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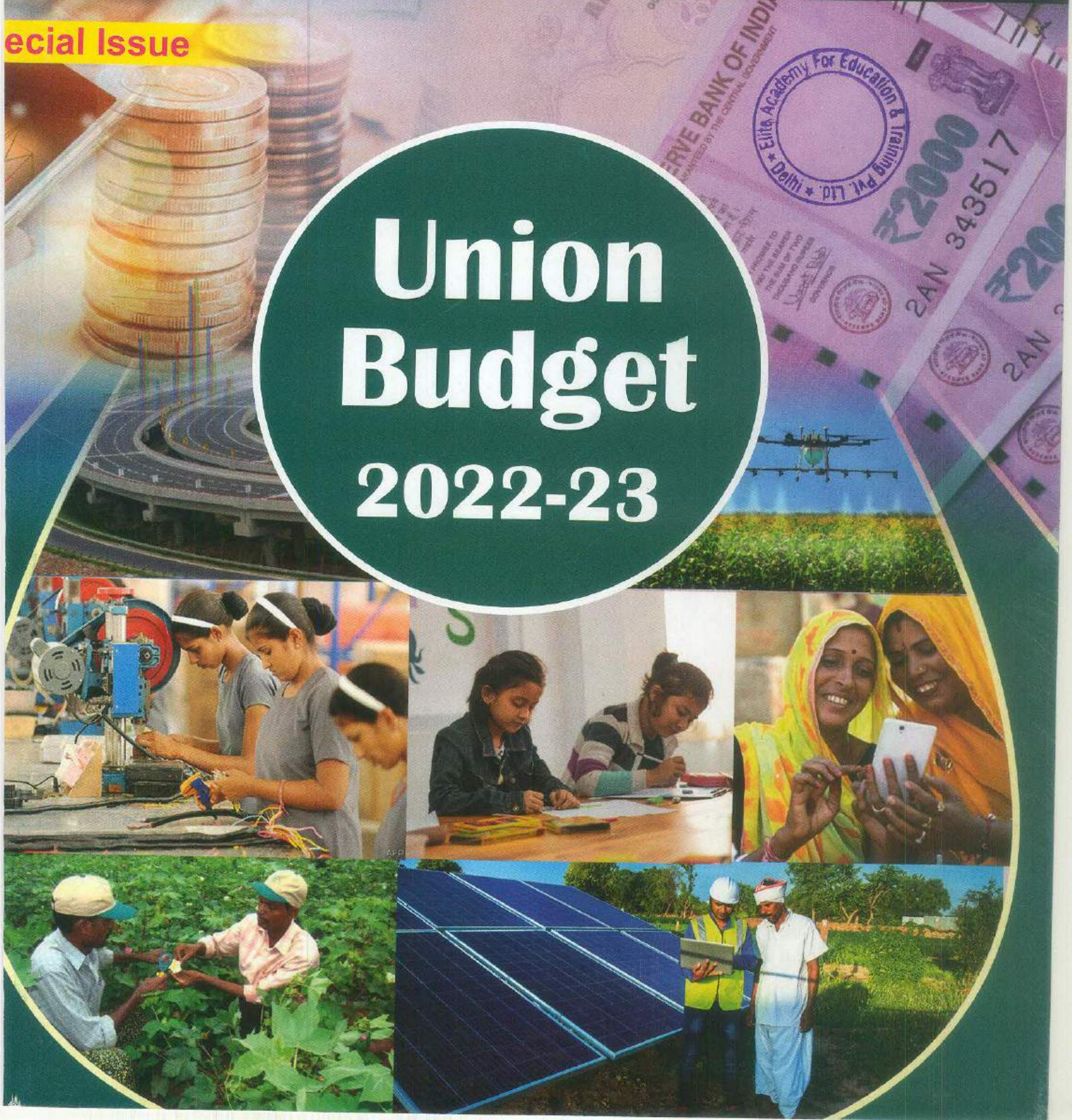
Union Budget 2022-23



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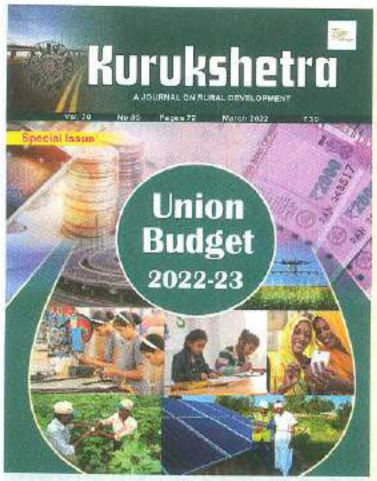

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Kurukshetra seeks to carry the message of Rural Development to all people. It serves as a forum for free, frank and serious discussion on the problems of Rural Development with special focus on Rural Uplift.

Editorial

The Union Budget 2022-23 carves out a development path for the next 25 years of Indian economy- termed as India's *Amrit Kaal*. The aims of *Amrit Kaal* are to bridge the rural-urban divide, enhance the quality of lives of Indian citizens, and adoption of latest technology. Union Budget seeks to complement macro-economic level growth with a focus on micro-economic level all inclusive welfare. It also reflects the ambition of the Government of India to achieve Sustainable Development Goals 2030 and also includes productivity enhancement and investment, sunrise opportunities, energy transition, climate action, financing of investment, incentives for COVID-19 hit sectors, etc.

Set to explain the key announcements on major sectors of Indian economy, the theme of this issue is – Union Budget 2022-23. Our lead article *Growth and Employment* talks about leveraging Sunrise Sectors to drive high growth and employment. The key to transforming country during *Amrit Kaal* lies in a technology-driven approach. It can be achieved only when we advance technology and foster innovation through structural reforms. This year's Budget announced that the government contribution to be provided for R&D in the Sunrise Opportunities for India - Artificial Intelligence; Geospatial Systems and Drones; Semiconductor and its ecosystem; Space Economy; Genomics and Pharmaceuticals; Green Energy; and Clean Mobility Systems.

Agriculture and allied sector was the least affected sector in the COVID-19 pandemic and it accounts for around 19 percent Gross Value Added in the economy. The article titled *Agriculture Development* throws light upon the budget allocation to agriculture and allied sector. According to this article the Budget has emphasised on attracting investment in research and innovation through bringing in a start-up culture in agriculture. The efforts of the government directed towards facilitating infrastructure for agri-value chains, integrating FPOs, Cooperatives and private sector agri-tech players through start-ups, simplifying the use of drone technology for crop production, monitoring and assessments and laying focus on promotion of nutri-cereals like millets, are futuristic and have the capabilities to ensure adequate crop diversification by the farmers.

The article titled *Learning Recovery in School Education* highlights the budget allocated to the Ministry of Education and the efforts taken by the government to deal with the after-effects of the COVID-19 and lockdowns on the education sector.

This issue of Kurukshetra also focuses on the role of Union Budget 2022-23 in *Transforming the Industrial Ecosystem* via several announcements on MSMEs, Skill Development, Infrastructure Development, Business Facilitation and Investments and Budget allocation to various schemes under the aegis of Ministry of Rural Development.

This issue also features an article titled From *India to her Villages - Localisation of SDGs with Local Self Government*. It puts emphasis on the fact that the way to achieve the SDGs for India, Leave No One Behind, Leave No Village Behind is to go down to the Village Panchayat level, involve the people of villages fully and make them decision makers to achieve overall development of the country.

We wish our readers a very Happy Holi in advance. Stay Safe.

Growth and Employment

Amitabh Kant, Naman Agrawal and Siddhey Shinde

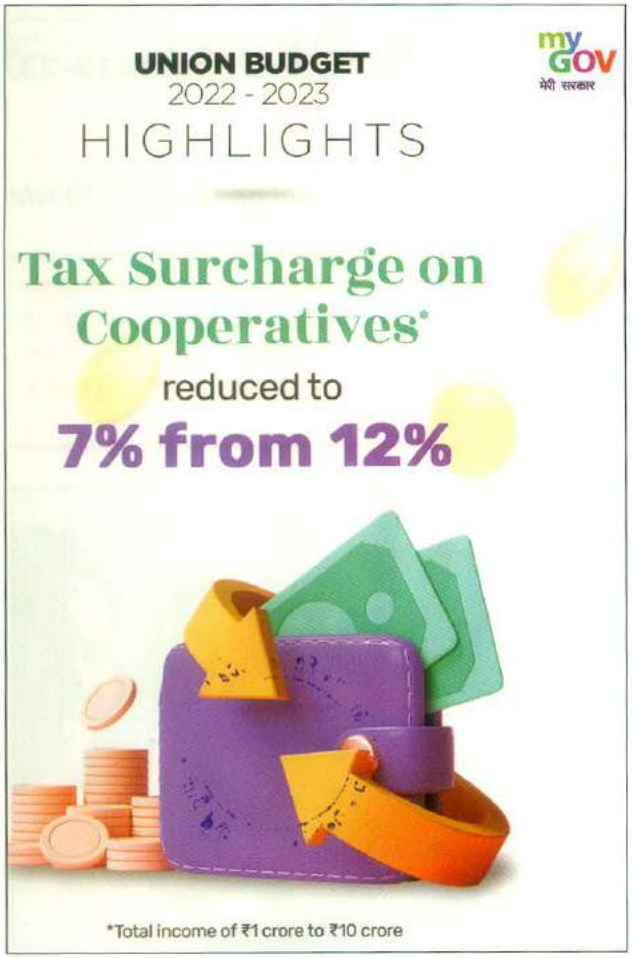
Following the principles of 'Minimum Government and Maximum Governance', there have already been a series of reforms repealing outdated compliances and cumbersome laws. The next stage must focus on standardisation and removal of overlapping compliances; complete digitisation of manual processes and physical records; and creation of single point access systems and single window clearance systems. This will accelerate business processes and boost productivity in the industry. Use of modern policy tools can revolutionise the future business and regulatory environment.

As India gets back on track to achieve its goal of becoming a USD 5 trillion economy, it has leveraged this opportunity to introduce reforms and interventions which would put India on a high-growth trajectory. The COVID-19 crisis was an urgent reminder of the structural vulnerabilities that India faced, making it clear that unless decisive reforms were introduced, India would risk a decade of rising unemployment and economic stagnation. Keeping this in mind, and providing the impetus for rapid growth, the Budget 2022-2023 has set the stage for transforming India through this *Amrit Kaal*.

The key to such a transformation lies in a technology-driven approach. It can be achieved only when we advance technology and foster innovation through structural reforms. In doing this, we draw on lessons from Japan and South Korea, where the focus on sunrise sectors led to high growth for long time periods. In her speech, the Hon'ble Finance Minister highlighted the sunrise opportunities for India - Artificial Intelligence; Geospatial Systems and Drones; Semiconductor and its ecosystem; Space Economy; Genomics and Pharmaceuticals; Green Energy; and Clean Mobility Systems. These are not only their own sectors with new products and services, but also boost upstream sectors like manufacturing, transportation, and construction. Emphasis was placed on their role in sustainable development and modernisation of the country through their potential to offer sustainable high-growth rates.

The first goal of the *Amrit Kaal* - complementing the macro-economic growth with micro-economic all-inclusive welfare - serves as a guiding principle here. The envisaged transformation pursued through a technology-driven approach must also be people-centric. It is estimated that some 90 million workers will be looking for gainful non-farm work opportunities between now and 2030, based on current demographics and possible transitions of workers out of agriculture. An additional 55 million women could enter the workforce by 2030 if their long standing under-representation is, at least, partially corrected. Only a return to rapid and sustained GDP expansion, fuelled by high productivity growth will enable the large-scale creation of gainful opportunities needed for these workers.

Whereas these may appear as two different endeavours, they can be bridged to form the virtuous cycle of growth and employment for India through innovative policymaking. Experience suggests that this is possible. India has delivered



rapid economic growth, increase in productivity, and poverty alleviation over much of the past quarter-century, and its innovative companies can help achieve high economic aspirations — all through the use of smart policies. In this case, the bridge can be built with a wide range of reforms in Ease of Doing Business, education, skill development, start-ups, and industry promotion and competition.

Furthering Ease of Doing Business reforms through trust-based governance will greatly enhance productivity and investment. Following the principles of 'Minimum Government and Maximum Governance', there have already been a series of reforms repealing outdated compliances and cumbersome laws. The next stage must focus on standardisation and removal of overlapping compliances; complete digitisation of manual processes and physical records; and creation of single point access systems and single window clearance systems. This will accelerate business processes and boost productivity in the industry.

Use of modern policy tools can revolutionise the future business and regulatory environment. The advances in technology development and adoption have created new policy tools and options. They are: (i) light-touch regulation: these are simple, digitised, self-declaration processes, that leverage technology tools to quickly ensure protection of national interest; (ii) facilitative proactive action: the government must not simply respond to market shifts but take lead and direct the market to the desired stage; (iii) open-channel consultation: establishing an open channel of communication between all stakeholders on various policy matters; (iv) data-driven evidence-based policymaking: bringing a systematic approach based on data collection and analysis, complemented with a scientific mindset to policymaking. The use of such policy tools will propel India into the future.

Improved access to credit can help MSMEs to accelerate India's path to become USD 5 trillion economy. The existing effort in this direction has helped more than 130 lakh MSMEs mitigate the adverse impact of the pandemic. Hospitality and related services, especially those by micro and small enterprises, are yet to regain their pre-pandemic level of business. The extension of the Emergency Credit Line Guarantee Scheme (ECLGS) will boost the hospitality and related industry and the revamped Credit Guarantee Trust for Micro and Small Enterprises (CGTMSE) will serve to expand employment opportunities.

A transformative approach under the PM Gati Shakti Mission for economic growth and sustainable development has been taken in Union Budget 2022-23. The approach is driven by seven engines; namely, Roads, Railways, Airports, Ports, Mass Transport, Waterways, and Logistics Infrastructure. All seven engines will pull forward the economy in unison. These engines are supported by the complementary roles of Energy Transmission, IT Communication, Bulk Water and Sewerage, and Social Infrastructure. Finally, the approach is powered by Clean Energy and *Sabka Prayas* – the efforts of the Central Government, the state governments, and the private sector together – leading to huge job and entrepreneurial opportunities for all, especially the youth.

The PM Gati Shakti National Master Plan will encompass the seven engines for economic transformation, seamless multimodal connectivity and logistics efficiency. It will also include the infrastructure developed by the state governments as per the Gati Shakti Master Plan. The focus will be on planning and financing through innovative ways, use of technology, and speedier implementation.

