- Mars Orbiter Mission demonstrated India's capability to build, launch and navigate an unmanned spacecraft to Mars. **Launched by PSLV** in November 2013, the Mars Orbiter Spacecraft encountered Mars on September 24, 2014.
- With this, **ISRO has become the fourth space agency** to successfully send a spacecraft to Mars orbit. **Achieving success in the first mission** itself is yet another accomplishment of ISRO.
- **AstroSat** launched by PSLV in September 2015, is the **first dedicated Indian astronomy mission** aimed at studying celestial sources in X-ray, optical and UV spectral bands simultaneously. **AstroSat recently made a major breakthrough by discovering one of the earliest galaxies in extreme-Ultraviolet light.**
- The **Chandrayaan-2 mission**, India's second mission to the moon, was successfully launched in July 2019. The eight instruments onboard the Orbiter are continuously providing useful science data which will enrich our understanding of the moon's evolution and mapping of the minerals and water molecules in Polar regions.
- ISRO has successfully established and operationalised **Navigation with Indian Constellation (NavIC)** which provides highly accurate Position, Navigation and Time information to users in India and its surroundings. Global Standards body 3rd Generation Partnership Project (3GPP), which develops protocols for mobile telephony, has approved NavIC.
- Further, through **GPS Aided GEO Augmented Navigation (GAGAN)**, ISRO is providing Satellite-based Navigation services with accuracy and integrity required for civil aviation applications and to provide better Air Traffic Management over Indian Airspace.

- Apart from this, ISRO has also **facilitated students in building/ launching satellites** for various applications. So far, **10 student satellites have been launched by ISRO**.
- The “**Gaganyaan Programme**”, approved in 2018, has the objective of demonstrating **human space flight** capability to Low Earth orbit with 3 crew members for 5-7 days in orbit and safely recover them after the mission.

Capacity Building

- Towards capacity building in human resources and to meet the growing demands of the Indian Space Programme, the **Indian Institute of Space Science and Technology (IIST)**, a deemed university, was established at Thiruvananthapuram in 2007.
- Recently, the space sector was opened up to promote, handhold, regulate and authorise private enterprises and start-ups to undertake space activities by creation of the **Indian National Space Promotion and Authorization Center (IN-SPACe)**.
- Space science missions like Chandrayaan-3, Aditya-L1, Mission to Venus to further explore the solar system, are in progress.

FISCAL FEDERALISM

- “Fiscal Federalism’ refers to the financial relations between the country’s Central Government and other units of Government. It essentially represents how **expenditure and revenue are allocated across different layers of Government administration**.
- Fiscal federalism helps Government realise cost efficiency by economies of scale in providing public services.

Historical Evolution of Fiscal Federalism in India

- In India, fiscal federalism originated in pre-independence India. Over time, a rigid unitary system with immense scope of discretionary power to the Central Government was transformed into a constitutionally regulated federal system.
- By 1858, there was no standardised system of accounting and annual budgets did not exist. Central Government retained the entire control on finances. Local Governments collected revenue as agents of Central Government resulting in no direct interest in the result of collection.
- Later, the Government of India Act, 1919 introduced a system of diarchy, dividing the administrative subjects and sources of revenue into two categories — Central and Provincial.
- In 1927, Simon Commission reviewed the Government of India Act, 1919 and recommended the establishment of a federation of Indian States and provinces.
- Thereafter, the **Expert Committee of 1931 with Lord Viscount Peel as the Chairman**, examined the fiscal relations between the Centre and Provinces and **suggested sharing of income tax between Centre and Provinces** while fixing the share of Provinces for a period of five years.
- Based on these recommendations, the Government of India Act, 1935 was brought forth which established a **federal system with Provinces and Indian States as two distinct units**.
- Thus, the Act of 1919 and Act of 1935 established a basic structure of fiscal federalism in India, where **Act of 1919 provided for a separation of revenue heads** between the Centre and the Provinces, and the **Act of 1935 allowed for sharing of Centre’s revenues and for the provision of grants-in-aid to Provinces**.

The Federal Character of Public Finance in India

- Federalism is an essence of the constitution. The **Constitution specifies taxation powers** of both the Centre and the State and the **principles governing the sharing** of revenue and certain other resources.
- Post implementation of Goods and Services Tax (GST) which is shared between Centre and States, Central Government retains the exclusive right for income tax (corporates and individuals) while States have the right to collect stamp duty, excise duty on alcoholic beverages, registration/commercial use of vehicles, and a few other minor taxes.

