
VAJIRAM & RAVI
Ethical Wealth Creation For A Self-reliant India

1. Self-reliant Citizens For Self-reliant India

- A self-reliant India will be built by self-reliant citizens. For Indians to be self-reliant, social compact between the government and citizens has to be one where **government actively supports personal responsibility**.
- Therefore, subsidies, especially those that go to the relatively well-off, cannot be consistent with a self-reliant India. The expenditure that is spent on subsidies must instead be utilized for education and continuous skill/resource development of our citizens.

2. Inclusive Growth Through Employment

- The most important objective of a development strategy that focuses on self-reliance is inclusive growth.
- GDP growth cannot be the sole objective of economic development. **Trickledown economics** simply does not seem to work. It leads to an **inequitable pattern of economic development** cannot be consistent with a self-reliant India.
- Employment generation is central to inclusive growth. Such formal sector employment for one member of the family **contributes to mobility of future generations** as the kids are likely to get better education and healthcare facilities and thereby uplift themselves.
- Leaving large fractions of the labour force underutilised or unutilised is extremely inefficient for the economy.

3. Wealth And Skill Through Private Enterprise And Government

- Self-reliance means recognizing the complementary roles of the private sector and the government. It cannot be achieved without recognising that market forces can take care of our needs during normal times. As market forces allocate resources based on prices and profits, they promote economic efficiency in normal times.
- Self-reliance does not mean a return to the "License Permit Raj"; nor does it mean that Government itself will once again occupy the "Commanding Heights."
- The govt. must **support the development in following ways**:
 - a) Skill Development
 - b) Support our MSMEs by providing skilled labour.
 - c) Invest in R&D and innovation like Digital Economy, Medical Research.
 - d) Use earth's resources meaningfully.
- At the same time, as the current COVID-19 crisis has demonstrated, market forces and private enterprise can often be too slow or incapable to step up during calamities and war-like situations.
- Therefore, in strategic sectors such as healthcare, life saving medicines, payment systems, mobile communication etc. government must retain economic presence through one or two public sector firms.
- More broadly, selfreliance implies that the Government has to identify the critical sectors and ensure manufacturing capabilities in these sectors.

Role of government During pandemic

- Jan Dhan Yojana is contributing critically in enabling Direct Benefit Transfers to the poor
- Swachh Bharat programme has positive outcome on the health outcomes.
- Both these progs. achieved outcomes which would otherwise not been possible by pvt. enterprise alone.

- Also, we must focus on increasing the efficiency and efficacy of government, which includes overall governance.

4. Produce For The Bottom Of The Pyramid

- Self-reliance means that Indian firms focus on producing goods and services that cater to the needs of our huge population.
- The **sachet revolution**-packaging the shampoo, toothpaste etc. in small sachet- represents a brilliant example of **catering to the masses**.
- The business models that Indian firms generate in catering to the needs of the poor can enable them to **tap into markets in many underdeveloped economies in Asia and Africa**. In this way a **self-reliant India can help others and thereby occupy its rightful place** as a global economic power.

5. Importance of Agriculture

- Increasing productivity and output in the agricultural sector would create employment and boost incomes across the economy. Successful agricultural transformation will reduce the pressure arising from urban migration (excessive migration can be very destabilizing).
- The increase in productivity in agriculture will result in higher incomes, giving rise to multiplier effects and supporting increase in aggregate demand.

6. India Must Rediscover its Spiritual Ethos of Ethical Wealth Creation

- A Responsible developmental strategy should not ignore its impact on the environment. The covid-19 induced lockdown illustrated how excessive economic activity influences our environment detrimentally. Absent the effluent from the factories, the water in the Ganges has become potable. the Himalayas could be seen from the towns of Punjab.
- Ethical wealth creation advocated in the Indian ethos now needs to become a global model for development. For that purpose, India needs to take the lead in exemplifying it domestically. India should take a lead in this and thereby demonstrate the value of "frugal innovation" to the rest of the world.

7. Self-Reliance is not Doing Everything Yourself

- Building a self-reliant economy **does not mean building an economy in isolation**. Self-reliance implies building the necessary capability to be independent at the most vulnerable times.
- It requires delineating sectors that are strategically critical to the nation and investing in these sectors so that our dependence during vulnerable times is minimized.

Export Strategy

Self-reliance vs Self-sufficient

- The word "Aatmanirbhar" refers to **both self-reliance and self-sufficiency**. The former has a pragmatic positive connotation **aimed at developing capabilities indigenously** without shunning imports.
- The latter is unpragmatic, inward looking and has a negative denotation. It is against the **Ricardo's theory of "Comparative Advantage"** which holds that international trade is a result of differences in the relative opportunity costs of countries in the production of different goods (therefore even if a country is self-sufficient, it should still trade).

In 'Wealth of Nations', Adam Smith argued that "the great object of mercantilism was to **diminish as much as possible the importation of foreign goods** for home consumption and to **increase as much as possible the exportation of the produce of domestic industry.**"

Importance of Self-reliance

- Current calamity has taught us a lesson to not be excessively dependent on others for ensuring critical supplies, especially when the sources of such supplies are not fairly distributed.
- Even if domestic production is not the most efficient, we should encourage to provide it scalability to become competitive in the medium to long term. If we want to retain the tag of the "Pharmacy of the World", we have to **produce formulations and Active Pharmaceutical Ingredients (APIs) in our country**.
- An effective exports promotion strategy hinges on robust and competitive domestic manufacturing. Hence, we must attain self-reliance for effective export promotion.