The projects pertaining to these seven engines in the National Infrastructure Pipeline will be aligned with PM Gati Shakti framework. The touchstone of the Master Plan will be world-class modern infrastructure and logistics synergy among different modes of movement – both of people and goods – and location of projects. This will help raise productivity, and accelerate economic growth and development.

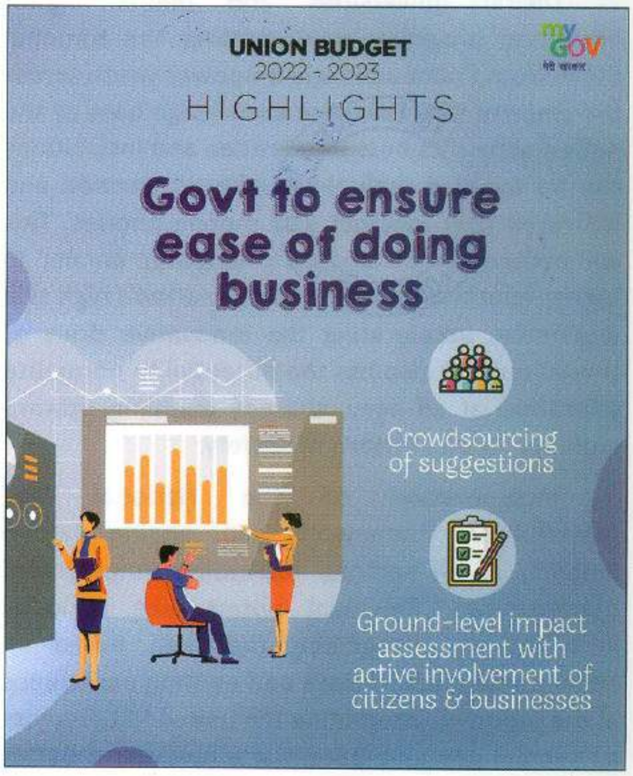
PM Gati Shakti Master Plan for Expressways will be formulated in 2022-23 to facilitate faster movement of people and goods. The National Highways network will be expanded by 25,000 km in 2022-23. Rs. 20,000 crores will be mobilised through innovative ways of financing to complement the public resources.

Mass urban transport including connectivity to railways is crucial for the growth of economy. Innovative ways of financing and faster implementation will be encouraged for building metro systems of appropriate type at scale. Multimodal connectivity between mass urban transport and railway stations will be facilitated on priority. Design of metro systems, including civil structures, will be re-oriented and standardised for Indian conditions and needs.

Reforms in five areas can raise productivity and competitiveness; more than half could be implemented rapidly via policies or laws. They are: (i) sector-specific policies to improve productivity in manufacturing, real estate, agriculture, healthcare, and retail; (ii) unlocking supply in land markets to reduce land costs by 20 to 25 percent; (iii) creating flexible labour markets for industry, with better benefits and safety nets for workers; (iv) enabling efficient power distribution to reduce commercial and industrial tariffs by 20 to 25 percent; (v) privatising 30 or so of the largest state-owned enterprises to potentially double their productivity.

Tele-education and digital education can provide a resilient mechanism for education delivery and lead to improved education outcomes. The expansion of the 'One class - One TV channel' programme of PM eVIDYA will enable all states to provide supplementary school education in regional languages. High quality e-content can be developed and delivered over internet and mobile phones, with a special focus on female education. Leveraging virtual labs in science and mathematics can also promote crucial critical thinking skills. Teacher training programs to integrate use of digital tools in teaching will facilitate better learning outcomes.

Integration of vocational training in school and higher education will provide youth with hands-on experience, reduce on-job training time, and improve productivity. The courses, designed in consultation with experts from the industry, will focus on IT applications, Banking, Finance and Life Insurance, Financial Marketing Management, Fashion Design and Technology, Medical Diagnostics, Retail Services and Operations, Hotel Management and Catering Technology, Tourism and Travel, etc. This can be complemented by establishing e-labs for skilling which will provide a simulated learning environment.



Digital universities and online higher education programs incorporating the National Curriculum Framework will empower youth across the country. The immense knowledge base of the nation across its best universities and institutions can be coupled with the quality instruction and delivered over internet and mobile phones. This will reduce the distance and language barrier to higher education and add to the nation's high skill workforce, accelerating the innovative drive of these youth. It also has the potential to normalise education at all ages, thereby enabling upward mobility for all sections of society.

Incorporation of the National Skill Qualification Framework can enable lateral mobility in all sectors, increasing employment opportunities. Prevalent norms face difficulty in effectively recognising the skills based on educational qualifications and existing experience in the industry. Integrating the use of NSQF across all sectors can give potential employers a better grasp of the skills of candidates and give the candidates more certainty when applying to jobs, thereby improving the overall employability of the nation's workforce.

Financial-sector reforms and streamlining fiscal resources can deliver USD 2.4 trillion in investment while boosting entrepreneurship by lowering the cost of capital for enterprises by about 3.5 percentage points. In the high-growth scenario, investment will need to rise to at least 37 percent of GDP from 33 percent pre-crisis, with a sharp uptick in private-sector investment. To finance this, some four percentage points of household savings could move to financial products, through measures to unshackle insurance, pension funds, and capital markets. Measures like a "bad bank" for non-performing loans and reforms in directed bank lending could reduce capital costs. Around three percent of GDP may be channelled to productive infrastructure and other expenditure through measures to streamline government spending and government-owned assets, along with the tax buoyancy effects of higher growth itself.

Complementing government support with the use of new age financial tools in financing investment for national goals has the potential to make India the most attractive destination across sectors. The conventional approach of government support led financing has proven to be vulnerable to externalities like the pandemic, since the government has an obligation to re-prioritise. To avoid the resulting slump in investments, the use of new age financial tools holds potential. The government must promote the adoption of green bonds to finance sustainable development projects. Emphasis on blended finance in identified thematic areas will encourage private investments and improve industry confidence.

While the central government's pro-growth agenda is critical, roughly 60 percent of the reforms can be led by the states, and both require active participation by the business sector. State governments could select frontier businesses and set up "demonstration clusters," for example, manufacturing export hubs, while pursuing other key reforms, including in agriculture, power, and housing. Businesses would need to commit to productivity growth, develop a long-term value creation mindset, and develop capabilities in innovation, digital and automation, M&A, partnerships, and corporate governance. With this, the coming decade for India could be one of high growth, gainful jobs, and broad-based prosperity.

In addition to all the above reforms, India's business leaders must also help to restore the country to a high-growth path. That will require focus on three key themes. First, firms would need to raise aspirations and commit to productivity growth through business ideas based on the sunrise sectors. The risk-averse nature needs to change, and be replaced with acceptance of risk in an informed, educated, and calculated manner. The choice of which opportunities to commit to would vary for each company, but making bold investments in a few areas will be critical in order to be a winner and shape India's high-productivity economy in the coming decade.

Second, businesses need to develop a long-term value creation mindset coupled with a strong performance-oriented culture; both of these create stakeholder value in the long-term. This implies adopting a forward-looking approach to investment, building an organisational culture that focuses on long-term value creation, and articulating a shared vision and purpose with accountability to all stakeholders. The long-term mindset needs to go hand-in-hand with outcome-based performance management and a systematic approach to managing the performance of teams and individuals.

Third, firms will need a set of winning capabilities if they are to emerge as large, high-growth, globally competitive businesses. These are as follows:

a. Customer-centric Innovation- Firms that have been able to create winning propositions have seen high revenue and profit growth. Both large and small firms across sectors need to build capabilities that enable razor-sharp understanding and focus on customer needs along with innovation, localisation and tailoring for India, along the value chain of product design, pricing, distribution and the back-end.

b. Operational Excellence and Scalable Platforms- Firms across sectors will need to ramp up digital and data capabilities to create lean, scalable operating platforms. Such measures could go from installing digital architecture for back-offices, digitising supply chains, and moving customer sales and service interfaces online. Automation and the full gamut of Industry 4.0 techniques will need to be at the forefront of this wave, including assembly-line automation and IOT-enabled data analytics, amongst others.

c. Ability to be Ahead of the Curve and Win in Discontinuities- Companies that are pioneers in their fields and shape new ecosystems tend to capture disproportionate value. Critical capabilities for firms of the future will be reshaping established business practices, fostering creativity and nimbleness, and making bold capital allocation decisions.

d. Well-executed Mergers, Acquisitions, and Partnerships- With India's fragmented corporate landscape, particularly in sectors such as retail, logistics, and construction, consolidation could be the key to regaining a competitive advantage. Firms will need to build their mergers and acquisition and partnership muscle and learn how to capture value by consolidating disaggregated and distributed players.

India is at a turning point. Faced with the challenge of driving the sunrise sectors to supply sustained high-growth rates while creating 90 million jobs over the next decade, the country will need to implement significant reforms across the economy. At a time when the global economy has taken severe knocks from the COVID-19 pandemic, restoring 8.0 to 8.5 percent GDP growth is an ambitious goal. Yet India has shown time and again over the past three decades that it can confound even the loudest sceptics and put in place the key changes that enable its economy to outperform. Over the next decade, India needs to do so once again.

This is India's *Suryanamaskaar.*

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Agriculture Development

Dr. K. K. Tripathy

The Budget 22-23 has reaffirmed its goal to transform the farm business into a remunerative one by bringing in modernisation into agriculture input supplies and services, improving technology penetration, enhancing marketability of the farm products and attracting investments into innovations in agriculture through agri-tech startups. The Budget 22-23 is futuristic and its approach towards agri-development indicates government's resolve in ensuring adequate crop diversification in India's agriculture. The expected incremental inflow of investment in agri-logistics, agri-services and other support services will address logistic challenges like transportation of agro-produce, warehousing and supply chain difficulties and would ensure liberalising farm markets and remove difficulties in such markets to make farming competitive and remunerative.

The recently released Government of India's (GoI) Economic Survey 2021-22 noted the resilience in the agriculture sector during the past two years. COVID-19 pandemic impacted the agriculture sector the least in comparison to the services and industry sectors of the economy. In India, agriculture and allied sector accounts for 18.8 percent of Gross Value Added (GVA) in the economy. Against a pre-pandemic GVA growth rate of 4.3 percent (at 2011-12 constant prices) in 2019-20, it is expected to achieve the growth rate of 3.9 percent in 2021-22. The survey touched upon various growth propelling factors and examined the needs of timely and adequate availability of rural and agri-finance, access to other agri-inputs and services, adequacy in insurance coverage and risk mitigation, marketability of products, etc. It also highlighted the importance of crop diversification and advocated gradual shift from the cultivation of water-intensive crops like sugarcane and paddy to cotton, horticulture, nutri-cereals, pulses and oilseeds. While prescribing various policy supports and schematic pathways for quick recovery of the three sectors of the economy, it advocated demand and supply side management through fiscal and financial measures so as to accelerate the growth rate of the Gross Domestic Product (GDP) by ensuring sector-specific efficiencies and competitiveness.

Pre-Budget Expectations

The citizens' pre-budget expectations ranged from revival of rural farm and non-farm sector through all-encompassing infrastructure and investment push to attracting invention and innovation in the field of agriculture. It was also expected that the government would fulfil its welfare promises of ensuring sustainable agri-business environment in rural areas by according a big boost to agriculture and allied sector, enhancing allocation for rural infrastructure and improving technology adoption at the grassroots. The sole objective of these pre-budget expectations was to witness acceleration in growth, making farming remunerative so that it can create remunerative job opportunities in the rural areas to absorb mounting labour force. Thus, Budget 22-23 was anticipated to offer forceful instructions for carrying out smart and profitable agriculture via increased investments in agriculture and rural sector activities. The

Budget announcements on agriculture have elicited a positive response from the stakeholders in the field of farming. The directions and focus of the Budget are on reduction in farm imports, increasing oilseeds production, encouraging production of nutri-cereals like millets, adoption of chemical-free natural farming practices, increasing technological intervention. The prime objective behind these interventions would help in guaranteeing incremental income, employment and in improving agriculture value chains and supply chains.

This article analyses a few budget announcements which impact lives of millions of farmers and farm workers' households. An attempt has been made in this article to explain the in-built policy directions and economic intent of the Government of India by discussing and deliberating a few agricultural development related areas as prioritised in the Union Budget 2022-23.

Budget Allocation to Agriculture

To ensure a quick agriculture-led rural economic growth, the Budget 22-23 allocated Rs. 1,32,513.62 crore to the two departments of Ministry of Agriculture and Farmers Welfare (MoAFW). While the Department of Agriculture and Farmers Welfare (DAFW) got an allocation of Rs. 1,24,000 crore, the Department of Agriculture Research and Education (DARE) was allocated Rs. 8,513.6 crore. Table 1 gives a comparative statistics of the Budget Estimates (BE) for the years 2022-23 and 2021-22 and the Actual Expenditure (AE) for the year 2020-21. The 2022-23 BE for implementation of agriculture schemes by the Ministry of Agriculture and Farmers Welfare (MoAFW) indicated a very minimal increment over that of 2021-22. However, there is 12.59 percent increase in the allocation of MoAFW during 2022-23 vis-à-vis the actual expenditure recorded during the year 2020-21. This indicates that the Union Budgetary process has now started adopting absorption capacity-driven allocation approach to optimally fund the public welfare schemes through the Ministries/Departments of the Government as per their actual demands.

Table 1: Budget Allocation and Actual Expenditure in Ministry of Agriculture and Farmers' Welfare during 20-21 and 22-23
(Rs. in Crore)

S.N.	Ministry/ Department	2022-23	2021-22	2020-21	Increase of Allocation (%) in 2022-23 over	
		BE	BE	Actual Expenditure	BE 21-22	AE 20-21
1	2	3	4	5	6	7
1	DAFW	1,24,000	1,18,294.24	1,23,017.57	0.79	12.68
2	DARE	8,513.62	8,513.62	8,513.62	0.00	11.27
3	MoAFW	1,32,513.62	1,26,807.86	1,31,531.19	0.74	12.59

Source: Union Budget 2022, Ministry of Finance, Government of India

The Budget 22-23 reaffirmed its goal to transform the farm business into a remunerative one by bringing in modernisation into agriculture input supplies and services, improving technology penetration, enhancing marketability of the farm products and attracting investments into innovations in agriculture. A few select schematic budget allocations in the DAFW are indicated in Table 2.