Central Transfers to States

- In India, in order to correct the vertical and horizontal imbalance and for equitable and efficient development, the Central Government transfers funds to State Governments as **General-Purpose transfers** and **Specific Purpose transfers**.
- The **General-Purpose transfers are untied funds** devolved to the State Governments via the Finance Commission.
- Finance Commission is appointed every five years since 1951 under Article 280 with the purpose of addressing the horizontal and vertical imbalance. It **recommends the criteria for devolution** of central taxes to States and the principles for distribution of grants-in-aid. 15th Finance Commission has already made recommendations for 2020-21.
- Remaining Central transfers to States are in the form of Specific Purpose Transfers which may also be termed as tied transfers. These transfers are made by the concerned Central Ministries/Departments in the form of **Centrally Sponsored Schemes (CSS)**.
- Up till 2014-15 the **developmental plan transfers** made by the erstwhile Planning Commission also constituted tied transfers, The **Planning Commission transfers** included **formula-based transfer of Normal Central Assistance** and **discretionary transfers** such as **Special Plan Assistance, Assistance for Externally Aided Projects**, etc. The responsibility of funds allocation is now entrusted to the Ministry of Finance.

Transfers of Resources to Local Bodies

- It was only after 73rd and 74th Constitutional Amendment Acts passed in 1992, the two-tiered Indian federal structure evolved into three-tiered structure.
- **Article 243 (I) & Article 243 (Y)** further necessitated **constitution of State Finance Commissions at regular interval of five years**, to decide distribution of net proceeds of taxes between State and Panchayats, determination of taxes, duties, tolls etc. to be assigned to Panchayats and Municipalities, grant in aid to be provided to the Panchayats and Municipalities.

Major pronouncement which brought about structural changes in the Centre State financial relations:**1. Increase in untied funds devolved to States**

- Following the recommendation of FC-XIV to increase the share of union tax proceeds from 32% to 42%, the biggest increase ever, the share of FC grants in total transfers increased to 74%.
- This whopping increase of 10% in the share of union tax proceeds underpins the objective of greater fiscal autonomy to States,

2. Rationalisation of Centrally Sponsored Schemes (CSS)

- The most recent rationalisation took place in 2016-17 based on the recommendations of the sub-group of Chief Ministers on Rationalisation of Centrally Sponsored Schemes.

- The number of CSS were **reduced from 66 to 28**, the **funding pattern of core schemes was changed** for large States to 60:40 (Centre: State) from 70:30 earlier; the **flexibility for States to use funds** as per their local needs and requirements within schemes **was increased from 10% earlier to 25%**; each Ministry/Department along with NITI Aayog were recommended to **evolve transparent criteria for allocation under each scheme** and NITI Aayog was entrusted with carrying out **third party evaluation** to improve efficiency of expenditure and to improve outcomes.

3. End to Centralised Planning Era and Discretionary Grants

Plan and Non-Plan distinction in the budgeting exercise was done away with by the Union Budget 2017-18. **Discretionary transfers** such as additional central assistance, special plan assistance, granted by the erstwhile Planning Commission **were discontinued**.

4. Introduction of Goods and Services Tax (GST)

- The Constitution now with Article 279A, provided for creation of a GST Council which is a joint forum of the Union and States entrusted with the responsibility of making recommendation on GST rates, taxes, cesses, exemptions etc.
- This unique institution has been working in an exemplary manner resonating **cooperative federalism**.

5. Outcome Based Budgeting

- An expenditure reform was **introduced in 2017-18** with the **formulation of output outcome framework for 68 Ministries/ Dept.** along with the Union Budget document.
- **Data Monitoring and Evaluation Office** of NITI Aayog and Public Finance (States) of Ministry of Finance are key coordinators in finalising and monitoring this framework. It is an **important transition from mere outlays of schemes to result-oriented outputs and outcomes**.