Strategies to Promote Export

A. Optimise FDI-Tariff Linkage

- Import substitution is not inward looking in the sense of closing the door to imports. It is focused on developing domestic capabilities and prowess to reduce dependence on imports.
- Many countries constantly monitor the trends of imports to understand the challenges faced in manufacturing such products domestically. Some countries adopt an **FDI-tariff linkage which enhances tariff for attracting FDI** and encourages foreign suppliers to set up bases in their country to serve their consumers.

Case Study:

- A foreign exporter was exporting products worth \$300 million to India without setting a base in India. This was due to the fact that the import tariff in India was only 5% which made it more competitive while supplying from overseas to India.
 - Had the import tariff been 25%, he would have set up base in India. Such a tariff would also have encouraged Indian companies to manufacture this product by making domestic production more competitive than imports.
- Import substitution requires that the market be of a certain minimum size to make manufacturing viable. Not many countries in the world possess such a market and hence they are unable to pursue an import substitution strategy.
 - However, tariff hike is not only the strategy. It works only to **address the inverted duty structure** or for a specific objective and it should have a definite sunset that clause.
 - It is required so companies scale up and get investment but **don't become inefficient due to complacency**.
 - Such tariffs can result in domestic cartelization or monopolies which push prices up, thereby adversely impacting the upstream production.
- #### B. Provide a Level Playing Field to Domestic Manufacturer
- It involves extending concessional credit to such manufacturers along with competitive electricity tariffs and efficient logistics.
- #### C. Address the issues such as exporting relatively low value products
- The evolution of our exports has not followed a classical pattern as we have a traditionally advanced services sector exporting high technology services and a lagging manufacturing sector exporting relatively low value products.
 - The top 5 products in global exports, accounting for over 50% of the trade are – electrical and electronics products, petroleum goods, machinery, automobile and plastic goods. However, the share

of these products in our exports is less than 33%. Our global share in these 5 products is a little over 1% though our share in overall global exports stood at 1.7% in 2019.

- A related issue is the low share of India in high technology exports. High technology exports account for 6.3% of our aggregate exports while this proportion stands at 29% for China and 32% for South Korea.
- The recent initiatives taken to encourage manufacturing diagnostic of electronics, and surgical equipment along with the efforts to attract global FDI will help in correcting this.

D. R& D and Product Innovation

- We are amongst the lowest spenders on R&D. The fiscal support to R&D in the form of tax deductions has been lowered in the last few years.

E. Opportunity for Agri production

- China's image as a supplier has taken a hit, specifically in edible products due to outbreak of corona disease. This presents a huge opportunity to India in the export of fruits, vegetables, marine products etc.
- However, exports of many agro-commodities are unavailable due to the rising MSP which at times is much more than the international prices. The govt. must provide some mechanism to reimburse the differential price (MSP less the international price) to exporters.
- The freight disadvantage has been largely nullified through the new Transport and Marketing Scheme for agri Products.
- The path breaking reforms in agriculture would push agricultural exports. Relaxation in the Essential Commodities Act will encourage exporters to procure such products without fear.
- Now farmers can engage with agri processors, exporters and even large retailers for the sale of farm produce at mutually agreed upon prices. Such platforms will also help farmers get information about phyto-sanitary standards which is vital for getting access to advanced economies.

F. Supporting MSMEs

- The **revised definition of MSME** will also encourage exports as the government has excluded exports turnover from the aggregate turnover for eligibility purposes resulting in more companies qualifying for MSME status.
- The increased limit on investment in plant and equipment for medium companies, from Rs. 10 crore to Rs. 50 crore, will encourage adoption of more advanced technology in manufacturing which is the key to competitiveness in exports.

MSME Definition Revised

- **Micro** – Investment in P&M/Equipment Not More than Rs. 1 crore & Annual Turnover Not more than Rs. 5 Crore
- **Small** - Investment in P&M/Equipment Not More than Rs. 10 crore & Annual Turnover Not more than Rs. 50 Crore
- **Medium** - Investment in P&M/Equipment Not More than Rs. 50 crore & Annual Turnover Not more than Rs. 250 Crore

G. FTAs & Regional Trade

- More than 50% of the global trade happens through inter- regional value chains which includes countries from several regions. Unfortunately, India is not a part of such value chains.

- The **late joining of the FTAs, cumbersome customs processes and high logistics cost** have contributed to this anomaly. An efficient trade facilitation can integrate into the regional value chain and subsequently into the global value chain for pushing the exports.

H. Attracting FDI

- We should improve the business environment and expedite regulatory and other clearances at all levels to translate greater liberalization into higher inflows.
- FDI in exports should be supplemented by concluding FTA/CECA/CEPA with our trade partners.
- It is expected that COVID-19 will hasten the process of early conclusion of India-EU Broad-based Trade & Investment Agreement (BTIA) and Free Trade Agreement (FTA) with Australia and New Zealand besides bilateral trade agreement with USA.