Table 2: Budget Allocation to Major Select Schemes of DAFW in the Ministry of Agriculture & Farmers Welfare

S. No.	Scheme	22-23 Budget Estimates (In Rs. Crore)	Percent share to Total Scheme Budget Allocation (in %)
1	2	3	4
Central Sector Schemes			
1	Pradhan Mantri Fasal Bima Yojana (PMFBY)	15,500	12.56
2	Pradhan Mantri Kisan Samman Nidhi (PM-Kisan)	68,000	55.13
3	Formation and Promotion of Farmer Producer Organisations (FPOs)	500	0.40
4	Agriculture Infrastructure Fund (AIF)	500	0.40
5	National Beekeeping Honey Mission (NBHM)	100	0.08
6	Modified Interest Subvention Scheme (MISS)	19,500	15.81
6	Others	1,610	1.30
Total Central Sector Schemes		***1,05,710***	***85.72***
Centrally Sponsored Schemes			
7	Rashtriya Krishi Vikas Yojana (RKVY)	10,433	8.45
8	Krishionnati Yojana	7,183	5.85
Total Centrally Sponsored Schemes		**17,616**	**14.28**
Total Central Sector & Centrally Sponsored Schemes		**1,23,326**	**100.0**

Source: Union Budget 2022, Ministry of Finance, Government of India

The share of central sector schemes and centrally sponsored schemes in DAFW's total schematic budget allocation is 85.72 and 14.28, respectively (**Table 2**). Out of 1,23,326 crore scheme budget, 85.72 percent would be spent by the Government of India directly through its implementing machinery whereas 14.28 percent of budget resources would be spent through the instrumentation of the State/UT governments. The budget allocation of Rs. 15,500 crore to PMFBY would help in mitigating risks in agriculture activities. PMFBY targets to cover 65 lakh farmers in 22-23, with a coverage of 4.2 crore hectare of crop area. The real challenge is how to ensure timely processing and settlements of claims to improve increased risk coverage for insured farmers. Similarly, Rs. 68,000 crores under PM-Kisan would be utilised to ensure increased coverage of the scheme with the participation of 12.67 lakh beneficiary farmers. This would ensure assured income support to the landholding farmers with cultivable land where improved payment facilitation would be one of the important deliverables under the scheme. Budget allocation of Rs. 500 crore each to promotion of Farmer Producer Organisations (FPOs) and Agriculture Infrastructure Fund (AIF) schemes would ensure increased credit availability and creating better agri-infrastructure in rural areas.

Similarly, Rashtriya Krishi Vikas Yojana (RKVY) focuses on food security, sustainable agriculture, oilseed production, agri-extension, etc. The scheme has been restructured this year where various schemes viz. Pradhan Mantri Krishi Sinchai Yojana (PMKSY) – per drop more crop, Paramparagat Krishi Vikas Yojana (PKVY), National Project on Soil Health, Rainfed Area Development and Climate Change, Sub-Mission on Agriculture Mechanisation including management of crop residues have been merged. This integration with a budgetary support of Rs. 10,433 crore would aim at ensuring higher growth in agriculture sector, higher returns to the farmers and converged farming activities. Rs. 7,183 crore is allocated to Krishonnati Yojana in Budget 22-23. This Yojana has a number of schematic projects viz. Integrated Development of Horticulture, National Mission on Edible Oils - Oil palm, National Food Security Mission, Sub-Mission on agriculture Extension, etc. Amalgamation of various schemes under one umbrella scheme – Krishonnati Yojana would ensure effective targeting of eligible beneficiaries and register efficiency in the system.

Promotion of Nutri-Cereals

The Union Government has underscored the importance of nutri-cereals like millets which can meet the nutrition requirements of the citizens and at the same time can provide remunerative income to the farmers. Budget 22-23 has promised to provide supports for post-harvest value addition, enhancing domestic consumption and facilitating brand and market development of the millet based products nationally and internationally looking at the growing demand for these nutritional agri-products. This is a forward-looking intervention of the government as it would help in generating incremental income and employment opportunities in rural areas.

Minimum Support Prices (MSP) for Agriculture

The area sown under Kharif and Rabi crops and the production of Wheat and Rice has been steadily rising over the years. The food-grain production in the Kharif cycle of 2021-22 is estimated to post a record level of 150.5 million tonnes. Considering the increased procurement of food-grain under central pool mechanism, the Budget speech noted that both the Rabi wheat and Kharif paddy procurement in respective 2021-22 seasons could be an estimated 12.08 million metric tonnes. This would benefit 163 lakh farmers. The consequent effort would lead to the payouts of Rs. 2.37 lakh crore towards MSP value of such procurements directly payable to the farmers' accounts. This would guarantee national food security and enhanced income in the hands of the farmers.

Technology Infusion in Agriculture

The country's urgent need for a technological breakthrough is discernible in the Budget 22-23 where attempts were made to roll-out integrated and feasible tech-solutions to digitise agri-markets, rural markets and sub-markets, payment systems, workflows leading to subsidy disbursements to beneficiary farmers, etc. The Budget announcements would bring in a pragmatic and timely integration of technology and agricultural activities through adoption and use of drone technology. The government proposes to promote extensive use of 'Kisan Drones' for crop assessment, digitisation of land records, spraying of insecticides, pesticides and nutrients, etc.

While the 'KisanSarathi' digital platform will improve the farmers' capability to negotiate and discover appropriate and just price, and consolidate their products for both the regulated and unregulated markets, the drone based

monitoring and assessments will help in improving farm practices for a higher and quality yield. The Budget's emphasis on provision, upgradation and facilitation of logistics infrastructure would ensure faster movement of goods and services and would support the farmers in moving marketable surplus to destination markets with ease, capturing markets of their choice, meeting consumer needs with hassle-free movement and reducing wastages of perishable agri-items.

Budget 22-23 announces launching of a scheme on PPP mode to extend delivery of digital and high-tech services to farmers through private agri-tech players and agri-value chain stakeholders. The technology interventions in agri-value chains will support in cushioning this sector against global and domestic uncertainties, shocks and price fluctuations.

Promoting Agri-Tech Startups

Budget 22-23 announced a National Bank for Agriculture and Rural Development (NABARD) funded scheme to promote agri-tech startups focusing on diverse aspects of agriculture. NABARD will set up a blended capital fund under the co-investment model to financially support the agriculture startups and rural enterprises. This initiative would provide assistance for enhancing the effectiveness and efficiencies of agri-produce value chains. Startups which are extending mentoring and handholding support services to FPOs will be eligible for getting assistance from the fund. The entities involved in arranging agri-machinery for farmers on rental basis at farm level and extending Information Technology (IT) based networking and other technical assistance would also be supported by this fund. This initiative of the government would ensure higher penetration of technology and technical expertise and establish innovative, sustainable and profitable agriculture supply chain networks. The intervention will, undoubtedly, result in enhancing farm income, employment and wealth in rural areas.

Promotion of Natural Farming

There is a growing demand for organic farm produce now-a-days. Keeping this in view, the Budget 22-23 vowed to promote chemical-free natural farming throughout the country. To begin with, farmers' land in 5 km wide corridors along the river Ganga would be selected for promotion of natural farming practices. PKVY encouraged promotion of traditional indigenous practices including natural farming. Presently, 4.09 lakh hectares have been covered under natural farming. However, the Budget's current push for natural farming would require creation of adequate marketing facilities specifically for organic farm products. There is also an urgent need to meet out all logistic requirements in provision of input services to adoption of organic agronomic practices to popularise natural farming in the country.

Digitisation of Agriculture Cooperatives

In order to ensure smooth, adequate, hassle-free and cost-effective credit flow to the farmers, the budget allocated Rs. 350 crore to digitise 63,000 primary agricultural credit societies (PACs) out of a total of 95,509 PACs in the country. The scheme aims at computerisation of functional community-owned, democratically governed, member driven cooperatives with a view to enhance their governance and operational efficiency, profitability and to ensure seamless financial transaction with utmost transparency and accountability.

Concluding Remarks

The Government underscored the importance of making Indian agriculture remunerative by reviewing and reviving the existing schematic interventions. This Budget has emphasised on attracting investment in research and innovation through bringing in a startup culture in agriculture. The efforts of the government directed towards facilitating infrastructure for agri-value chains, integrating FPOs, Cooperatives and private sector agri-tech players through startups, simplifying the use of drone technology for crop production, monitoring and assessments and laying focus on promotion of nutri-cereals like millets, are futuristic and have the capabilities to ensure adequate crop diversification by the farmers.

The inflow of adequate investment in agri-logistics, agri-services and handholding support to farm-based activities will address multiple logistic issues like transportation of agro-produce, warehousing and supply chain difficulties and would ensure liberalising farm markets and remove difficulties in farm markets to make farming competitive.

The proposed initiatives and investments in various key areas of agri-development have the required potential to re-orient the farm economy. It also called for ensuring innovative investment opportunities through public, private and community participation; creating rural and agricultural infrastructure; integrating and converging schematic interventions of various Ministries or Departments viz. Department of Rural Development, Land Resources, and Agriculture and Farmers Welfare. The real challenge, however, is to create an enabling ecosystem for rural and farm enterprises and start-ups. A vibrant farm and non-farm environment in the rural areas would make agriculture and rural activities viable and profitable.

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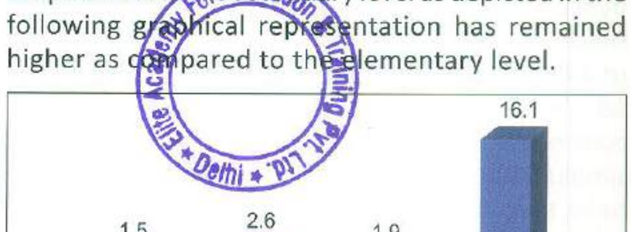
Learning Recovery in School Education

Rashi Sharma and Tara Naroem

Several initiatives were taken by the Government of India in the year 2020-21 and these included guidelines on education of children of migrant labourers which delineated the process for identification, smooth admission process and continued education of migrant children. On similar lines, comprehensive guidelines on steps to be taken by the States and UTs were also issued for out-of-school children and on mitigation of learning loss. Ministry of Education has been allotted Rs. 1,04,277.72 crores in Budget 2022-23 which is 11.86 percent more than the previous years' allocation.

The beginning of year 2020 started with the chirm of the COVID-19 pandemic worldwide. The sight of this new pandemic created an atmosphere of fear and uncertainty among the masses. This was followed by nationwide lockdowns, closure of schools, and migration of daily labourers. Since the situation was exceptional, it took some time to ensure appropriate measures and protocol to ensure that system works with minimal disruption. Although, all age groups have been adversely affected by this pandemic situation, the extended school closures considerably interrupted the learning process as schools were, naturally, not immediately ready or equipped to handle this situation. However, as with every challenge comes an opportunity- the adverse condition could be rapidly assessed and subsequently, a multi-pronged and comprehensive approach could be adopted which included expansion of digital education in addition to methods to ensure continuum of learning where access to digital device is an issue.

The effect of pandemic on education sector in terms of dropout and out-of-school children is required to be analysed in detail. As per Unified District Information on School Education Plus (UDISE+)[1] 2019-20, there is a reduction in dropout rate at elementary level however, annual average dropout rate at the secondary level as depicted in the following graphical representation has remained higher as compared to the elementary level.



However, the above data of UDISE+ did not depict the impact of the pandemic as it is for year 2019-20. But, on hindsight, it is also true that the pandemic has had a significant impact on the education system affecting the lakhs of schools and colleges across the country. This has been corroborated by the findings of various non-government surveys such as Annual Status of Education Report (ASER) which also finds mention in the Economic Survey (2021-22). The ASER 2021[2] while assessing the impact during pandemic for the education sector in rural areas, have found mixed results. As per ASER, despite the pandemic, enrolment in age cohort of 15-16 years continued to improve as number of not enrolled children

[1]UDISE+ is the official data source of the school education department.

[2]The 16th Annual Status of Education Report (ASER) 2021 (Rural) was released by Pratham foundation on 17th November, 2021.

in this age group declined from 12.1 percent in 2018 to 6.6 percent in 2021. On the other hand, children in the age cohort 6-14 years who were 'not currently enrolled in schools' increased from 2.5 percent in 2018 to 4.6 percent in 2021. Hence, the enrolment decline was relatively large among the younger age group (age 7-14 years); decline of enrolment for younger boys was higher than girls. In the wake of the unprecedented pandemic, it had, therefore, become imperative to ensure continuous support of learning to the students with and without access to digital devices, although, the long-term strategy to bring back each child to school has already been defined in National Education Policy 2020 which aims for 100 percent GER by 2030 from pre-primary to Sr. Secondary grades. Towards this end, importance of the role of parents, community, and local bodies was further reaffirmed as the key to ensuring no learning loss and in order to mitigate any adverse impact on future learning.

Consequently, several initiatives were taken by the Government of India in the year 2020-21 and these included guidelines on education of children of migrant labourers which delineated the process for identification, smooth admission process and continued education of migrant children. On similar lines, comprehensive guidelines on steps to be taken by the States and UTs were also issued for out-of-school children and on mitigation of learning loss, which included interventions such as; identification of out-of-school children from age 6-18 years, enrolment drives and awareness generation, student support while schools are closed, continued education for Children with Special Needs (CwSN), student support on school reopening and teachers' capacity building. This was followed by a comprehensive COVID-19 Action Plan(May 2021) which was developed after wide consultation with all stakeholders and its various phases are:

- **Maintain Phase:** This is the first phase and its aim is to maintain the level of education through initiatives such as MDM (Mid-day Meal); home learning; identifying and bringing drop-outs and OoSC (Out-of-School Children) back to school; development of the Student Registry to mobilise services; a Helpline for parents and students; teachers' capacity building; and engagement with parents and community.
- **Restore Phase:** This second phase is for when schools reopen; focus will be on learning recovery with packages to help children recover through teachers supporting mental well-being of students, bridge courses, roll out of State Students Registry and aggregated database in National Student's Registry, assessment reforms, pedagogical reforms, etc.
- **Grow Phase:** In this third phase, very close tracking of achievements in learning levels and learning outcomes shall be undertaken at all stages of school education, along with capacity building of all stakeholders to be aligned to these goals and contribute in achieving them. Therefore, in this phase, States and UTs will essentially leverage all the resources of the past and all the resources prepared for the future to ensure continuity of quality and equitable education

Expansion of Digital Education: A major focus is on expansion of Digital Education through the PM e-VIDYA initiative under the Aatma Nirbhar Bharat programme. DIKSHA is the 'One Nation, One digital education' infrastructure for school education. Under this programme majority of States and UTs have been benefitted by on boarding onto this single digital infrastructure. This digital infrastructure is artificial intelligence-based and is highly scalable and since the lockdown it has received an average page hits of 5+ crores daily spanning across 5,015 crore minutes of learning of its e-content. Presently, this digital infrastructure has been utilised for creating Energised Textbooks and e-contents in 33 Indian languages including Indian Sign Language (ISL). In fact, India is the first country in the world to provide QR coded textbooks, with specific e-content tagged to it, free to its elementary school children. During the pandemic, around 5,543 textbooks of various grades of States and UTs, including 361 textbooks of NCERT were QR coded with e-content, compiling to 2.34 lakh pieces of e-contents hosted live as of the date and over 60 crore such textbooks have been printed and were distributed to children at their homes all over the country. To further supplement this effort, 12 Swayam Prabha TV Channels under the 'One class, One TV channel' initiative with more than 7,000 programs are also telecasted. Further, to ensure coherent access through multimodal delivery, the broadcasted content is being organised by chapter and topics on DIKSHA to ensure asynchronous usage by anyone, anytime, anywhere. Also, podcasts have been popularised for almost all topics for all subjects of secondary and senior secondary level and around 561 programs have been broadcasted on iRadio. With a focus on Children with Special Needs, more than 800 ISL based contents, Talking books (in Daisy format), ISL Dictionary of 10,000 words and 1200 Audio Books have been developed. NCERT has also developed curricular and resource materials for students, teachers and other stakeholders for promoting inclusive education.