Role of NITI Aayog in Strengthening Federalism

- On the premise that strong States make a strong nation, **a number of initiatives have been taken by NITI Aayog to foster cooperative federalism**.
- These include meetings between Prime Minister/Cabinet Ministers with all Chief Ministers; sub-groups of Chief Ministers on subjects of national importance; sharing of best practices; launching of the Aspirational Districts Programme for development of backward districts; theme-based extensive engagements in various sectors; framing model laws for land leasing and agriculture marketing reforms; and area- specific interventions for North Eastern, Himalayan States and Island development.
- The **Governing Council of NITI Aayog**, comprising Chief Ministers of all the States and UTs with Legislatures and Lt. Governors of other UTs provides a platform whereby the **Centre and the States – Team India – can come together** to resolve differences and chart a common course to progress and prosperity.
- NITI Aayog has been providing **relevant technical advice to the Centre, States and UTs**.
- NITI Aayog has also established models and programmes for development of infrastructure and to reignite and establish private-public partnership, such as the *Centre-State partnership model: Development Support Services to States and Union Territories (DSSS)*; and the *Sustainable Action for Transforming Human Capital (SATH) programme*.
- NITI Aayog has endeavoured to **promote competitive federalism** by facilitating improved performance of States/UTs by encouraging healthy competition through transparent ranking in various sectors.

- Some of the **indices launched by NITI Aayog include** Education Index; Health Index; Composite Water Management Index; SDG Index; and Delta Rankings for Performance of Aspirational Districts.
- Once districts compete amongst themselves, States would emerge stronger and when States compete amongst themselves, nation becomes stronger. This will help us **weaken the tendency for 'competitive populism' and replace it with 'competitive good governance'**.

Going Forward

- The challenge of **striking balance between efficiency and equity** has always been a critical aspect in federalism. **Meeting the aspiration of States** is the foremost priority of Indian fiscal federalism.
- The recent experience of tackling Covid crisis is a successful example of how Centre and States have worked together to fight the pandemic. Likewise, steps have also been taken for **localisation of Sustainable Development Goals** so as to identify specific steps at the subnational levels.
- **New reforms are required in public financial management system** both at Centre and State level.
- There must be mechanisms in place to **reward best performers**, be it States or districts or even at block levels.
- **Two-way communication channels** need to remain open all the time so that the issues get resolved quickly and development is not hampered. Only then the vision of a developed India can be realised in its truest sense.

PUBLIC HEALTH INNOVATION

- Amidst the ongoing challenges of mitigating the pandemic, one thing has become clear — the need for affordable and accessible health care for all.
- The idea behind **'Health for All'** is intrinsically interlinked with the idea of Universal Health Coverage (UHC) which envisages, that everyone, everywhere, has access to essential health care services without facing financial hardship.
- **SDG 3** aspires to ensure health and well-being for all, along with tackling epidemics and selected communicable diseases by 2030. It also aims to achieve universal health coverage and provide access to safe and effective medicines and vaccines for all.

Steps Taken By Govt.

- Government of India in 2018 introduced the **Ayushman Bharat programme**, with the aim to bolster the two pillars of Health for All - **strengthening primary health care** and **providing health coverage**.
- Under this programme, **1.5 lakh health and wellness centres** are being set up to provide comprehensive primary health care to the community, including providing essential drugs and diagnostic services free of cost.
- Additionally, the programme also **provides health coverage for the bottom 40%** of people in the country, who are most likely to face financial hardships while accessing quality health care services.
- Numerous programmes have been designed to address health issues under the wider umbrella of **National Health Mission**.
- The **Universal Immunisation Programme**, which is one of the largest health programmes of the world, has achieved stellar results such as the eradication of smallpox and polio.
- Moreover, Various National programs on health ranging from **Reproductive, Maternal, Neonatal, Child and Adolescent health** (RMNCAH), nutritional programmes, communicable and non-

communicable diseases to health system strengthening programs have been designed and implemented.

- Prime Minister gave a clarion call to **end TB and Malaria by 2025 and 2030** respectively and launched the **National Strategic Plans** (NSP) to this end.