I. Tourism, financial services and transport services

- Currently, India spends much more on outbound tourism than what it collects from inbound tourism. India earns only about USD 30 billion through tourism which is a little over 1 per cent of our GDP. We can easily take it to US\$ 100 billion by 2025.
- Our financial services earnings which stood at USD 5.5 billion in 2018 can easily be taken up to US\$ 15 billion by 2025.
- To promote growth of accounting and financial services, we should allow FDI in the domestic accounting and auditing sector, introduce a transparent regulatory framework, and ease restrictions on the client base in the accounting and auditing sector.
- For the education sector, foreign universities should be allowed to set up campuses in India, provide easy visa regimes for students and education service providers, remove regulatory bottlenecks, provide recognition to online degrees and set up appropriate evaluation techniques for online courses.

Conclusion:

- Adam Smith argued that **if a certain trade was unprofitable for private merchants, it was unlikely that it would be profitable for the nation**. In line with the same, the government and exporters should work in tandem to impart profitability to exports.
- Exports have to be **treated as a 'National Priority'** and all stakeholders need to be on the same page to facilitate exports.
- An **institutional set-up to address the problems and challenges** faced by exports in the shortest time frame possible is the need of the hour. A three-tier structure with the district, state and central level working on an electronic platform would be ideal and the officers attending such meetings should be empowered to take quick decisions.

JAM Trinity

There have been, two main pillars of the use of digital technology in the pandemic-**monitoring, and governance especially delivery of public goods**.

Monitoring:

Monitoring has been made possible by the Aarogya Setu mobile app. By assisting in the recording, enumeration, and location-tracking of COVID-19, Aarogya Setu has proved to be an invaluable tool in the fight against the pandemic.

Why the Jan Dhan-Aadhaar- Mobile (JAM) Trinity is so Powerful?

- The JAM trinity has given a **boost to the DBT programme** and **expanded its coverage** from partial to ubiquitous.
- By **eliminating the need for middlemen**, JAM has helped minimise avenues of corruption, irregularities and pilferages. It has also **promoted the ease of doing business**.
- Given the need for physical distancing to curtail the spread of COVID-19, **JAM is promoting online transactions among the beneficiaries**, instead of physical visits to the banks.
- In the longer run, JAM will make the rural population get acquainted with the concept of 'saving' thus contributing to the GDP of the country as a whole.

Digital Technology in Governance

- Platform like **MyGov** has been widely appreciated. Social media and online platforms have emerged as key mediums that connect citizens with governments to access the most credible information.
- Technology is **alleviating the pressures** placed on the supply chains and public distribution networks. Shop owners, big and small, should invest in digital tools that keep commerce connected, especially in times of crisis.
- The **Aadhaar scheme** enabled beneficiaries to avail entitled services and benefits without hassle. The **Jan Dhan accounts** take banking to the most impoverished and marginalised consumers.
- Other uses of technology include
 - the **1921 telephone service of the National Informatics Centre** to run surveys on the prevalence of disease.
 - The Department of Personnel and Training's **iGOT** for training frontline workers against COVID-19
 - The MHRD's **DIKSHA** platform, and live broadcast of lessons for central-government-run Kendriya Vidyalaya schools using the **SWAYAM** platform.

Relief and Reforms to Fight COVID-19: Facts & Figures

- Digital payments infrastructure has enabled cash transfer to more than 31 crore beneficiaries under the financial assistance scheme **Pradhan Mantri Garib Kalyan Yojana (PMGKY)**.
- 6.93 crore farmers were benefited through the **Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)** to help farmers tide over the COVID-19 crisis. Under the scheme, the government transfers Rs. 2,000 cash directly to the farmers' bank accounts through DBT.
- Rs. 1,400 crore disbursed to about 2.82 crore old age person, widow and disabled people under the **National Social Assistance Programme (NSAP)**.
- 2.16 crore construction workers received financial support from the Building and Construction Workers' Fund managed by state governments.
- The government is providing **free LPG refills for the next three months** to over 8.3 crore poor women under the Ujjawala scheme and Rs. 50 lakh insurance cover for healthcare workers.

Global Recognition for the Efficacy of the JAM Platform

- The **Center for Global Development** has noted that the JAM trinity enables the Indian government to make payments "more effectively and inclusively."
- The center has created a JAM Index based on Findex data to rank countries on their use of ID systems, mobile phones, and financial accounts, to effectively make government payments. **India and Kenya are two top ranking countries in this index.**

The farmers in India, the drivers of self-reliance, remains at the edge struggling with low income, at diminishing risk-laden profitability livelihood. There is urgent need to initiate agri-reform so as to alleviate their problems.

Various Areas of Reform and Steps Taken

A. Mitigating Risks, Securing Livelihood

- The Government launched a comprehensive **crop insurance scheme in 2016** that provides coverage from pre-sowing to post-harvest against natural non-preventable risks.
- '**Pradhan Mantri Fasal Bima Yojana (PMFBY)**' is a low premium policy in which farmers are required to pay only **2%, 1.5% for and 5%** of the sum insured for **kharif, rabi and commercial/ horticultural crops** respectively. Not only farmers, but **tenant farmers and sharecroppers** engaged in cultivation of notified crops are eligible for crop insurance policy.
- The Govt. has comprehensively revised the operational guidelines making provision for **payment of 12% interest per annum** to farmers if **claims are not settled within 10 days** of prescribed time-limit. A new provision also **envisages add-on coverage for damage by wild animals on pilot basis**.
- The scheme envisages increase in coverage from the existing 23% to 50% of Gross Cropped Area in the country.