States and UTs have also taken up several initiatives to ensure continuity of learning. Some state-specific websites were developed wherein students, parents and teachers are able to access all content, neatly arranged on the basis of daily, weekly, and monthly schedules. This ensures that even if students did not receive the content link through WhatsApp, the content was readily available on the website. For example, in Jharkhand, where 24 percent of total enrolled students were reported to be connected through WhatsApp, 10.9 percent of these students have moved onto the DigiSchool App for primary grades and 24.5 percent of students have now registered onto the Learnytic App for secondary grades. Similarly, in Madhya Pradesh, in order to disseminate content, WhatsApp groups were created for every school, cluster and district. Over 50,000 WhatsApp groups were created over the span of a few days and are since being managed and monitored to ensure availability of digital learning content and learning plans to parents and students.

Despite the best efforts of the government, however, India being a huge country with the enrolment of 25 crore children in school education, there are areas where digital connectivity is still an issue and hence, a more holistic and multi-pronged strategy was required. Accordingly, the delivery of textbooks and other supplementary material such as worksheets, story books etc., were taken up on priority so that children have adequate materials for home learning. In addition, many important interventions were designed to support the students in case of inaccessibility to digital devices and some such key initiatives are illustrated below:

- **Alternative Academic Calendar (AAC):** The AAC contains week-wise plan consisting of interesting and challenging activities, with reference to learning outcome, theme or chapter, taken from syllabus or textbook. It maps activities for children with access to devices as well as children with no access to devices. This can be used for giving weekly guidance to schools, parents, teachers and students to ensure continuity of education.
- **Use of Television:** Since a large number of Indian households have access to a television, it is an effective means for delivering audiovisual content in households with or without internet access. In Uttar Pradesh, a 4-hour slot per day had been purchased by the Department of Basic Education from Prasar Bharti. The available time slot i.e., from 9 am to 1 pm, was divided into 8 slots of 30 minutes each to ensure that all grades are given equal importance in the dissemination strategy. Taking one step further, in-house administrators and technicians with expertise in broadcast media and TV were leveraged to support the speedy deployment of educative TV lessons for students in Telengana.
- **Use of Radio:** Radio is believed to have extensive coverage across India, with government-owned All India Radio (AIR) claiming near-universal reach in rural areas. The state of Madhya Pradesh had launched a daily 1.5-hour radio programme during the pandemic for Grades 1-8, including one hour in the morning for academic inputs and half hour in the evening for co-curricular and Social-Emotional Learning content. Likewise, in Uttar Pradesh, a 30-minute slot per day was purchased on Akashwani, for playing 'English Seekho' audios from UNICEF. Also, few districts in the states of Gujarat and Maharashtra had placed loudspeakers in the community and other public spaces, which were used to narrate stories and rhymes for students.
- **100 Days Reading Campaign:** A 100 days Reading Campaign has been launched by the Government of India for children studying in Balvatika to Class VIII on 1 January 2022, and one activity per week per group has been specifically designed with a focus on making

reading enjoyable and building lifelong association with the joy of reading. The developmental goal or learning outcomes to be achieved by this campaign have also been detailed in the activity calendar.

- **Capacity Building of Teachers (NISHTHA Online Training)**: The National Initiative for School Heads' and Teachers' Holistic Advancement (NISHTHA) was launched in August, 2019 as an integrated teacher training programme to improve learning outcomes at the Elementary level under the aegis of the Centrally Sponsored Scheme of Samagra Shiksha. The focus of NISHTHA is on holistic development of children and hence it includes specialised modules centred around learning outcomes and learner-centred pedagogy such as: curriculum and inclusive education, health and well-being, personal social qualities, art integrated learning, initiatives in school education, subject-specific pedagogies, ICT in teaching-learning, leadership, pre-school education, pre-vocational education, etc. In order to provide continuous learning opportunities to the teachers at the elementary level, NISHTHA Online with customising modules for online delivery in the format compatible with DIKSHA Portal was also launched in October 2020 to reach out to remaining elementary teachers. Now, NISHTHA has been further extended in 2021-22 to cover the secondary teachers through NISHTHA 2.0 and the teachers in the foundational years through NISHTHA 3.0 on foundational literacy and numeracy.

Budget 2022-23

The Budget of 2022-23 for Education is also in continuum of previous year wherein various important initiatives such as 15,000 exemplar schools, capacity building of teachers through NISHTHA, National Professional Standards for Teacher (NPST), Indian Sign Language dictionary and initiation of Toy Based Pedagogy were announced. Ministry of Education has been allotted Rs. 1,04,277.72 crores in 2022-23 which is 11.86 percent more than the previous allocation and the important initiatives announced for this year are:

- **Expansion of TV channels:** The emphasis is on access of quality education through TV channels with particular focus on rural areas, and those from Scheduled Castes and Scheduled Tribes, and other weaker sections. Typically, since these are children in government schools and hence to cater the need for imparting supplementary teaching and for building a resilient mechanism for education delivery, the 'One class-One TV channel' programme of PM e-VIDYA will be expanded from 12 to 200 TV channels. This will enable all states to provide supplementary education in regional languages for classes 1-12. Previously, the 12 DTH TV channels of Swayam Prabha were effectively used by NCERT as a low-cost option to deliver education in two languages.

- **Focus on Vocational Education:** Promotion of vocational courses to promote crucial critical thinking skills and to give space for creativity is a key priority of Government of India. Under this, 750 virtual labs in science and mathematics, and 75 skilling e-labs for simulated learning environment, will be set-up in 2022-23. This will include: theory and practical videos, interactive exercises, game-based exercises, virtual reality workshops and simulation.

- **Availability of High-quality e-content:** Extensive use of technology is vital in providing access to quality education for

all children. As teachers are required to be hands-on with technological tools, integration of technology in teaching and learning process will be the game-changer in future as it will not only empower teachers but also provide them autonomy and promote innovative pedagogies. For this purpose and to augment their capacities, a competitive mechanism for development of quality e-content by the teachers will be set-up to empower and equip them with digital tools of teaching and facilitate better learning outcomes of children. Further, high quality e-content in all spoken languages will be developed for delivery via internet, mobile phones, TV and radio through Digital Teachers.

- **Digital University:** A Digital University in different Indian languages will be established to provide access to students across the country for world-class quality universal education with personalised learning experience at their doorsteps. This will be built on a networked hub-spoke model with cutting edge ICT expertise and the best public universities or institutions in the country will collaborate as a network of hub-spokes.

More specifically, the budget allocation in FY 2022-23 for the flagship centrally sponsored scheme of Samagra Shiksha has also increased to Rs.37,383.36 crores which is around 18 percent more than the previous year. Research has substantiated that an increase in school expenditure reduces dropout rates[3]. As a result, a comprehensive learning recovery plan has been prepared and released to the states and UTs in February, 2022. The plan includes some additional support apart from usual interventions to facilitate learning recovery and these are:

- **Learning Enhancement Package (LEP)** for all students to combat the adverse effects of the pandemic will be provided in the beginning of the academic session of 2022-23.

- **Teacher Resource Package (TRP):** To continue with the hybrid mode of learning, tablets will be provided to the 25 lakh teachers at the primary level to enable them to use the resources and content on various digital portals and show them to the students.

- **Oral Reading Fluency Study (ORF):** Support will be provided to study the ability of children to read age-appropriate known as well as unknown text at a certain minimum pace, accurately, and with comprehension.

- **Information Communication Technology (ICT) Facility to each BRCs:** Support for ICT including for tablets will be provided at Block Resource Centre (BRC) level to enable the resource persons to take up a substantial load of teachers' capacity building with the help of face-to-face as well as online teaching-learning techniques, tools, content and resources aimed at improving the quality and efficiency of the teaching and learning process.

- **Strengthening of CRCs through mobility support to CRCs**: Mobility support to CRCs (Cluster Resource Centres) will be provided to undertake regular visits and organise monthly meetings to discuss academic issues and design strategies for better school/student performance, to mitigate the impact of the pandemic.

Conclusion

Without doubt many efforts are being made to address the learning gap produced due to the impact of the COVID-19 pandemic on the school education system. Towards this end, all stakeholders have been consistently addressing the challenges thrown in by this adverse situation and have been effectively trying to ensure the continuum of learning through the multi-varied initiatives adopted through a multi-pronged and comprehensive approach. Though the journey towards learning recovery seems quite monumental presently, but, with the scale of considered efforts and involvement of all stakeholders we should be able to reverse the adverse effects of pandemic.

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[3]Kyung-Gon Lee & Solomon. W. Polachek. Do school budgets matter? The effect of budget referenda on student dropout rates. Education Economics (Volume 26, Issue 2), 2018.

UNION BUDGET 2022-23

Transforming Industrial Ecosystem

Dr. Ishita G. Tripathy

In the exacting situation of the pandemic and its various manifestations and repercussions, it is not an easy task to balance demand and supply; and match Government receivables with Government expenditure, especially because while all the components of expenditure may be important, they need to be prioritised. Budget 2022-23 has made some important announcements; focusing on inclusive growth, economic recovery and employment generation. The announcements propose to address the pre-Budget expectations of the industry related to investments; infrastructure; revival of the MSME ecosystem; and creation of jobs. Keeping abreast of modern times, the Budget has a number of forward-looking announcements which are based on integrating and strengthening the digital economy.

It has been close to two years that the world has been in the grip of the COVID-19 pandemic and its various manifestations and repercussions. Different economies have resorted to different fiscal and monetary mechanisms to cope with the challenges that have been thrown up. In such an exacting situation, it is not an easy task to balance demand and supply and match Government receivables with Government expenditure, especially because while all the components of expenditure may be important, they need to be prioritised. Physical well-being is an essential pre-requisite for sustainable economic development. This is evident from the impact of the pandemic felt worldwide and that of the Government approach, including the stress on vaccine coverage.

The growth rate of India's GDP in 2021-22 is expected to be higher than that in 2020-21, evidently because of the impetus packages which have started yielding a multiplier effect. Economic Survey 2021-22 states that India's GDP growth during 2021-22 is projected to be 9.2 percent, following a contraction of 7.3 percent in 2020-21[i]. This is the highest projection amongst the large economies. GDP growth is projected to be between 8.0 percent and 8.5 percent in 2022-23. One of the macro-economic parameters which remained in surplus despite the two years of pandemic is the balance of payments situation. India's exports in 2021-22 are expected to grow by 16.5 percent and achieve levels higher than pre-pandemic levels[i]. India's capital markets too performed well during the said period. The Government has followed a multi-pronged approach across sectors, combining urgent and regular measures, to tackle the uncertainties arising out of the pandemic.

While agriculture and allied sectors were the least impacted [Gross Value Added (GVA) of 3.6 percent and 3.9 percent in 2020-21 and 2021-22, respectively] due to the pandemic and the associated lockdowns, the services sector was hit the most [GVA of -8.4 percent and 8.2 percent[i] in 2020-21 and 2021-22, respectively][i]. Gross Value Added of Industry is expected to grow by 11.8 percent in 2021-22, recovering from the 7 percent contraction in 2020-21. From 2011-12 to 2019-20, GVA of Industry had grown at 4.53 percent. As per Economic Survey 2021-22, most components of the Index of Industrial Production have recovered to the pre-pandemic levels[i]. To give a further boost to the industrial sector a number of announcements have been made in Union Budget 2022-23. In the following paragraphs, some important announcements made in Budget 2022-23, especially those related to industrial development, have been reviewed.

Budget 2022-23

The Budget 2022-23[ii], announced on 1 February 2022, has laid the foundation of the long-term vision of the Government. In continuation of the restoration announcements and activities initiated during 2020-21 and 2021-22 to appropriately address disrupted supply chains, dwindling demand and rising unemployment, the Budget's approach has rightly been to continue to provide support to vulnerable sectors.

i. Micro, Small and Medium Enterprises (MSMEs)

The Aatma Nirbhar Bharat package announced in 2020 had a combination of potent announcements for the MSMEs. These included a revision in the definition of MSMEs; facilitating the ease of registering for MSMEs through the Udyam portal; making credit available through the Emergency Credit Line Guarantee Scheme (ECLGS); a special scheme for MSMEs with stressed assets; a scheme for equity infusion; and disallowing global tenders up to Rs. 200 crore. Since their announcement, some of these schemes have been expanded and their applicability extended from time to time. The Budget proposes to strengthen the effectiveness of at least two of the Aatma Nirbhar Bharat components, viz. Udyam and ECLGS.

Studies indicate that during the lockdowns, like the rest of the economy, MSMEs too remained shut[iii]. It has also been observed that during the first and the second waves of the pandemic, MSMEs continued to register themselves on the new registration portal called Udyam, which was launched amidst the first wave of the pandemic on 1 July 2020, to align the registration process of MSMEs with the new definition of MSMEs which the Government adopted on 26 June 2020. The new definition takes into account both investment in plant and machinery and turnover of units to classify them into micro, small and medium enterprises, whereas the previous definition was based only on the investment criterion. Further, the ceiling on investment levels for classification into different categories has been revised upwards. Consequently, units are no longer apprehensive of losing their MSME status if they invest more. Udyam registration certificate helps MSMEs to avail benefits of Ministry of MSME's schemes and those of Priority Sector Lending (PSL) of banks.

The Budget has proposed to interlink the Udyam portal with the following:

i. National Career Service which is a one-stop solution that provides a wide array of employment and career related services to the citizens;

ii. e-shram which is a centralised database of unorganised workers seeded with Aadhaar;

iii. ASEEM (Aatma Nirbhar Skilled Employee-Employer Mapping), which is an artificial intelligence based portal which helps in finding sustainable livelihood opportunities.