Way forward

- Another significant, component of “Health for All” is **innovation in public health research, driven by public-private partnerships**. Innovation, particularly in the development of indigenous solutions, is essential to develop affordable health care products and services.
- For instance, ICMR developed and validated the indigenous **Covid Kawach Elisa test** for antibody detection of the virus, which can be produced at lower manufacturing cost and makes it easy to use in resource-limited settings.
- The **role of multi-sectoral partnerships and collaboration** cannot be undermined. In January 2020, India had only one laboratory testing for Covid-19, at the **National Institute of Virology, Pune**. With the collaboration of private players, ICMR has established testing labs even in the remotest parts of the country. From initial days of 1000 tests per day India is now conducting more than 14 lakhs tests per day.
- **The National Health Policy** (2017) envisages the attainment of the highest possible level of health and well-being for all at all ages, through a preventive and promotive health care orientation in all developmental policies, and universal access to good quality health care services without anyone having to face financial hardship as a consequence.
- **Technology** can also play a significant role in this regard. Digital transformation of health services can lend a positive push towards health care delivery, health promotion and prevention, therefore encompassing all aspects of universal health care. The **new Science, Technology and Innovation Policy** currently in progress will also be a guiding document in attaining the health for all.
- Alongside efforts to strengthen primary health care, raise public health expenditure and provide greater financial coverage, we also need an **enabling environment for public health innovation** through collaborative action to provide affordable tools to those who need it the most. Only then we will be able to ensure that no one is left behind when the next public health crisis strikes.

INFRASTRUCTURE DEVELOPMENT

- We have come a long way in provisioning of infrastructure since Independence. we have made the visioning of what needs to be done a better combination of top down and bottom up, with more decision making at decentralised levels rather than just top down (based on the concept of Five-Year Plans).
- The recently announced **National Infrastructure Pipeline** (NIP) by **the Ministry of Finance** envisages an investment of Rs 111 lakh crore in infrastructure in the six fiscal years until 2020-25.

What is Infrastructure?

- It is defined as those economic activities that support a whole host of many other activities that improve quality of life and economic development, while at the same time embracing social inclusion and sustainability with nature.
- At a generally accepted level, infrastructure sectors are those that address energy, communication, transportation, housing, water, and sanitation

Eight Dimensions That Enable Infrastructure Development

1. Project Structuring

- To enable greater focus, and to facilitate PPPs, we had to **unbundle' activities**, either vertically or horizontally or both, and in some cases, even 'bundle.' The **power sector is a good example. Electricity Boards were vertically unbundled** into Generation, Transmission and Distribution Companies. **Distribution Companies further got horizontally unbundled, on a regional basis.**
- **To enable 'inclusion,'** especially where affordability for some user segments was an issue, many sectors have come up with a structuring that recognises the need for subsidy.
- The **telecom sector** created a **Universal Obligation Fund**, by sourcing a percentage of commercially viable calls into this fund, from which subsidies would be provided for the rural and remote segments.
- **Aviation** tried to do it by having a **cross-subsidy model**, forcing every airline to follow 'route dispersal guidelines. This did not work very well, **until the "under-served' routes were bid out as a separate package, with bids going on least subsidy basis.**
- The real question is, if subsidy-based bids are allowed, and the discovery is through a competitive process, whether the public sector would have been able to offer as much output with the 'subsidy' amount, as the private sector can leverage and offer.
- **In the road sector**, initial PPP Structuring was attempted on the **Build-Operate-Transfer model**. When projects were not taking off, a **capital subsidy-based bid model** was structured, called **Viability Gap Funding**. This made the road sector take off.
- But then, as more and more projects started getting **vulnerable to toll revenue-based risk**, a structuring called **Hybrid Annuity Model** was brought in, where the concessionaire was no longer vulnerable to toll- based revenue risks, but had to build (and hence take on construction risks) and maintain the roads for an annuity income.
- Dealing with competition has been handled differently in different sectors. Airports have protected the market for a developer, by giving the first right of refusal, should another airport be planned in a 150 km vicinity.
- On the other hand, **terminals at ports** are bid out in a manner that there is competition from at least two private players for a terminal category.

2. Project Evaluation: Economic and Risks

Projects have moved from being evaluated just financially - often without a revenue model, to economic evaluation with externalities (also called social cost benefit analysis) to evaluations that include identification of risks and risk mitigation/management plans.

3. Sourcing of Funds

Starting from just budgetary support, to private funding, to revenue models, to partial government support through viability grants, various sources of funding have come to play.

4. Tendering and Bidding Process

- The bidding process is also more consultative, and manages expectations. The currently ongoing privatisation of certain Passenger Train Operations is an example of openness, transparency and responsiveness.
- Bid criteria have evolved over time to get better alignment between the promoter and project expectation, as well better risk allocation, transparency and monitorability.

- **Ports moved from royalty to revenue share**, to enable better risk allocation. **Airports** have moved from revenue share to per passenger fee, to enable better monitoring.
- **Roads** have moved from concession period to viability gap funding/lump sum payments to revenue share to annuity receipts.