B. Increasing Bargaining Power of Farmers

- To address the specific concern of small farmers, the government started **organising them into Farmer Producer Organisations (FPOs)** who have better bargaining power.
- The major impetus was given in the Union Budget 2019-20 by making **budgetary provision for formation of 10,000 new FPOs over the next five years**.
- FPOs have ensured benefits to the small and marginal farmers through economies of scale, improved market reach, improved access to extension services and reduction in transaction costs.
- Taking a cue, National Rural Livelihood Mission (under Deendayal Antyodaya Yojana) has initiated organising small and marginal women farmers into producer groups to increase market access and value addition of farm produce.

C. Procurement and Support

- Government hiked Minimum Support Prices (MSPs) at levels of **one and half times of the cost of production**. Elaborate and effective arrangements are in place for maximum procurement of produce by government agencies at MSP.
- Taking note of large scale indebtedness of farmers, a unique and innovative Kisan Credit Card (KCC) scheme was launched to provide institutional credit to farmers. It supports small and marginal farmers, share croppers, oral lessees and tenant farmers as well.
- Recently, to expand the beneficiary base of KCC, the Government has **waived processing fee, inspection and other service charges** for short term crop loans up to Rs. 3 lakhs.
- **Interest subvention** is also provided on such loans for a period of one year in case of timely repayment. Interest rate of 7% per annum gets reduced to 4% in such cases.
- The facility of **KCC was extended to dairy farmer** and fishers, and recently under 'Atmanirbhar Bharat Package' a special drive is launched to **provide KCC to 1.5 crore dairy farmers associated with milk unions and milk producing companies** within two months.

D. Trade and Marketing

- eNAM is a unique pan-India electronic trading portal, launched for business and marketing of agricultural commodities in India. This digital initiative aims to existing agricultural mandis on an online platform to realise the vision of 'One Nation, One Market'.
- During COVID-19 lockdown crisis, **three new modules of eNAM were launched** to facilitate farmers.
- eNAM enables FPOs to conduct trade of commodities from their own collection centres declared as '**Deemed Market**' or '**Sub Market Yards**'.
- Another module facilitated warehouses for Electronic Negotiable Warehouse Receipts (eNWRs) trading.
- Logistics module facilitates transportation of commodities from farm to mandis, and from mandis to warehouses or consumption centres.
- **Potential related to export of agricultural products remains untapped** due to various trade policies. During 2018-19, India could export agri- products worth Rs. 2. 7 lakh crore, whereas imports touched the value of Rs. 1.37 lakh crore.
- The Government has recently initiated a comprehensive '**Agriculture Export Policy**' aimed at doubling agricultural exports and integrating Indian farmers and agricultural products with the global value chains.
- **To promote and facilitate export of Indian agri-produce at new destinations**, it has created **agri-cells in many Indian embassies** abroad. Export of all varieties of pulses and edible oils (except mustard oil) has been allowed.
- **Import duties have been raised** and provision of '**Minimum Import Price**' (MIP) was imposed on selected commodities to protect the domestic growers and their livelihood from cheap import of the commodity.

E. Building Infrastructure, Creating Value Chains

- In the recently announced 'Aatmanirbhar Bharat Package', **an agri-infrastructure fund** of Rs. 1 lakh crore will provide finance to Primary' Agricultural Co- operative Societies (PACS), FPOs, agri-preneurs, agri-startups etc.
- A **cluster-based approach** in aspirational districts will be promoted to realise the vision of '**Vocal for Local with Global Outreach**'.
- Under **Pradhan Mantri Matsya Sampada Yojana**, Rs. 20,000 crore has been allocated; of which Rs. 9,000 crore is exclusively dedicated towards infrastructure development. More valued productions, such as cage culture, seaweed farming, ornamental fisheries, will be supported for increasing income of fishers substantially.
- An **Animal Husbandry Infrastructure Development Fund** of Rs. 15,000 crore is being created to support private investment in dairy processing.
- **Pradhan Mantri Kisan Sampada Yojana**' is already financing and supporting development of mega food parks, integrated cold chains and infrastructure for agro-processing and value addition. With an outlay of Rs. 4,000 crore, **herbal cultivation will be promoted** for next two years covering an area of 10 lakh hectare.
- Beekeeping will be supported with a fund of Rs. 500 crore for infrastructure development.

In addition to centrally sponsored schemes, various state governments have also launched special welfare schemes for farmers to augment their income. The '**KALIA**' scheme, of Odisha, Mukhya Mantri

Krishi Ashirwad Yojana of Jharkhand and **Rythu Bandhu of Telangana** are some of the noted schemes that have shown positive impact on income and livelihood of farmers.

Success Stories of Various Farmers

- Known as **Kisan Chachi, Rajkumari Devi** from Bihar has been active to promote different farming techniques to farmers in Bihar. She sought initial help from Rajendra Prasad Central Agricultural University in Samastipur.
- **Hukumchand Patidar** from Jhalawar in Rajasthan experimented with organic farming and met success with improved coriander farming.
- Both of them were awarded Padma Shri Awards last year.

Vigyan Prasar:

- Vigyan Prasar is an outreach organisation dedicated to ensure that the rural populace is duly benefitted by it. It has produced more than 300 originally- written titles in popular science.
- With more than 2500 network clubs, mostly in the rural areas, **VIPNET** (Vigyan Prasar Network Clubs) **provides updated information** about the developments in science & technology through newsletters, exhibitions, seminars, webinars, etc.
- Vigyan Prasar publishes a **popular monthly called Dream 2047** in Hindi and English that carry articles that are interesting and understandable by one and all. It has embarked upon outreach programs in other Indian languages as well.