This proposed interlinking focuses on all-inclusive welfare through the digital mode at a micro level. For MSMEs, this common platform is envisaged to offer, besides registration facilities, a link to employment possibilities, credit accessibility and social security provisions. Further, the Budget has proposed the rolling out of Raising and Accelerating MSME Performance (RAMP) programme over the next 5 years with an outlay of Rs. 6,000 crore. The proposed programme aims to equip MSMEs adequately so that they can overcome the challenges imposed by the pandemic.

Credit availability, accessibility and affordability have perhaps been the most important issues for MSMEs thrown up by the pandemic. To address this issue the Budget has not only enhanced the coverage of ECLGS to Rs. 5 lakh crore, but its applicability has also been extended up to 31 March 2023 from 31 March 2022. The details of ECLGS are given in Table-1. Out of Rs. 5 lakh crore coverage, Rs. 50,000 crore has been exclusively earmarked for the hospitality and related enterprises which have been one of the most adversely hit sectors by the pandemic. Another Budget announcement is the credit augmentation to Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) to Rs. 2 lakh crore. This will lead to enhanced number of loan accounts and employment opportunities.

Table-1: ECLGS

Parameters	2020-21	2021-22 (as on 19 November 2021)
No. of guarantees issued, including to MSMEs	95,36,825	20,62,038
Amount of guarantees issued (in Rs. crore)	2,33,980.22	31,412.07

Source: Rajya Sabha Starred Question No. 153 answered on 13 December 2021

It is expected that imports will grow at 29.4 percent in 2021-22 and surpass the pre-pandemic levels[i]. To provide a competitive edge to MSMEs, the Budget has proposed to make imports of some final products like umbrellas more expensive by raising the duty on umbrellas to 20 percent. Exemptions on parts of umbrellas, and implements and tools for the agri-sector, have either been withdrawn or rationalised. Customs duty exemption given to steel scrap has been extended by a year. Anti-dumping and countervailing duties on stainless steel and coated steel flat products, bars of alloy steel and high-speed steel have been revoked considering that the prices of these are already very high. To encourage exports, the Budget has proposed to provide exemption on embellishments, fasteners, buttons, zippers, lining materials, specified leather, furniture fittings and packaging boxes to *bonafide* exporters of handicrafts, textiles and leather garments, leather footwear and other goods.

Table-2 presents a comparison of the Budget of Ministry of MSME for the years 2021-22 and 2022-23.

Table-2: Budget of Ministry of MSME (in Rs. crore)

Revised Estimates 2021-22			Budget Estimates 2022-23		
Revenue	Capital	Total	Revenue	Capital	Total
15,335.45	364.20	15,699.65	20,916.00	506.00	21,422.00

Source: Budget 2022-23

ii. Skill Development

Skill development is essential to benefit from the demographic dividend which India has. However, there is a rural-urban gap which is evident from the lower formal training for males and females observed in rural areas as compared to urban areas. The Budget announcements of aligning the National Skill Qualification Framework, the launch of Digital Ecosystem for Skilling and Livelihood and 'Drone Shakti' are in line with the industry's needs.

iii. Infrastructure

The Budget's recognition that for investments to yield meaningful and targeted returns, a robust infrastructure is needed, is observed from the Gati Shakti announcement which proposes a comprehensive expanded road map across national highways, railways, airports, ports, mass transport, waterways, logistics infrastructure, energy transmission, IT communication, bulk water and sewerage, and social infrastructure. For financial viable infrastructure projects, the Budget has laid stress on public and private capital and through PPP mode, including assistance from multilateral agencies. A bolstered infrastructure is crucial for mobility, efficiency, employment generation, making the primary, secondary and tertiary sectors more productive and reducing the urban-rural divide. For example, as far as the telecom sector is concerned, 45 percent of the subscribers are based in rural areas and 55 percent in urban areas. Undoubtedly, the divide is reducing.

The Production Linked Incentive (PLI) scheme was launched in 2020 with the objective of boosting domestic manufacturing in sunrise and strategic sectors, improving cost competitiveness of domestically manufactured goods, enhancing domestic capacity and economies of scale, and attracting investment. PLI covers 14 sectors, of which the latest is the sector of drones and drone components. Building on the success of the PLI Scheme, this year's Budget has proposed to launch a scheme for design-led manufacturing to build a strong ecosystem for 5G as a part of the PLI Scheme. With the twin objectives of boosting exports and optimally utilising available infrastructure by covering existing and new industrial enclaves, the Budget has proposed to replace the Special Economic Zones Act by a new legislation.

Due to the pandemic, the requirement of adequate digital banking has been felt more than ever before. Accordingly, the Budget has announced that in 2022, 100 percent of 1.5 lakh post offices will be covered as a part of the core banking system and 75 Digital Banking Units will be set up in 75 districts of the country by Scheduled Commercial Banks. It has also been proposed to focus more on the use of payments platforms. Five per cent of annual collections under the Universal Service Obligation Fund has been allocated for enabling affordable broadband and mobile service proliferation in rural and remote areas. Besides, it is expected that optical fibres will be laid in all villages through PPP under BharatNet by 2025.

iv. Business Facilitation

In the past few years, the Government has been continuously striving towards providing an enabling environment for business to flourish. Consequently, over 25,000 compliance burdens have been reduced and 1,486 Union laws have been repealed. In continuation of this, the Budget has proposed to launch the Ease of Doing Business 2.0 where States will also be involved and integrated into the current system. Ease of Living will also be launched. The proposals of expanding the PARIVESH portal, issuance of e-passports, adopting Unique Land Parcel Identification Number and 'One Nation One Registration' software are further steps in adopting digital means for facilitating businesses and helping citizens. Besides proposing amendments in the Insolvency and Bankruptcy Code to ensure efficient insolvency resolution, the Budget has envisaged the establishment of the Centre for Processing Accelerated Corporate Exit (C-PACE) to ease out the exit process for companies.

In terms of tax concessions, it has been proposed to extend the period of incorporation of eligible start-ups for a period up to 31 March 2023 instead of 31 March 2022, for availing tax incentives for three consecutive out of ten years from incorporation. Similarly, the last date for commencement for manufacturing has been extended from 31 March 2023 to 31 March 2024 for availing a concessional tax regime of 15 percent tax for newly incorporated domestic manufacturing companies. The Budget has proposed to provide that any income from transfer of any virtual digital asset shall be taxed at the rate of 30 percent.

v. Investments

The Economic Survey, 2021-22 indicates that Gross Fixed Capital Formation will grow at 15 percent in 2021-22 and reach the pre-pandemic level[i]. For all the Budget proposals to become effective and for the economy to grow on a higher trajectory, both public and private investments are required. Capital expenditure has been enhanced in 2022-23 (Table-3). To strengthen the States further, the outlay of the Scheme for Financial Assistance to States for Capital Investment has been increased from Rs. 10,000 crore in 2021-22 to Rs. 15,000 crore in 2022-23.

Table-3: Expenditure

Year	Capital Expenditure (in Rs. crore)
2021-22	5.54
2022-23	7.50

Source: Union Budget, 2022-23

Concluding Remarks

The Budget has focused on inclusive growth, economic recovery and employment generation. The announcements propose to address the pre-Budget expectations of the industry related to investments; infrastructure; revival of MSME ecosystem; and creation of jobs. Keeping abreast of modern times, the Budget has a number of forward-looking announcements which are based on integrating and strengthening the digital economy, including promotion of research and development.

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[i] Ministry of Finance (2022) 'Economic Survey, 2021-22'
[ii] Ministry of Finance (2022) 'Union Budget, 2022-23'
[iii] Lok Sabha (2022), Starred Question No. 32 answered on 3rd February, 2022

FORM IV

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Strengthening Rural Economy

Dr. H.L. Sharma

Balanced regional development with focus on rural economy has always been at the top of development agenda in India. Over the last few years, efforts in this direction have been accelerated by the Government through '*Sabka Sath, Sabka Vikas*', further extended to ensure '*Sabka Vishwas*'. In the Union Budget 2022-23, liberal funds have been provided for generating income and employment in rural areas through substantial investment and increased public expenditure on the schemes and programmes formulated for this purpose. The main focus is on strengthening the rural economy by reviving agriculture and allied sectors in rural India. It is earnestly hoped that the large number of policies, programmes and schemes in place for rapid development in rural India will pave the way for attaining the goal of balanced growth with justice.

Strengthening of rural economy occupies a special significance in the overall socio-economic development of a country like India where nearly two-third of total population and more than 70 percent of workforce reside in rural areas. The major economic problems faced by the rural people are poverty, unemployment and inequality. The solution of these economic problems is of utmost importance to put a check on the rural–urban drift and for achieving growth with justice. The thrust of government's economic policies enunciated during the planned era of development has been on the overall socio-economic development coupled with a balanced regional development of the economy with special emphasis on inclusive growth.

The Ministry of Rural Development is the nodal ministry to promote welfare activities in rural India. It takes steps to increase livelihood opportunities, providing social safety nets and improving infrastructure in rural areas for rapid growth. The Ministry has two departments: (i) Rural Development and (ii) Land Resources. The Department of Rural Development (DoRD) is responsible for implementation of government schemes targeted at employment generation, poverty alleviation, infrastructure development and provision of basic services in rural area. On the other hand, The Department of Land Resources (DoLR) takes steps to increase productivity of degraded land through the process of integrated watershed management and develop an integrated land information management system to optimise the use of land resources.

Allocation to the Ministry of Rural Development in Union Budget 2022-23

The Ministry of Rural Development has been provided the seventh highest allocation across all Ministries in the Union Budget for financial year 2022-23. Its allocation shot up from Rs. 61,864 crore in 2013-14 to Rs.1,38,204 crore in 2022-23, reflecting a linear growth rate 10.33 per cent per annum during the period under reference (Table 1). The Department of Rural Development which accounts for more than 98 percent funds of the Ministry, witnessed a growth rate of 10.56 percent per annum in its allocation during the last decade (Fig. 1). However the budgeted expenditure of the Department came down by 11.47 percent in 2022-23 as compared to the previous year. The

fall in budgetary allocation to the department in 2022-23 has been due to the fact that during the previous two years' expenditure on Mahatma Gandhi National Rural Employment Guarantee Scheme was quite high to combat the adverse effects of the COVID-19 pandemic.

Table 1: Budget Allocation to the Ministry of Rural Development

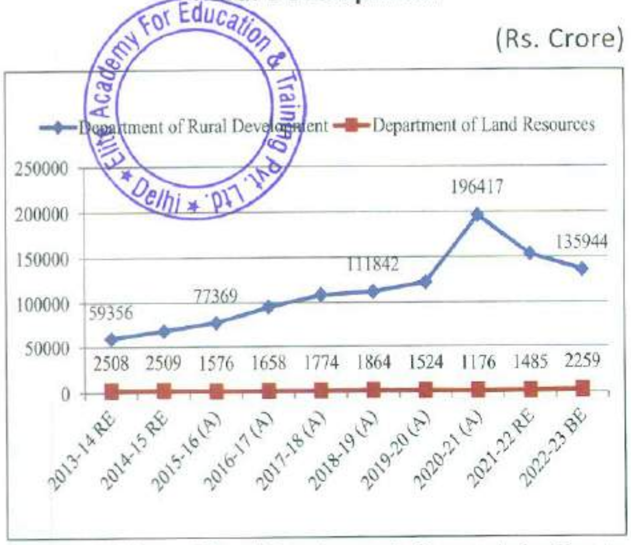
(Rs. Crore)

Year	Department of Rural Development	Department of Land Resources	Total
2013-14 (RE)	59356	2508	61864
2014-15 (RE)	68204	2509	70713
2015-16 (A)	77369	1576	78945
2016-17 (A)	95069	1658	96728
2017-18 (A)	108560	1774	110333
2018-19 (A)	111842	1864	113706
2019-20 (A)	122098	1524	123622
2020-21 (A)	196417	1176	197593
2021-22 (RE)	153558	1485	155043
2022-23 (BE)	135944	2259	138204
LGR (%)	10.56	-3.88	10.33

Source: Ministry of Rural Development, Demands for Grants, 2013-14 to 2022-23.

Figure1: Budget Allocation to the Ministry of Rural Development

(Rs. Crore)



Source: Ministry of Rural Development, Demands for Grants, 2013-14 to 2022-23.

Major Schemes under the Department of Rural Development

The total budget allocation to all centrally sponsored schemes for rural development went up from Rs. 1,11,842 crore to Rs. 1,35,539 crore witnessing a growth rate of 5.48 percent per annum during the last five years (Fig. 2). But it came down by 11.53 per cent in 2022-23 as compared to the previous year. This is due to unusually high expenditure on Mahatma Gandhi National Rural Employment Guarantee Scheme to generate more employment to the returning migrant workers during the COVID-19 pandemic period.

Table 2: Budget Allocation to Centrally Sponsored Schemes for Rural Development

(Rs. Crore)

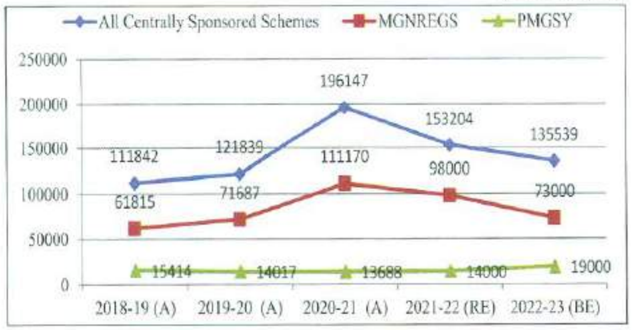
Scheme	2018-19 (A)	2019-20 (A)	2020-21 (A)	2021-22 (RE)	2022-23 (BE)	LGR
MGNREGS	61815	71687	111170	98000	73000	5.86
PMAY-G	19308	18116	19269	20390	20000	1.88
PMGSY	15414	14017	13688	14000	19000	4.70
NRLM	5783	9022	9208	11710	13336	18.14
NSAP	8418	8692	42443	8730	9652	1.61
SPMRM	433	304	369	375	550	7.51
All Centrally Sponsored Schemes	111842	121839	196147	153204	135539	5.48

Source: Ministry of Rural Development, Demands for Grants, 2020-21 to 2022-23.