5. Agreements

This is a critical area, which binds (and regulates) the relationship between the authority and concessionaire.

6. Project Management

While greater professionalism and technologies have come in, vulnerability to land acquisition and environmental clearances have affected this.

7. Post-Project Issues

Post-project ownership is an important issue, where the original goals of competition or conflict of interest need to be considered, while at the same time providing a healthy platform for buy and sell of concessions.

8. Regulation and Dispute Resolution

- Many regulatory institutions have been set up - The Telecom Regulatory Authority of India, the Central and State Electricity Regulatory Commissions, Tariff Authority for Major Ports, and Airport Economic Regulatory Authority.
- There is also an **Appellate for each regulator**, so that appeals against any regulator's act can be heard & resolved. And then there is judiciary. However, not all aspects & sectors are covered.
- There are **still under-regulated areas like Railways and Road Safety**. Ideally, a regulator should be empowered sufficiently, that they can be proactive in formulating regulations, of course through a transparent process.
- Many projects have got stalled, primarily due to disputes. Land acquisition and Environmental Clearances are major reasons.
- Inflexibilities in Concession Agreements have often made negotiating on the table worthless, with the only recourse being courts.

Conclusion

- PPPs and ability to think of commercialising infrastructure have provided a new platform for developing infrastructure. The idea of **balanced risk allocation** (allocate risks to the party which can bear it best) has gained traction. Concession Agreements have yet to mature by providing trigger-based review mechanisms.
- **Conflicts of interest** have been recognised: policy maker versus regulator, regulator versus operator, policy maker versus operator, level playing field with a strong incumbent, though need to be addressed.
- A potential conflict of interest arises where an **'authority' has been allowed to bid for new 'PPP' projects**, the specific instance being the Airports Authority of India (AAI) bidding for airports. AAI is not only an 'authority' in airports, but also an operator, and a monopoly service provider of air traffic control.
- The project structuring, risk allocation and regulatory outlook are **still vulnerable to crony capitalism**.
- Transparency, mature media attention and regulatory oversight can address this.

VAJIRAM & RAVI

AGRICULTURE: THE ROAD AHEAD

- India has 1.3 billion people or approximately 17.9% of the global population which lives on 2.4% land and 5% water resources of the world.
- With 11% of total global agriculture, **India ranks second** in the world in agriculture production as the leading producer of several commodities.
- **Agriculture production in 2019 was valued at USD 459 billion** and the country's global trade in agriculture produce fetches more revenue than the services or even manufacturing.
- The workforce engaged in this sector sharply declined from 60% in 2000 to 42% in 2019.
- Still the current **agricultural production** has been ever increasing touching new heights; **food grains 297 MT, horticulture 31 MT**, cotton 37 million bales of 170 kg each, milk 188 MT, fish, 13 MT, poultry 4 MT and 103 billion egg production, have been all records.

Future Challenges

- The **growing population** poses a challenge to food and nutritional securities when there is pressure on land due to **urbanisation, improved standard of living, changed food habits** etc.,
- These challenges are further exacerbated by **declining soil health, low nutrient content, occurrence of new biotic stresses and frequent droughts and floods** due to climate change.
- Climate change will impact the lives of the people in India mainly due to erratic rainfall as nearly 62% cultivated land is rain-fed.
- According to UNICEF, India was at **10th spot among countries** with highest number of underweight children and at **17th position for highest number of stunted children** in world in 2019.
- To meet these challenges, it is estimated that the country must prepare for *increasing land productivity by 4 times, water productivity by 3 times and labour output by 6 times*. All this has to be achieved with low carbon emission technology, no ecological footprints.
- Today's paradox is that **on one hand the country is planning for management of surplus production, but on the other the farmers are driven to poverty** as they are unable get sufficient returns of their produce.

Way Forward:

Technology Innovation

- Many Crops are improved through genomics- **assisted breeding, transgenics**, and now through the **CRISPR-Cas 9 technology**. In India, several molecular breeding products have been commercialised. But cotton, the first biotic crop has brought the Indian cotton production at the top level in the world.
- **CRISPR-Cas 9 tool** has been used to create a large number of crop varieties that are not only **resistant to biotic and abiotic stresses** but are also **better in quality of produce**.
- Thus, the country shall be benefitted Once scientists given are freedom to commercialise products the of modern breeding.
- **Use of drones** in Managing the recent **locust infestation** in India during the rainy season, 2020 have shown new path of crop Protection.
- **Micro-irrigation systems** are also finding large-scale acceptance as they not only save water but also double the yields. Additional sensor technologies have potential to use optimum inputs of nutrients and Water.