Resilient Health Systems

Achieving Full Immunization Coverage

- **Mission Indradhanush** was rolled out on World Health Day, 7th April 2015 with an aim of **Full Immunisation Coverage (FIC)**.
- Before 2014, the **national immunisation coverage** stood at 65%. India set up an ambitious **target of achieving 90% FIC by 2020**. The Government strengthened the basket of vaccination services via a **life-cycle continuum of care approach** for both pregnant women and children.
- In 2016, vaccines pertaining to Japanese Encephalitis, Rubella, Inactivated Polio Vaccine (IPV) and Rotavirus were added, and 2017 saw the addition of Pneumococcal Conjugate Vaccine (PCV).
- **Pentavalent vaccine** (Diphtheria, Pertussis, Tetanus, Haemophilus influenzae type b [Hib] and Hepatitis B) was expanded to all the states in the year 2015.
- As a result of collaboration with different international agencies and extensive intervention, the **annual immunisation coverage shot up** from 1 % to approximately 6.7% per year in 2016 itself. **Mission Indradhanush** has been **rightly cited as one of the 12 best global health practices in the world**.
- To enhance the **quality of vaccines and supply chain**, the Government effectively introduced the indigenously developed **eVIN (Electronic Vaccine Intelligence Network)**.
- It seeks to ensure supply of vaccines and cold chain maintenance through technological solutions. The initiative has been **successful in saving 90 million vaccine** doses with the adherence rate of 99% in maintaining the vaccine supply and temperature norms, thereby improving the coverage and quality of vaccination program in India. **eVIN has been successfully piloted by countries like Indonesia, Sudan and Malawi.**

Benefits:

- Various initiatives such as Ayushman Bharat, with its twin pillars of Health & Wellness Centres and Pradhan Mantri Jan Arogya Yojana (PMJAY) have bolstered India's march towards achieving UHC.
- Besides reducing out-of-pocket expenditure on medical care and securing health services, these initiatives are also bound to positively impact our realisation of SDGs in general and **SDG-3 (Good Health and Well-being)** in particular.
- All the key RCH indicator namely MMR, Neonatal Mortality Rate (NMR), IMR, Under-Five Mortality Rate (U-5MR) and TFR etc., have recorded appreciable improvements.
- India successfully **eliminated Maternal and Neonatal Tetanus** in April 2015. This was another achievement of the Government after achieving Polio Eradication in March 2014.
- **Scaling of Special Newborn Care Units (SNCUs)** have been at the forefront of improved newborn and infant healthcare in India.
- **Universalisation of Vitamin K injection at birth**, Antenatal Corticosteroids during preterm labour, Kangaroo Mother Care (KMC) and administration of Gentamycin injection to newborns by ANMs in order to treat newborn sepsis; all have boosted the prospects of saving so many newborns and infants in India over the last six years.
- Under **Pradhan Mantri Surakshit Matritva Abhiyan**, all pregnant women in our country are provided fixed and free Antenatal Care services on 9th of every month with the participation of the private sector.

Conclusion:

- NITI Aayog, is implementing the "**Transformation of Aspirational Districts**" (TADP) Programme. This programme aims to uplift those backward 117 districts in India that are lagging behind in specific development parameters of health and nutrition, education, basic infrastructure etc.
- It is interesting to note that the **maximum weightage (30%)** amongst the six core thematic areas of this programme has been **accorded to health and nutrition**.

Effective Resource Management

- In 2019, the World Economic Forum's Risks Report indicated that a global water crisis is the **fourth most impactful risk and the ninth likeliest**.
- According to the World Bank in 2019, **India specifically is one of the most water-stressed countries globally**, and NITI Aayog found that many Indian cities were on track to run out of water in the next few years, if not already in the midst of the COVID- 19 crisis.
- The govt. has introduced programmes over the past few years – such as Jal Shakti Abhiyan, SBM, Jal Jeevan Mission – which seek to prioritise solutions that improve water security and supply and sanitation access.
- These programmes do not only address needs in terms of resource management, but also in terms of the potential to provide livelihoods to a bulging youth population.

The Following case study highlight new pathways for employment that contribute to building a self-reliant India while ensuring water and sanitation:

Case Study of Bihar**Harnessing Skills of Incoming Migrants**

- According to recent statistics from the Bihar State Disaster Management Department, the **state received more than 1.5 million returnees** in the state's quarantine centres.

- **In the short-term**, the state wants to recruit manpower for waged labour for existing social development schemes. **In the longer term**, the state wants to lay down an ecosystem that supports establishing large and decentralized industrial opportunities within the states.

Strategies employed by Bihar Govt.

- The Government of Bihar employed a **two-pronged strategy** to leverage this suddenly available manpower towards developing the state.
1. **Map skillsets of all incoming migrants** - to understand what supply exists to meet demands, and estimate employment needs. Initial data, suggests that approximately 50- 70 per cent of the returnees were working in construction industry.
 2. **Develop comprehensive district employment plan** - which would include details of both wage employment and self- employment both under the State Rural Livelihood Mission and other development projects. It is also seeking to **entice industries to set up in Bihar** by providing **concessions and promotions** under its new **Industrial Investment Promotion Policy**.