Note: MGNREGS = Mahatma Gandhi National Rural Employment Guarantee Scheme, PMAY-G= Pradhan Mantri Awas Yojana-Gramin, PMGSY = Pradhan Mantri Gram Sadak Yojana, NRLM = National Rural Livelihoods Mission, NSAP = National Social Assistance Programme, SPMRM = Shyama Prasad Mukherji Rurban Mission

Figure 2 : Budget Allocation to Major Schemes for Rural Development

(Rs. Crore)

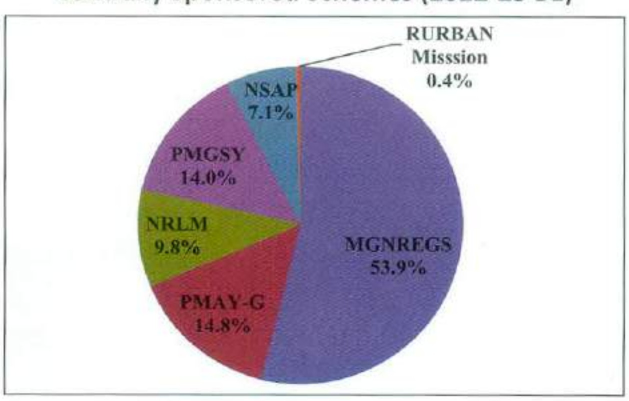


Source: Ministry of Rural Development, Demands for Grants, 2020-21 to 2022-23.

Mahatma Gandhi National Rural Employment Guarantee Scheme

Among various schemes of rural development, Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) is the most momentous. It seeks to strengthen the livelihood resource base of the poor by providing 100 days of guaranteed wage employment per year to every rural household whose adult members volunteer to do unskilled manual work. The scheme was introduced in 2005 through the Mahatma Gandhi National Rural Employment Guarantee Act. Presently, it covers all the rural districts (716) of the country. Over the past couple of years, the scheme has emerged as the essential safety net for many rural workers who have been adversely affected by the COVID-19 pandemic. Under this scheme during the year 2021-22, assets worth Rs 6.12 crore were created through the generation of 276.89 crore person days benefiting 6.81 crore households up to February 10, 2022. In the union budget 2022-23, the allocation for the MGNREGS has been slashed nearly by 25 percent amounting Rs. 73,000 crore as compared to Rs. 98,000 crore of revised expenditure of 2021-22. But, if the expenditure on the scheme for the last five years is taken into account, it went up at the annual growth rate of 5.86 percent (Table 2). In 2022-23, Mahatma Gandhi National Rural Employment Guarantee Scheme accounted for nearly 54 percent of total expenditure on all centrally sponsored schemes of rural development followed by Pradhan Mantri Awaas Yojana- Gramin (14.8 percent) and Pradhan Mantri Gram Sadak Yojana (14 percent) (Fig. 3).

Figure 3: Budget Allocation to Rural Development Schemes as Percentage of Total Allocation to Centrally Sponsored Schemes (2022-23 BE)



Source: Ministry of Rural Development, Demands for Grants, 2022-23

Pradhan Mantri Awaas Yojana- Gramin

Pradhan Mantri Awaas Yojana-Gramin (PMAY-G) has been provided the second highest allocation in the union budget 2022-23. This scheme, aims at providing affordable housing to the rural poor through financial assistance for construction of a dwelling unit. Originally launched in 1985 as Indira Awaas Yojana, PMAY-G was revamped in 2016 with the objective to provide pucca house with all basic amenities to all the eligible rural households by the year 2022, which now has been extended up to the year 2024. The funds allocated to the scheme (Rs. 19,500 crore) comprise nearly 15 percent of the budgeted expenditure on all the centrally sponsored schemes (Fig. 3). In the past five years, the expenditure on PMAY-G has seen an annual growth of 1.88 percent. In the Union Budget 2022-23, the finance minister has announced that over 80 lakh houses will be constructed and delivered by the year 2023 to the eligible poor. It will provide an opportunity to the economically weaker sections to own a house at an affordable cost.

Pradhan Mantri Gram Sadak Yojana (PMGSY)

It is the third most important centrally sponsored scheme of rural development. It was launched on 25 December 2000 by the then Prime Minister Sh. Atal Bihari Vajpayee as the fully funded Central Government scheme. The primary objective of the scheme is to promote economic activities in rural India by providing all-weather road connectivity to the eligible un-connected rural habitations. The scheme has been allocated Rs 19,000 crore in 2022-23, accounting for nearly 14 percent of the total budget of Department of Rural Development. In the past five years, the expenditure on the scheme has gone up at an annual growth rate of 4.70 percent. Since the inception of PMGSY, total 1,67,263 works with road length of 6,89,034 Km have been constructed till 10 February, 2022.

National Rural Livelihoods Mission (NRLM)

It was launched by the Government of India in June 2011. It was renamed as Deendayal Antyodaya Yojana–National Rural Livelihood Mission (DAY-NRLM) on March 29, 2016. It aims at creating diversified and gainful self-employment to the rural poor through sustainable livelihood enhancements and improved access to financial services. The scheme seeks to promote and strengthen the SHGs which in turn are expected to mediate the livelihoods of the rural poor. The programme envisages covering of all the rural poor households to be organised in 70-75 lakh SHGs at the village and cluster level by 2024-25. Presently, the scheme covers 707 districts spread over 2,55,928 Gram Panchayats and 7,17,496 village of the country. Among various centrally sponsored schemes, DAY-NRLM witnessed the high growth rate (18.14 percent) during last five years. The budget allocation to the Mission increased from Rs. 5,783 crore in 2018-19 to Rs.13,336 crore in 2022-23.

Among various schemes of rural development, Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) is the most momentous. It seeks to strengthen the livelihood resource base of the poor by providing 100 days of guaranteed wage employment per year to every rural household whose adult members volunteer to do unskilled manual work. The scheme was introduced in 2005 through the Mahatma Gandhi National Rural Employment Guarantee Act.

National Social Assistance Programme (NSAP)

It is a welfare programme which comprises of many sub-schemes aimed at providing public assistance to citizens in case of unemployment, old age, sickness and any form of disability. The scheme has been in existence since 1995. The major schemes under this programme include Indira Gandhi National Old Age Pension Scheme, Indira Gandhi National Widow Pension Scheme, Indira Gandhi National Disability Pension Scheme, National Family Benefit Scheme and Annapurna Scheme. In 2022-23, the Programme has been allocated Rs. 9,652crore (7 percent of the Department's finances), which is nearly 14.52 per cent increase over the revised expenditure estimate of the previous year (Table 2).

Shyama Prasad Mukherji Rurban Mission (SPMRM)

It was launched on 21 February 2016, is a unique programme, designed to deliver catalytic interventions to rural areas, on the threshold of growth. It aims at developing cluster of villages that preserve and nurture the essence of rural community life with focus on equity and

inclusiveness without compromising the facilities perceived to be essentially urban in nature.The main objective is to bridge the rural-urban divide viz; economic, technological and those related to modern facilities for stimulating local economic development with emphasis on employment generation in rural areas. The mission has the target to create 300 Rurban Clusters with thematic economic growth points across the country. Up to February 10, 2022, total 298 clusters with expenditure of Rs. 15,702.01 crore were approved by the Ministry of Rural Development. In 2022-23, SPMRM has been allocated Rs. 550 crore which is 46.67 higher than the previous year revised expenditure estimates (Table 2).

Allocation to the Department of Land Resources

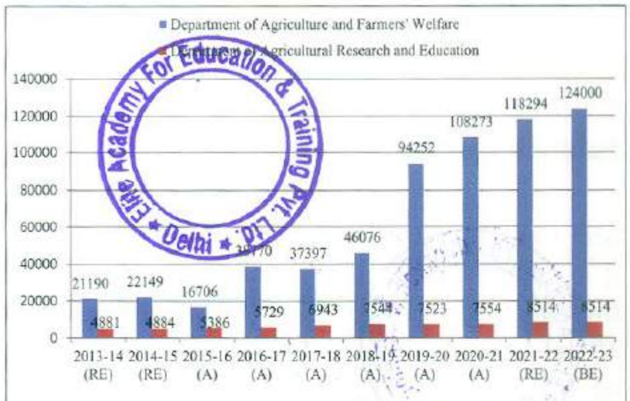
Government of India has accorded high priority to increase productivity of degraded soil and improve real-time information on land. In this context, The Departmentof Land Resources (DoLR) created under the Ministry of Rural Development implements two key schemes: (i) Integrated Watershed Development Component of Pradhan Mantri Krishi Sinchai Yojana (WDC-PMKSY) and (ii) Digital India Land Records Modernisation Programme (DILRMP). In 2022-23, the Department was allocated Rs 2,259 crore, which is which is 52.12 percent higher over the revised expenditure estimates of 2021-22 (Table 1).

Allocation to the Ministry of Agriculture and Farmers' Welfare

The programmes and policies of Ministry of Agriculture and Farmers Welfare have direct bearing on the rural communities. The Ministry has two Departments: (i) The Department of Agriculture, Cooperation and Farmers' Welfare, which implements policies and programmes related to agriculture, horticulture and animal husbandry and (ii) The Department of Agricultural Research and Education, which coordinates and promotes agricultural research and education. The major central sector schemes/projects under the Department of Agriculture and Farmers Welfare are Pradhan Mantri Fasal Bima Yojana (PMFBY), Pradhan Mantri Kisan Samman Nidhi (PM-Kisan), Modified Interest Subvention Scheme (MISS), Market Intervention Scheme and Price Support Scheme (MIS-PSS), Pradhan Mantri Annadata Aay Sanrakshan Yojana (PM-AASHA), Pradhan Mantri Kisan Man DhanYojana (PM-AASHA).

Figure 4: Budget Allocation to the Ministry of Agriculture and Farmers Welfare

(Rs. Crore)



Source: GOI, Ministry Wise Summary of Budget Provisions, 2013-14 to 2022-23.

The budget allocation to the Ministry of Agriculture and Farmers Welfare wentup from Rs. 26,071 in 2013-14 to Rs. 1,32,514 crore in 2022-23, reflecting a whopping growth rate 20.12 percent per annum during the last decade (Fig.4). The Department of Agriculture and Farmers Welfare has received 93.58 percent of the allocation to the Ministry in 2022-23. The budgetary allocation to the Department went up from Rs. 21,190 crore to Rs. 1,24,000 crore witnessing a substantial growth rate of 21.56 percent per annum during the period from 2013-14 to 2022-23. On the other hand, budget allocation to the Department of Agricultural Research and Education went up comparatively at a rate of 6.73 percent per annum during the same period.

Income support to farmers

With a view to provide income support to the farmer families across the country, in February 2019, Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) Yojana was launched to augment the income of farmers with land holding up to 2 hectares, subject to certain exclusions. The scheme aims at supplementing the financial needs of the of families of small and marginal farmers to enable them to take care of expenses related to their occupation as well as domestic needs. Under the scheme government provides Rs 6,000 to each beneficiary in three equal installments to the eligible farmers. In the union budget 2022-23, a substantial amount of Rs 68,000 crore, was allocated for PM-KISAN, which is nearly 55 percent of the total budget of the Department of Agriculture and Farmers Welfare.

To attract unemployed educated youth to agriculture, agribusiness and agri-preneurship, impetus on creating scientific temper and fostering innovative spirit among the rural youth is the need of the hour. Public expenditure on social infrastructure is also needed to be prioritised to promote sustainable and inclusive growth.

Future Initiatives

As India is primarily a rural economy with economic inequalities and resource constraints, it is essential to promote economic activities through various incentives in rural areas. To attract unemployed educated youth to agriculture, agribusiness and agri-preneurship, impetus on creating scientific temper and fostering innovative spirit among the rural youth is the need of the hour. Public expenditure on social infrastructure is also needed to be prioritised to promote sustainable and inclusive growth. Focus on public investment in human capital is needed to be enhanced to bring social changes in the desired direction. In order to reap the advantages of demographic dividend, it is imperative to improve educational standards, skilling the rural youth, empowering women, providing affordable healthcare to all and enhance job opportunities in a big way. Above all, uplifting of socially and economically backward sections of the society is of paramount significance for bridging the gulf between the so called haves and have nots. It is earnestly hoped that the large number of policies, programmes and schemes in place for income and employment generation in rural India will pave the way for attaining the goal of growth with justice. Last but not least, a joint effort on the part of the Government, private sector and self-help-groups supported by the public at large can play a vital role in boosting economic activities and ultimately enhancing employment opportunities in rural India.

Conclusion

To conclude, balanced regional development with focus on rural areas has always been at the top of development agenda in India. Over the last few years, efforts in this direction have been accelerated by the Government through '*Sabka Sath, Sabka Vikas*', further extended to ensure '*Sabka Vishwas*'. In the union budget 2022-23, liberal funds have been provided for generating income and employment in rural areas through substantial investment and increased public expenditure on the schemes and programmes formulated for this purpose. The main focus is on strengthening the rural economy by reviving agriculture and allied sectors in rural India.

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Accelerating Tech Transformation

Balendu Sharma Dadhich

The budget is being called by many experts as transformative as it represents a new thinking towards development, connectivity, infrastructure, innovation, business, industrialisation and growth. Information and communication technologies are being increasingly referred to as an integral part of the government's approach, commitment and resolve towards holistic and sustainable rural development. Budget 2022-23 is a testimony to the fact.

In the spirit of the *Azadi Ka Amrit Mahotsav*, the Union Budget presented by the Finance Minister Mrs. Nirmala Sitharaman for the financial year 2022-23 reflects a grand vision for a self-reliant India. The budget provides a glimpse into how the Prime Minister, Shri Narendra Modi, plans to take confident, strong, ambitious and transformative steps towards realising the idea of 'Aatma Nirbhar Bharat' by taking the concept to the village level. The budget is being called by many experts as transformative as it represents a new thinking towards development, connectivity, infrastructure, innovation, business, industrialisation and growth. Information and communication technologies are being increasingly referred to as an integral part of the government's approach, commitment and resolve towards holistic and sustainable rural development. Budget 2022-23 is a testimony to the fact.

The last few Union Budgets have reflected the government's vision for promoting and pushing digital technologies as a crucial tool for rural development, and the finance minister has maintained the trend this year as well. This augurs well for the rural population which is now more technologically empowered and is reaping the benefits of the digital revolution. Ambitious projects such as BharatNet (National Optical Fiber Network) and Digital India have already made their impact felt in rural India as a large population of villages is already connected to the Internet in one way or the other. The new Budget takes another significant step towards technological enablement of rural population by adding fresh elements to the entire vision. There are concepts like 'Vibrant Villages', rural tech innovation, and a wider ecosystem for e-services.