Investment in R&D

- According to a study, returns on investment on research has been found to be highly paying proposition. The **internal rate of return on investment in agricultural research is estimated to be more than 42%**, which is much higher than any other sector.
- Investment in generation of new technologies and also in teaching and extension need to be enhanced.

Policy Options

- The Government for the first time introduced the long pending reforms in agricultural marketing through the legislation of three major bills:
 - Farmers Produce Trade and Commerce (Promotion and Facilitation) Act 2020 (Trade and Commerce Act),
 - Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, 2020 (Contract Farming Act)
 - and has made necessary amendments to the Essential Commodities (Amendment) Act, 2020.
- These policy changes are hailed as revolutionary as the farmers are **freed from the designated markets** and are free to sale their produce anywhere to get the maximum price.
- Introducing a competition in sale of produce, the farmers will be a benefitted. The Contract Farming Act provides for them to enter into agreements with companies, retailers, agri-firms, etc., which they can produce the crop for an agreed price so the current volatility in market will not affect the prices that the farmers are entitled to under the contract.

Conclusion:

- The country needs to step up production of many commodities by around 30% to feed the expected 1.7 billion people by 2050. Naturally, strengthening research and development and innovations to create new technologies will be an important step for Indian agriculture as a road ahead.
- Simultaneously like the current reforms in farm produce marketing, series of policy changes needed to give emphasis on technology and skill-intensive agriculture.

PARIS AGREEMENT

What is Paris Agreement?

- The Paris Agreement is a **legally binding international treaty** on climate change. It was adopted by 196 Parties at COP 21 in Paris in December 2015 and entered into force in November 2016.
- Its goal is to **limit global warming to well below 2**, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.
- To achieve this long-term temperature goal, countries aim to reach **global peaking of greenhouse gas emissions as soon as possible** to achieve a climate neutral world by mid-century.

How Does The Paris Agreement Work?

NDC

- The Paris Agreement works on a 5- year cycle of increasingly ambitious climate action carried out by countries. Countries submit their plans for climate action known as **Nationally Determined Contributions** (NDCs).

- In their NDCs, countries communicate actions they will take to reduce their Greenhouse Gas emissions in order to reach the goals of the Paris Agreement. Countries also communicate in the NDCs actions they will take to build resilience to adapt to the impacts of rising temperatures.

Long-Term Strategies

- To better frame the efforts towards the long-term goal, the Paris Agreement invites countries to formulate and submit **long-term low greenhouse gas emission development Strategies** (LT-LEDS).
- LT-LEDS provide the long-term horizon to the NDCs. Unlike NDCs, **they are not mandatory**.

Tracking Progress

Global Stocktake explainer

- With the Paris Agreement, countries established an enhanced transparency framework (ETF). Under ETF, starting in 2024, countries will report transparently on actions taken and progress in climate change mitigation, adaptation measures and support provided or received.
- It also provides for international procedures for the review of the submitted reports. The information gathered through the ETF will feed into the Global stocktake which will assess the collective progress towards the long-term climate goals.

What Is Achieved So Far?

- Although climate change action needs to be massively increased to achieve the goals of the Paris Agreement, the years since its entry into force have already sparked low-carbon solutions and new markets.
- Zero-carbon solutions are becoming competitive across economic sectors representing 25% of emissions. This trend is most noticeable in the power and transport sectors and has created many new business opportunities for early movers.
- By 2030, zero-carbon solutions could be competitive in sectors representing over 70% of global emissions.

AIPA of India

- MoEFCC has constituted a high-level inter-ministerial Apex Committee for Implementation of Paris Agreement (AIPA) under the chairmanship of Secretary, MoEFCC.
- The purpose of AIPA is to generate a coordinated response on climate change matters **that ensures India is on track** towards meeting its obligations under the Paris Agreement including its Nationally Determined Contributions (NDC).
- AIPA will oversee the progress in implementation of India's NDC and receive periodic information updates to monitor, review and revisit climate goals to fulfil the requirements of the Paris Agreement.
- Another key function of AIPA would be to operate as a **National Authority to regulate carbon markets in India**, issue guidelines on carbon pricing, market mechanism, and other similar instruments that have a bearing on climate change and NDCs.
- The year **2021 would mark the beginning of implementation of the Paris Agreement** and constitution of AIPA is central to strengthening the national systems and institutional arrangements for implementation and monitoring of climate actions.