Engaging Migrants Labour in Existing Developmental Activities

- **Jal Jeevan Hariyali (JJH)** programme envisions a **disaster-resilient Bihar** by investing in environment sustainability through afforestation, to revival of water bodies, and rainwater harvesting.
- **Lohiya Swachh Bihar Abhiyan (LSBA)** has potential of providing opportunities for employment of skilled labourers.
- The Government of Bihar is also implementing the ambitious scheme- **Har Ghar Nal Ka Jal** - under the **national umbrella of the Jal Jeevan Mission (JJM)**, in order to provide functional household tap connections to all households in the state.
- These village and town level schemes require trained plumbers and mechanics available to keep them functional. Similarly, the state government's flagship programme, **Jeevika**, the state's rural livelihood mission, has a membership of more than 10 million households.
- After the migrants' skills are mapped, **bridge training is organised at quarantine centres** and their services are being utilised in various development initiatives. For example, trainings on **poultry and goat rearing, have been initiated in Purnea**.
- Trained or already skilled migrants have already been deployed to support work under the MNREGS, for JJHM and LSBY.

Development of Industrial Clusters

As part of the 2016 policy to develop local and sustained industries, the **state identified four high priority sectors** with potential for significant gainful employment:

1. Food Processing 2. Leather 3. Textile 4. IT, ITeS, and Electronics System Design and Manufacturing.
- There is already a pool of supply as some returning migrants had been previously employed by export houses in other states dealing in textile and leather.
 - The Bihar government is working to connect them with **initial capital sourced from scheme such as Mudra Yojana**, and provide them with better transportation access so that they can connect their products from anywhere in the state to the bigger consumer pools in cities.
 - Bihar having **lower overhead costs and cost of living** can potentially offset the cost of starting business in the state.

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Gandhiji' s Approach of Self -Reliance

- Self-reliance is a vision that indicates towards activities that are **self- supporting in economic terms** and **indicate reliance on one's own resources** and having **means to an end**.
- India had a self-reliant economy and society since the Indus Valley Civilisation, which was based on traditional methods of production, be it agriculture or non-farm practices.

The Hind Swaraj

- The Hind Swaraj described Gandhiji's vision about self- sufficiency of village communities in basic aspects of life. His concepts can be placed **under two categories**. These are:

A. Self-control and moral development,

- It was possible through the development of mind, body and soul and gets reflected in the practice of truth, non-violence and non-possession.
- It also empowers individuals to limit their desires and propensity to maximise gains, which in turn goes a long way to **create an ecological- environment balance**. According to him, **"if national life becomes so perfect as to become self-regulated, no representation becomes necessary"**.

B. Local Governance and Economic Development

- Gandhiji believed in participatory governance and successive linkages of it with agencies above, in the hierarchy. This will help in establishment of an intimate network instead of remote networks with a distant governing body.
- Economic development to him, **did not mean about having more, but about being more**. His idea of economic development focused on **making villages self-reliant**.
- He wrote, **"Indian villages produced and supplied to the Indian towns and cities all their wants. India became impoverished when our cities became foreign markets and began to drain the villages dry by dumping cheap and shoddy goods from foreign lands"**.
- His ideas also got reflected in his **concept of Swadeshi**. His scheme of village revival spoke about **self-sufficiency in cloth and food production**. For this he emphasized on weaving and spinning.
- He also **stressed on all other crafts** that formed a part of the hereditary occupation of the villagers, hence promoting the artisan economy.

Gandhi and Machines

- Gandhiji expressed **his aversion to modem machine civilisation** and believed that **consumption should be limited to objects that could be produced without machinery**.
- Machines according to him **should not take charge of development** because the idea of having machines, to save labour is guided by greed and not philanthropy, is aimed at profit maximisation and **leads to concentration of wealth**.
- He also **opposed the mass production of commodities** because it eventually gets dumped down to the village market, thus leading to destruction of the village production system.
- He was **not against industries but against industrialism**, which led to concentration of wealth and where the driving force is not to save labour but greed.

The Constructive Programme

- It was a **programme of individual change**, followed by **social change and faith** in the following for Poorna Swaraj. He envisioned to build a strong civil society so that the benefits of independence could percolate down to the masses and for this, he intended to create a network of local leaders who would work for creative change of the nation.

- **Khadi and other village industries** were always in focus within his schemes. According to him Khadi "connotes the beginning of economic freedom and equality of all within the country" and indicated "decentralisation of the production and distribution of the necessaries of life".

Self-Sufficient Villages: Features

- Villages becoming small unit of production
- Protection of artisan economy
- Revival of agriculture and allied activities
- Check on village out migration
- Lessening of ecological impact
- Utilization of local specificities
- Self sufficiency in terms of power through renewable sources
- Lessening of development divide

The Contemporary Relevance

- Inclusive development demands a comprehensive planning with inclusion of elements from the grass root level. The development experience has **shifted from a Statist model in the initial decades to gradual withdrawal of the State in the later decades**.
- For a diverse country like India, there **cannot be a uniform action plan for development**. The local specificities, identities and endowments need to be taken into consideration for any development approach. Gandhi mentioned that **the Constructive Programme is designed to build the nation bottom up**.
- The approach simply does not indicate political autonomy but building the region through insights. The first **potential sector lies in the handicraft tradition of India**. The raw material is localised and the production involves labor assistive technologies.
- The secondary important potential activities include **most of the non-farm practices** that have the capability to provide sustained livelihoods. Since land as a resource is limited, the agro-based allied activities also have considerable potential to create income.
- The mission and measures towards self-reliant India with emphasis on the micro, small and medium enterprises align with the vision of Gandhi fundamentally. The revision and roadmap could go a long way in protecting and promoting the interests and earnings of the rural masses.