The budget provisions have prompted a few

experts to say that even though infrastructure and connectivity have been mentioned as a priority since 1950 (at that time by India's first Deputy Prime Minister Sardar Vallabhbhai Patel), there has been a flurry of activity in this direction in the recent years only. The reasons behind such observations is not difficult to guess as we are aware of the government's vision that has expressed its determination for advancing the cause of rural development through adoption of modern, scientific, technological and innovative means and approaches.

Building Digital Infrastructure

Finance Minister Nirmala Sitharaman emphasised the government's resolve towards increasing manufacturing and growing the country's digital infrastructure. She explained that this digital infrastructure includes everything from agriculture, to education, to health and other industries. With digitisation a major focus in the budget proposals, the Finance Minister also said that the government will enhance broadband and mobile services in rural and remote areas of the country. At the same time, it will lay optical fiber lines across the country in all villages of the country. That the government's vision talks about 'all villages' is an expression of its understanding of the need, confidence in its own ability to address the need, and the progress it has already made in this context.

In order to enable affordable broadband and mobile services proliferation in rural and remote areas, the Budget has proposed to allocate five percent of annual collections under the Universal Service Obligation Fund (USOF). This will promote R&D and commercialisation of technologies and solutions. It's important to understand why the government has brought USOF into picture in this context. It's a fact that commercial telecom and internet connectivity providers give cities a priority over villages due to understandable reasons–USOF is a way to overcome this challenge.

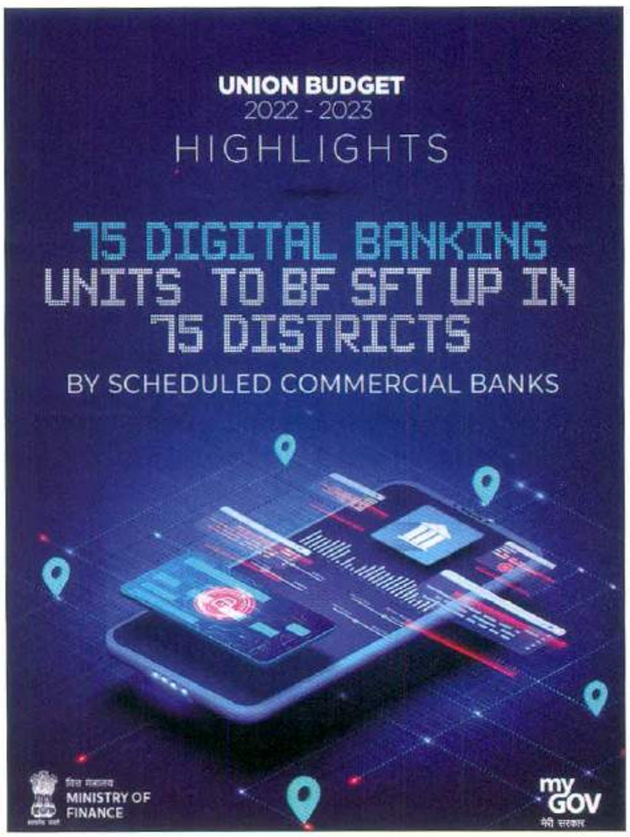
As per the Department of Telecommunications, apart from the higher capital cost of providing telecom services in rural and remote areas, these areas also generate lower revenue due to lower population density, low income, and lack of commercial activity. Thus, normal market forces alone would not direct the telecom sector to adequately serve backward and rural areas. Keeping in mind the inadequacy of the market mechanism to serve rural and inaccessible areas on one hand and the importance of providing vital telecom connectivity on the other, most countries of the world have put in place policies to provide Universal Access and Universal Service to ICT. In India, the Universal Service Obligation Fund (USOF), formed by an Act of Parliament, was established under the Indian Telegraph (Amendment) Act 2003 (further amended in 2006), to provide financial support for the provision of telecom services in commercially unviable rural and remote areas of the country. USOF is the pool of funds generated by 5 percent Universal Service Levy that is charged upon all the telecom fund operators on their Adjusted Gross Revenue (AGR). This fund is deposited in the Consolidated Fund of India and is dispatched on the approval of the Indian Parliament.

Accordingly, the Finance Minister Nirmala Sitharaman said that the government will allocate 5 percent of the annual collections under the Universal Service Obligations Fund to enable broadband and mobile services in the rural and remote areas of the country. This step will provide and promote research and development, and commercialisation of technology and solutions. In her words, "Our vision is that all villages and their residents should have the same access to e-services, communication facilities, and digital resources as urban areas and their residents."

BharatNet

BharatNet, previously known as the National Optical Fiber Network, received a prominent mention in the Union Budget as the Finance Minister said that the contract for laying optical fiber in all villages including the remote areas will be awarded through Public Private Partnership in 2022-2023. The government will take measures to enable better and more efficient use of optical fiber across the country. This is expected to be completed in 2025. The government believes the proliferation of broadband in rural areas will bridge the rural-urban divide of digital access and accelerate the achievement of Digital India. The penetration and proliferation of broadband is also expected to increase direct and indirect employment and income generation.

Recently, the Minister of State for Panchayati Raj Shri Kapil Moreshwar Patil had informed the Lok



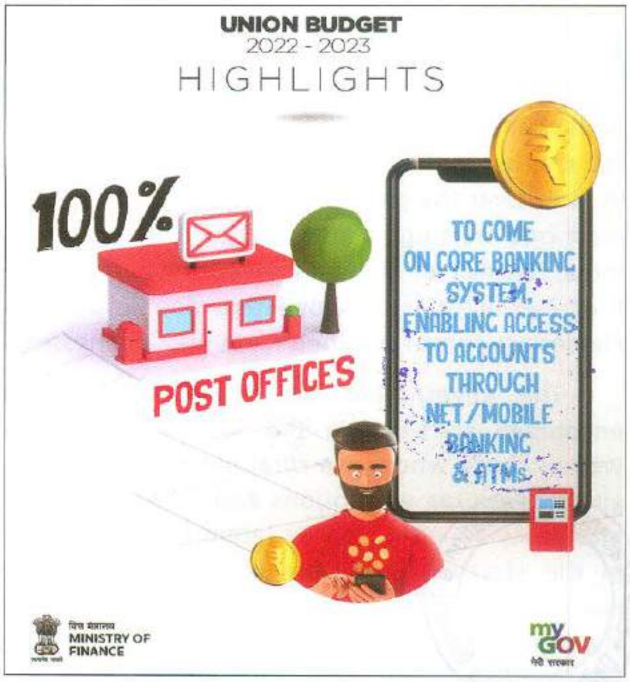
Sabha that as on January 17, 2022, total 1,70,136 out of the 2,50,000 Gram Panchayats had been made 'Service Ready' for the BharatNet project in the country. On June 30 last, the Union cabinet approved a plan to extend BharatNet to 3,60,000 villages in 16 states. The cabinet also approved the extension of BharatNet to inhabited villages in rest of the states and UTs as well. To ensure timely implementation and wider coverage of the plan, the government had also revised its strategy to implement the program, more specifically to go by the PPP route which the Finance Minister has specifically mentioned.

In a related development the government has also introduced eGramSwaraj Application. According to the minister, Mr. Kapil Moreshwar Patil, 2.55 lakh rural local bodies, 5,390 Panchayat unions or block Panchayats, and 481 district Panchayats have prepared their development plans under the eGramSwaraj Application for the current year. Significantly, 1.81 lakh village Panchayats have made online payments worth 72,554 crore rupees through the eGramSwaraj Public Finance Management Scheme interface. Considering such successes, the importance of BharatNet program for rural upliftment, digital empowerment, communication, rural development and inclusion can be easiliy understood.

BharatNet is the world's largest rural broadband connectivity programme using Optical fibre. It is also a flagship mission implemented by Bharat Broadband Network Limited (BBNL) which is a Special Purpose Vehicle (SPV) set up by the Government of India under the Companies Act, 1956 with an authorized capital of Rs. 1,000 crore. It is a highly scalable network infrastructure accessible on a non-discriminatory basis, to provide on demand, affordable broadband connectivity of 2 Mbps to 20 Mbps for all households and on-demand capacity to all institutions, to realise the vision of Digital India. The SPV is being implemented by the Department of Telecommunication under the Ministry of Communications.

Innovation Hubs

The Union Budget not only symbolises a relatively new and innovative vision for developing rural economy as per the vision of Aatma Nirbhar Bharat but also also involves the development of Aatma Nirbhar Villages. The Government of India



is a strong believer in the power of start-ups to transform the socio-economic face of rural India. Considering this, it's no surprise that it has decided to set up a dedicated fund for agritech start-ups.

The Finance Minister Nirmala Sitharaman also announced in the budget speech that a fund with blended capital, raised under the co-investment model, will be facilitated through NABARD. This is to finance start-ups for agriculture and rural enterprises, relevant for farm produce value chain. The activities for these startups will include, *inter alia*, support for FPOs, machinery for farmers on rental basis at farm level, and technology including IT-based support.

The provision makes sense as the rural India is increasingly becoming a focus area of innovation and a source for start-ups and other small and medium-sized businesses. These busineses are directly selling their unique products to customers, often bypassing aggregator platforms, and using social media and delivery specialists to directly sell to customers. The government realises that the growing ecosystem will benefit tremendously if it gets adequate infrastructure support and that justifies the government's push to complete the BharatNet program by 2025.

The Prime Minister Mr. Narendra Modi, while announcing January 16 as the National Start-up Day, had asked the start-ups to approach the semi-urban and rural areas to launch new projects. He underlined the fact that these areas are booming at present. "I urge start-ups to work towards building rural India. It will not only come with challenges but also huge potential," he said. He also lauded the growth of the start-up sector in India over the past few years saying "there's at least one start-up in at least 625 districts across India. Nearly half of India's all startups are in Tier-II or Tier-III cities. It shows that people from all classes are converting their ideas into businesses."

The government has plans in place to encourage start-ups in the agritech sector as well as those who make rural India their base by giving them tax exemptions and other monetary and policy benefits. That its intent is well received in the start-up ecosystem is evident from the reactions that such budget provisions evoked from the industry and businesses who have welcomed their focus on the agriculture sector, including developing infrastructure and expanding the role of technology. Notable is the statement from Chief Sustainability Officer of Syngenta, Mr. K. C. Ravi, who said that the budget has set the foundation for taking agriculture on a sustained higher growth trajectory during the *Amrit Kal* and will ensure a positive direction towards India 2047, when we will complete 100 years of our independence.

Kisan Drones and Vibrant Villages

A significant thing to observe in the budget is the emphasis on use of Kisan Drones for various purposes in the rural areas. They include crop assessments, land records, spraying of insecticides and micronutrients, which will be a game changer for the agriculture sector. The government, in fact, sees drones as an important need for the future in diverse areas not just limited to agriculture. The government is launching a 'Drone Shakti' initiative and will facilitate the use of drones as a service. The Union Civil Aviation Ministry had estimated that India's drone sector's turnover will reach Rs 12,000-15,000 crore by 2026 from Rs 8,000 lakh in 2021.

Though skeptics have raised questions like how useful drones would be in Indian conditions but we have seen that every time a pathbreaking technology is introduced such apprehensions and reservations are bound to surface. However, once a new technology becomes available, it starts building base for itself. If it is able to prove its worth, we witness the emergence of a new category of business /services. Not everyone may be able to afford a new technology product in the beginning but as its use becomes common, it becomes more affordable and more acceptable among the general population. The same may be said about drones as well.

Interestingly, the stock market reacted very positively to the related announcement as shares of companies working in the drone sector went up significantly as the Finance Minister was delivering her speech. Drones are becoming popular in the farming community for their limited costs, their extensive utility and their ease of use. The trend may also pick up in India as many start-ups have shown interest in entering this space after the announcement was made.

Under the Vibrant Village programme, the government is going to prioritise development of border villages and the scope of development is expected to extend to the provision and adoption of communication and digital technologies as well. This programme will improve social and financial infrastructure in remote habitations, primarily along the border with China, and will be piloted by Home Ministry.

Among other important proposals and announcements related to the technology sector which will be relevant to rural India include expansion of PM eVIDYA to 200 TV channels and inclusion of all post offices in the core banking system. There is a provision for radio broadcasts for visually and hearing impaired students. This is because the government doesn't want the education of students to suffer due to the nationwide lockdown.

Overall, the budgetary provisions for rural tech enablement and empowerment show a strong commitment to continue the good work already done to develop an ICT ecosystem across the country. The budget provisions reflect continuity in terms of the government's long-term vision but also draw attention to its out-of-box thinking in some aspects.

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Infrastructure Development

Dr. Debabrata Samanta

Public spending on infrastructure is crucial for a sustainable increase in the income and standard of living of the people of any country. The Union Budget 2022-2023 of India is a well-thought effort to revive the economy from the hit by the pandemic, lay the foundation of the goal of USD 5 trillion economy, and pave the way for sustainable economic growth for the next 25 years through the development of infrastructure.

The Article 112 of the Indian Constitution mandates the Government of India to prepare the Annual Financial Statement, commonly known as Union Budget. The Annual Financial Statement reflects an estimate of receipts and expenditures of the government for the forthcoming year. The aim of the budget process is to reallocate resources; reduce inequalities in income and wealth, ensure economic stability, manage public enterprises, economic growth, and reduce regional disparities. A budget reflects the government's policy, priorities, planning and implementation process for the delivery of goods and services to the citizen. It sets the direction of the government as well as sets growth targets and major thrust areas for the next and upcoming years. Infrastructure is an important component of the Union Budget. For the last few years, the government has given emphasis on infrastructure development as a catalyst for the growth and development of India. The Union Budget 2022-2023 has set a direction of growth and development through the development of infrastructure. This article is an attempt to explore the areas of infrastructure development in this budget.

The Implication of Infrastructure Development

Infrastructure is defined as the facilities that support modern human life. Worldwide, the centrality of public expenditure on infrastructure has been acknowledged as an important instrument in the development process of developing economies. There are two types of infrastructures – physical and social. The development of physical infrastructure is argued to be crucial for rapid economic growth. Spending on physical infrastructure is also found to reduce transaction costs and other input costs, develop trade activities, facilitate opening of new markets, raise productivity, and enhance employment opportunities which contributes to the economic growth of a nation. The development of social infrastructure, such as expenditure on education and health services, is crucial for the development of human resources in an economy, which is expected to contribute to long-run economic growth with enhanced skill and productivity (Mohanty & Bhanumurthy, 2018). It has been found that development of infrastructure affect economic growth and development positively through supply and demand channels. By reducing costs of production as well as contributing to the diversification of the economic activities, it raises the economic returns to labour through the creation of provision of access to the application of modern technology (Kessides, 1993). Infrastructure contributes to raising the quality of life by creating amenities, providing more goods for consumption (through transport and communication services), and contributing to macroeconomic stability. The cross-country study of 100 countries for the period of 1970 to 1988 by Easterly and Rebelo (1993) found a positive impact of investment in transport and communication on economic growth.