- **Pingala**, an ancient medieval Indian mathematician, in his treatise **Chandah-sastra** had given the *matrameru*, now known as the **Fibonacci numbers**. The same was later explained by a **Jain philosopher Hemachandra** and then by an Italian mathematician Leonardo Fibonacci, after whom they are named today.
- The **Fibonacci sequence starts with numbers 0 and 1**, and every new number in the sequence is the sum of the two numbers just before it. 0, 1, 1, 2,3,5,8, 13,21, 34, and so on. The ratio of any two consecutive numbers is always 1.618 shown by the Greek letter phi.
- The Moghuls introduced new instruments to India like the khamanche, rabab (which we know as the sarod today), ek-tar, du-tar, se-tar (3 strings), which we know as the sitar today in its modified version.
- **North Indian classical music** got more deeply influenced by khayal, qawwali, zikir-zari, sufi and folk. Thumri was added in the Kathak repertoire by Nawab Wajid Ali Shah of Awadh.
- Every state in India has a **folk music or dance form** with its own local deity, language, dialect, costume, intention. **Garba** in Gujarat, **Ghoomar** in Rajasthan, **Bihu** in Assam, **Santhal** in West Bengal, **Bhangra** in Punjab and so on.
- **Folk Paintings - Warli painting** from Maharashtra, **Madhubani painting** from Bihar, **Gond painting** from Madhya Pradesh. Some paintings tell religious stories on cloth like **Pichhwai, or Phad** from Rajasthan, **Mata-ni-pachedi** from Gujarat, **Kalamkari** painting from Andhra Pradesh, **Thangka** painting from the Himalayan region.
- In ancient India, temples were architectural wonders. The **Meenakshi Amman Temple** in Madurai has one thousand pillars in perfect alignment. The **Rameswaram Temple** in Tamil Nadu has 1212 pillars on either side of a corridor that in one dot.
- Dry frescoes in the **Ajanta caves** near Aurangabad, Maharashtra show stories from the Jataka tales, The **Belur-Halebidu temples** built by the Hoysala kings in Karnataka have fine stone sculptures that clearly show a hair pin in a woman's ornate bun or the folds of her clothes or a hole in the flute being played by Krishna.
- **Ranakpur Jain temple** in Rajasthan has intricate carvings in white marble, there are the finest sculptures in the **Jain Dilwara Temples**, or **Khajuraho temple** in Madhya Pradesh; **Mahabodhi Temple Complex** in Bodh Gaya, Bihar has fine brick work, **Brihadeeswara temple** in Thanjavur has sculptures of dancers showing 81 of the 108 karanas of Bharatanatyam as mentioned in the Natya Shastra by Bharata Muni.
- The **Gol Gumbaz** in Vijayapura, Karnataka made by **Adil Shah** has one of the largest domes built at that time and the Whispering Gallery which picks up the lightest sound made on one side heard by people standing far away on the other side.
- Europeans brought with them the **Gothic style of architecture** seen in the domes of the **Chhatrapati Shivaji Terminus**, Mumbai or the **Victoria Memorial** in Kolkata, West Bengal.
- Today, India has a variety of architectural styles and **38 UNESCO World Heritage Sites**.

Conclusion

- Indian art & culture is the **spirit of India** which is all about the values of inclusiveness, beauty, aesthetics, purity of intention, attention to detail, discipline, focus, pursuit of perfection, willingness to connect with one's higher self, openness, excellence, and plurality.

Benefits of Sports

- Biologically, our bodies are designed for physical exercise. Sports provides that necessary exercise to keep the blood flowing and the body healthy.
- From sports, we learn **sportsman spirit** and that acts as a lubricant in our social life. More than winning, sports helps you learn to deal with defeats.
- Sport **builds character** and helps develop the human capital of a nation. A person learns how to handle adversity and yet succeed through perseverance.
- Sports teach an **individual decision-making and humility**. And if one just looks at the economic success of some of the most powerful and successful nations in the world, one can see that they have a strong sporting culture.
- Sportsmen going out and representing their countries successfully operate as **brand ambassadors** of goodwill for the country. They bring laurels to the nation and also help build national pride.