Swachh and Smart Cities

Charkha, Mahatma Gandhi's spinning wheel is a symbol of self-reliance and strength of its own domestic industries. In the 21st century, the lesson of self-reliance is realised again with the COVID-19 epidemic.

Towards Self-reliance

- When COVID-19 broke out, India used to produce a few thousand PPEs. Now, it produces nearly **300,000 PPEs every single day**.
- It is the continuous effort of the government since six years that India ranks 63rd among 190 countries, according to the World Bank Report 2020. India made a leap of 14 places from its earlier rank 77 in 2019. And India has improved its rank in 7 out of 10 indicators.

Various Steps to Make our cities Self-reliant**A. Smart Cities Mission (SCM)**

- It promotes cities that provide core infrastructure and give a decent quality of life to its citizens, and a clean and sustainable environment and application of smart solutions.
- Many smart cities in India have started to use the **Integrated Command and Control Centre (ICCC) built under the Smart Cities Mission to fight against COVID-19.**

B. Jal Shakti Mission

- The government has proposed comprehensive measures for one hundred water stressed districts. Safe water mission with a focused approach (Jal Jeevan Mission) and comprehensive sanitation program (Swachh Bharat Mission) have been launched to support the health vision.

C. Water Supply –

- It aims to provide piped water supply to all households. The components of smart water management are: 1. Smart meters & management 2. Leakages identification, preventive maintenance 3. Water quality monitoring.

D. Urban Waste Water Reuse – It focuses on development of time-bound targets for waste water reuse for industrial and agriculture purposes.

E. Sewage Collection, Treatment and Disposal System: The government is committed to open defecation free (ODF). Now, more needs to be done towards liquid and grey water management. Focus would also be on solid waste collection, source segregation and processing.

F. Swachh Bharat Mission

- It was launched to accelerate the efforts to achieve universal sanitation coverage and to put focus on sanitation.
- The **smart solutions for Swachhata** in terms of waste management are: 1. Waste to energy & fuel 2. Waste to compost 3. Waste water to be treated 4. Recycling and reduction of waste.
- The **Ministry of Rail ways is the frontrunner of the SBM.** It has **installed bio-toilets** in coached coaches with a coverage of about 99.3%. Indian Railways banned single use plastic material on 2nd October 2019.

G. Atal Mission for Rejuvenation and Urban Transformation (AMRUT)

- The purpose of AMRUT is to **(i)** ensure that every household has access to a tap with assured supply of water and a sewerage connection; **(ii)** increase the amenity value of cities by developing greenery and well-maintained open spaces (e.g. parks); and **(iii)** reduce pollution by switching to public transport or constructing facilities for non-motorised transport.
- Earlier, the MoHUA **used to give project-by-project sanctions.** In the AMRUT, this has been replaced by **approval of the State Annual Action Plan once a year** by the Central Ministry and the States have to give project sanctions and approval at their end.
- In this way, the **AMRUT makes states equal partners** in planning and implementation of projects, thus **actualising the spirit of cooperative federalism.**
- **Mission components of AMRUT –** Water Supply, Sewerage, Septage, Storm water Drainage, Urban Transport, Green Space and Parks, Reform Management & Support, Capacity Building

Challenges and Way Forward

- The cities must be prepared for the **security and hacking** of the entire software system.

- There should be a **balance between the quality of life and invasion of privacy**.
- Swachh Bharat Mission (urban) faces two major challenges: Disposal of solid waste and Sewerage/liquid waste.
- Disposal of solid waste has three key components - waste collection, transfer of the waste, and lastly, proper disposal at the landfill site.
- The task of waste collection and its transfer to the landfill site requires both manpower as well as an efficient transportation system. The **segregation of waste** can either be at the source or at the landfill. **Segregation at source is more economical**.
- The cleanliness is primarily related to the **behavioural aspect** of individual and the society.

Digital Defence against COVID-19

Recognising its far-reaching impact, WHO in 2019, released **recommendations for countries to use digital health technology**, accessible via mobile phones, tablets and computers, to improve people's health and delivery of essential services.

Digital Initiatives helpful during COVID-19

A. Mobile Applications

- Mobile App based contact tracing has been found to be tremendously useful in identifying potential cases and gathering information about the spread of disease.
- **Australia** was the first to develop **COVIDSafe app** that allows health officials to access crucial information about a person's interactions if they contract the virus. Some countries have even gone to the extent of **giving paired wristbands** to those who are put under disease surveillance and thereafter utilise geofencing technology to help catch violators.
- India has launched its own **Bluetooth and GPS enabled contact tracing app, Aarogya Setu**. It provides an opportunity to self-assess and actively reach out to health system with one's own status of well-being.

B. Open-sourced Analytics and Modeling Tools

- Rapid data sharing is critical during epidemics and pandemics as it allows for a better understanding of the origins and spread of the infection.
- The placement of the first genome of the 2019-nCoV virus in an open database on 8th January 2020, paved the way for scientists around the world to start working on the development of a treatment or vaccine.
- Open-source technologies can help in improving accessibility of information, formulating open standards that enable all stakeholders to contribute and developing rapid prototypes that can lead to rapid discoveries.
- Responding to concerns about the lack of testing components to test for COVID-19, the **Just One Giant Lab** developed an **open-source coronavirus test methodology** to share designs so that certified labs could produce test kits easily.
- **Maker's Asylum**, a community hackerspace in Mumbai and New Delhi, has designed **M-19 face shields** for healthcare workers that can be made in just about three minutes by anyone following the guidelines of the prototype.
- Another key innovation has come from a team of researchers at IIT Kanpur; which has developed a **full PPE kit that**, when mass-produced, **would cost less than Rs. 100**.

C. Tele-health Technologies

- Telehealth technologies allow patients to be seen and diagnosed remotely by doctors. Scores of countries are now providing virtual care on a war footing.
- **Sheba Medical Centre**, the largest hospital in Israel, launched a remote patient-monitoring program in an attempt to control the spread of the virus.
- **E-Sanjeevani** is the Indian teleconsultation service launched by MoHFW during this pandemic.

D. GIS and Smart City's Integrated Control and Command Center (ICCC)

- Geographic interpretation and insight are essential in detecting, understanding and responding to the pandemic. GIS helps epidemiologists to **map disease occurrence against multiple parameters** including demographics, environment, its spread pattern etc. to implement preventive and surveillance measures.
- WHO unveiled its **ArcGIS Operations Dashboard** for COVID-19, which maps coronavirus cases and total number of deaths by country and other related informations.
- **In India** too, GIS has been extensively deployed to fight the pandemic. A GIS platform has been developed by an eminent team of researchers in IIT Chennai and integrated with Aarogya Setu to provide extremely important information about the spread of coronavirus.
- ICCC across **45 smart cities have transformed into war rooms** for operations to contain the spread of the COVID-19.
- ICCC are being used to carry out **CCTV surveillance of public places**, GIS mapping of COVID-19 positive cases, GPS tracking of healthcare workers, predictive analytics (heat maps) for virus containment across various zones of the city etc.

E. Drones

- From disinfection and street patrols to food and medicine delivery in containment zones; drones are being deployed on the front line in the fight against coronavirus.
- Indian cities have also effectively deployed drones to **disinfect over-congested slums** and colonies. Moreover, police in various states have made effective use of drones to expand **surveillance and make live announcements**.
- **Ministry of Civil Aviation** has launched **GARUD portal** to fast track conditional exemptions given to government agencies for COVID-19 related drone operations.

F. Robots

- Robots have been used by many countries to provide services and care for those quarantined or practicing social distancing. **Los Angeles-based Dimer UVC Innovations**, has developed germ-killing robot '**GennFalcon**' which can be used for sanitising airplanes.
- Humanoids like **Sayabot** in Kerala are used to raise awareness & automate sanitisation processes.

G. 3D Printing

- 3D printing can play an important role as a disruptive digital manufacturing technology by **boosting production** and **optimising the supply of specialised and critical medical equipments** to treat COVID-19 patients.
- **HP India** responded to the critical need of making ventilators available in large numbers by getting over **1.2 lakh key ventilator parts printed in a short span of time**.
- **Boson Machines** has delivered more than 12,000 **3D-printed face shields** in various hospitals in Mumbai.

Conclusion:

As the pandemic 's prolonged existence necessitates looking beyond short-term measures, it is time for structural & legal frameworks around increased digitisation to be firmly entrenched in material economy.

Technology and Learning**Recent Initiatives in Education**

- **SWAYAM Prabha**, which consists of a **bouquet of 32 DTH educational TV channels**, was launched in 2017 to **telecast high- quality educational programs** round the clock.
- Considering the **success of SWAYAM Prabha channels** and the fact that they have a large catchment area, the government has decided to **start 12 educational TV channels** on DD platforms for classes; dedicating one channel for each class.
- The government is also promoting the **use of radio in learning**. Community radio and radio streaming on internet (podcasts) have emerged as viable technological solutions for reaching out to hitherto unreached students and teachers in the country.
- **SWAYAM** (Study Webs of Active-Learning for Young Aspiring Minds) is an online digital platform which hosts several courses offered by the best teachers of universities/colleges/schools **free of cost to the students** living in any part of the country. One needs to pay only for examinations and certificates. Such courses are also known as Massive Open Online Courses (MOOCs).
- In 2015, NCERT and MHRD, launched **ePathshala portal and mobile app**. This app and portal hosts **all text book titles of NCERT as ePubs and flipbooks**.
- The Government's push for "One Nation, One Digital Platform for Learning" has resulted into the creation of **Digital Infrastructure for Knowledge Sharing (DIKSHA)**. The DIKSHA app was launched in 2017.
- Although it is just one app for the entire country, it **seeks to decentralise the creation of eContents** by encouraging teachers and educators to develop new and innovative programs.

Conclusion:

- Given the huge gap in access to ICT infrastructure in the country, any technology mediated solutions must **first seek to bridge the digital divide**.
- The **draft National Education Policy (NEP) 2019** identifies a few important concerns related to technology integration in education in the country. One such concern is the availability of the local expertise in resolving and maintaining hardware and software at remote locations.
- It recommends **deploying local talents** for managing technological issues in schools. In this way, technology use in education has ramifications for the employment at the local level too.

iFLOWS: Flood Warning System

- iFLOWS, a state-of-the-art **Integrated Flood Warning System** will help make Mumbai become more resilient, by providing early warning for flooding especially during high rainfall events and cyclones.
- Using this, it will be possible to have an estimate of the flood inundation 3 days in advance, along with 3 hours-6 hours Nowcast (immediate weather updates).