Infrastructure Development and Economic Growth: Evidence from India

In the context of India, studies have found a positive relationship between road and railway transportation with economic growth (Pradhan & Bagchi, 2013). Physical infrastructure, such as transportation, communication, power, and telephones, promote economic growth. Physical infrastructure has a significant and favorable impact on economic growth both in the long-run and short-run and spending on infrastructure creates a multiplier effect on the creation of additional income in the economy. In the context of India, the estimated value of the capital expenditure multiplier is 2.45 (Bose & Bhanumurthy, 2013). This implies every one rupee spent as capital expenditure creates Rs. 2.45 income in the economy. Capital expenditure has a direct link with spending on creating new infrastructure.

The Economic Survey 2021-22 pointed out that in order to achieve the GDP of USD 5 trillion by 2024-25, India needs to spend about USD 1.4 trillion over these years on infrastructure(Government of India, 2022). During FYs 2008-17, India invested about USD 1.1 trillion on infrastructure. However, the challenge is to step up infrastructure investment substantially. Keeping this objective in view, National Infrastructure Pipeline (NIP) was launched with a projected infrastructure investment of around Rs. 111 lakh crore (USD 1.5 trillion) during FY 2020-2025 to provide world-class infrastructure across the country and improve the quality of life for all citizens.

The Union Budget 2021-2022 and Union Budget 2022-2023 attempted to accelerate the economic growth through high public investment in infrastructure.

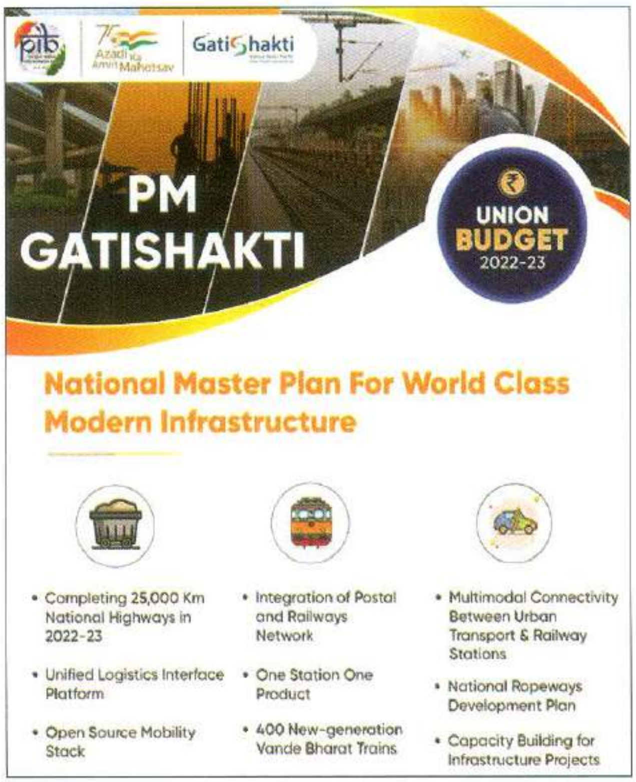
Union Budget 2022-2023: Key Highlight on Infrastructure

The Union Budget of 2022-2023 was presented at a pivotal time. On the one hand, the economy has started reviving from the hit by the pandemic, on the other hand, the country is celebrating the '*Azadi ka Amrit Mahotsav*' to commemorate 75 years of progressive India and the glorious history of its people, culture, and achievements. The Union Budget 2022-23, being presented as a blueprint to lay the foundation and steer the economy for the next 25 years, which is marked by *Amrit Kaal* by the Hon'ble Finance Minister (Government of India, 2022). The fundamental tenets of the Union Budget 2022-23, as commented, present transparency of financial statement and fiscal position reflect the government's intent, strengths, and challenges.

Infrastructure is an important component of the Union Budget. For the last few years, the government has given emphasis on infrastructure development as a catalyst for the growth and development of India. The Union Budget 2022-2023 has set a direction of growth and development through the development of infrastructure. This article is an attempt to explore the areas of infrastructure development in this budget.

The goals of the Union Budget are (i) Focus on growth and all-inclusive welfare, (ii) Promoting technology-enabled development, energy transition, and climate action, (iii) Virtuous cycle starting from private investment, crowdedin by public capital investment.

The Budget document has identified four priorities (i) Development of infrastructure through PM Gati Shakti, (ii) Productivity Enhancement through creating conducive environment for business, skill development, (iii) More inclusive development through the development of agriculture, employment (iv) Financing Investment through Public sector with the active participation of private sector (Government of India, 2022).



1. Development of Physical Infrastructure Initiatives

Since last Union Budget 2021-2022, the government has relied on infrastructure development to expedite the growth of the pandemic ravaged economy. As high-quality public infrastructure plays a crucial role in supporting economic growth, generating jobs, and improving citizens' well-being, the infrastructure investment might have started giving result, like the economy which has experienced a negative growth rate recovered with a high positive growth rate. The Union Budget 2022-2023 has identified the Pradhan Mantri Gati Shakti programme to develop infrastructure. The Pradhan Mantri Gati Shakti is an initiative to boost the physical infrastructure of the economy through seven engines, namely (a) Roads, (b) Railways, (c) Airports/Aviation, (d) Ports, (e) Mass Transport, (f) Waterways, and (g) Logistics Infrastructure. The Pradhan Mantri Gati Shakti National Master Plan (NMP) got approved in October 2021. The PM Gati Shakti NMP aims to provide multimodal connectivity to various economic zones and integrate the infrastructure linkages holistically for seamless movement of people, goods and services to improve logistics efficiency. Gati Shakti aims to bring 16 Ministries together for integrated planning and coordinated implementation of infrastructure connectivity projects like Bharatmala, Sagarmala, inland waterways, UDAN, etc. This is expected to boost economic growth, attract foreign investment and create multiple employment opportunities (Government of India, 2022).

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Road Transport

The importance of road transport is that it is the most convenient transport system for both humans and goods with wide and remote reach. Roads have a multiplier impact on poverty reduction and raising living standard of people. The road network of the country consists of National Highways (NH), State-Highways (SH), District Roads, Rural Roads, Urban Roads, and Project Roads. The 63.71 lakh km (till 2019) of the road network in India is the second-highest in the world, and there has been a constant increase in road network in India. The extent of road construction per day, as reported, has increased in 2020-21 to 36.5 kms per day from 28 kms per day in 2019-20, a rise by 30.4 percent. The Union Budget 2022-2023 aims for the formulation of Master Plan for expressways and completing 25,000 km national highways in 2022-23. An amount of Rs. 1,99,107.71 crores has been allocated for the year 2022-23 for the Ministry of Road Transport and Highways. The Pradhan Mantri Gram Sadak Yojana (PMGSY) plays a crucial role in addressing the problem of the lack of adequate connecting roads in rural areas. In the last twenty years, the scheme has emerged as instrumental in connecting villages, enhancing availability and accessibility of basic services, playing a role in reducing poverty, shifting in livelihood opportunities, and enhancing the standard of living of rural India. The Union Budget 2022-2023 has allocated Rs. 19,000 crores for PMGSY, which is 36 percent more than the budgeted allocation under Union Budget 2021-2022.

Railway Transport

In India, the Railways is the principal mode of transportation of freight and passengers. In terms of the economy, railways also play a major role in integrating markets and increasing trade. Even during the pandemic, the Indian Railways played an important role in transporting people and keeping the supply chain active. With over 68,102 route kms, the Indian Railway is the third-largest network in the world under single management. An average of 1,835 track km per year of new track length has been added through new-line and multi-tracking projects during 2014-2021

(Government of India, 2022). The Indian Railway has adopted an indigenously developed anti-collision technology named KAWACH. The Union Budget 2022-23 has aimed to bring 2,000 km of the rail network under the indigenous world-class technology KAWACH. The 'Vande Bharat' Trains, which are known for their speed and efficiency, are also under consideration in the budget. The Union Budget, 2022-2023, sets a goal to add 400 new-generation Vande Bharat trains with better efficiency in the next three years. Along with this, 100 PM Gati Shakti Cargo terminals are targeted to be developed during the next three years. To boost the agriculture sector through the railways, the Union Budget 2022 aims to develop 'One Station-One Product' model to leverage the local produce carried on the railway. The Union Budget 2022-23 has earmarked Rs. 1,40,367.13 crores for the Ministry of Railway, which is around 17 percent more than the budgeted amount of Rs. 1,20,056.12 crores of last year Union Budget.

Civil Aviation

In India, the civil aviation sector is one of the fastest-growing sectors. The domestic air traffic in India has more than doubled from around 61 million in 2013-14 to around 137 million in 2019-20 (Government of India, 2022). The aviation sector got hit heavily by the COVID-19 pandemic and lockdowns. The passenger and cargo operations were both hit by the lockdown. However, the cargo operation has almost bounced back to the pre-COVID period, and the passenger carriage is increasing after the vaccination and removal of different restrictions. The development of regional airports through the UDAN program is a commendable step by the Government of India as part of the Regional Connectivity Scheme (RCS), which will help to connect emerging regional markets. Under the RCS-UDAN, 153 RCS airports, including 12 water aerodromes and 36 Helipads, have been identified for the operation of RCS flights (Government of India, 2022). The Union Budget 2022-2023 has announced the civil aviation as one of the seven drivers of growth and mentioned that as part of the PM Gati Shakti Programme, airports would provide power to economic growth. The Union Budget has allocated Rs. 10,667 crores for the year 2022-23 under the Ministry of Civil Aviation.

Ports and Waterways

India has a rich history of trade across the sea. Ports, which act as a crucial connection between sea and land transport, are important for enhancing the economic growth through trade. Ports provide seaway transport, which is the cheapest mode of transportation, creating avenues for industries for a cost-effective way to import raw materials and export finished products. It is found that countries with more efficient and/or numerous ports also tend to have higher overall GDP; the greater number of highly recognised ports in a country, the higher the GDP of the country (Dwarakisha & Salima, 2015). With an aim to develop world-class mega ports, transhipment hubs and to ensure infrastructure modernisation, the 'Maritime India Vision 2030' has been released in March 2021. This is assumed to be a blueprint for propelling India to the forefront of the Global Maritime Sector. The implementation of the projectis expected to increase employment from around 7,00,000 to 10,00,000. There has been a change in the policy paradigm related to inland waterways to promote the economy, safe transportation, and trade through inland waters (Government of India, 2022). This signifies the strategy of economic development through the development of infrastructure started last year and reflected in last year budget too. The Union Budget 2022-2023 has allocated Rs. 1,709.50 crore under the Ministry of Ports, Shipping, and Waterways.

Logistics Infrastructure

Logistical facilities are crucial for the efficient delivery of goods and services as per the need of the customers. It also helps in economic transactions, serving as a major enabler of the growth of trade and commerce in an economy. An efficient logistic system works as an enabler in reducing cost and enhancing competitiveness, especially in the global market. It has been found that India spends around 14 percent of its GDP in logistics, which reduce the competitiveness of India's manufacturing export. The Union Budget 2022-2023 has rightfully emphasised the logistical sector and plan for four Multimodal Logistics parks through PPP to be awarded in 2022-23. The increased budgetary allocation is expected to bring India at par with global supply chain networks and enhance competitiveness.

Multimodal Movement of Goods and Passengers

The Union Budget 2022-2023 has also emphasised on seamless movement of goods and passengers. The budget has declared to bring the data exchange among all mode operators under the Unified Logistics Interface Platform (ULIP), designed for Application Programming Interface(API). This process is expected to provide real-time information to all stakeholders, leading to the efficient movement of goods through different modes, and improve international competitiveness. The Union Budget 2022-2023 has announced National Ropeways Development Plan as a sustainable alternative to conventional roads in difficult areas. The Budget also has announced Parvatmala scheme for hilly areas to connect villages through a modern system of transport to make the border villages vibrant.

Use of High–tech Drone Infrastructure in Agriculture and Land Resource Management

The Union Budget 2022-2023 has proposed for using 'Kisan Drones'to help farmers assess crops, digitise land records as well as spray insecticides and nutrients. The Budget has emphasised on the importance of land records and proposed the use of the drone for the creation of land record data and hand over conclusive rights on the land. Union Budget also proposed linkage of the National Generic Document Registration System (NGDRS) with the 'One-Nation One-Registration Software'. The initiative will promote a uniform registration process and allow people to register deeds and documents anywhere. This initiative is expected to reduce disputes related to land and would be a tool for an efficient land management.

Capacity Building for Infrastructure

The Budget 2022-2023 has planned to build capacities for efficient implementation of infrastructure projects. The Capacity Building Commission, set up in 2021, aims to play a crucial role in the skill up-gradation of central ministries, state governments, and their infra-agencies in planning, design, financing (including innovative ways), and implementation management of the PM Gati Shakti infrastructure projects.

2. Development of Social Infrastructure Initiatives

Housing and Urban Development

Affordable housing for all does not only ensure the quality of living of people in a country; the construction and use of decent housing affect economic development through its impact on employment, savings, investment, and labour productivity. To meet the challenge of accommodating the increasing population with proper housing, the government has launched the 'Housing for All by 2022' scheme in 2015 to provide assistance for the construction of houses. The Union Budget 2022-2023 has allocated an outlay of Rs. 48,000 crore under the Pradhan Mantri Awas Yojana to target the construction of 80 lakh homes to facilitate access toaffordable housing.

In the last 10 years, the proportion of the urban population to total population has increased from 30.9 percent to 34.9 percent (www.data.worldbank.com). It is estimated that, in the next 25 years, half of India's population will live in urban areas. To prepare the urban area for the increasing population, the present budget has proposed for setting up of a high-level committee to provide recommendations on issues and policies related to urban sector.

Development of Post Office

The Union Budget 2022-23 has proposed bringing 100 percent of post offices under the core banking system, which would boost the financial inclusion of the country.

Vibrant Village Programme

The Union Budget 2022-2023 has announced a vibrant village program to develop infrastructure in villages that are adjacent to border areas,with the construction of village infrastructure, housing, tourist centers, road connectivity, provisioning of decentralised renewable energy, direct-to-home access for Doordarshan and educational channels, and support for livelihood generation.

Aspirational Blocks Programme

In the year 2018, the Government of India has launched the 'Transformation of Aspirational Districts' with a vision a to improve India's ranking under the Human Development Index, raising the living standards of its citizens and ensuring inclusive growth of all. Aspirational Districts programme aims to quickly and effectively transform 112 most under-developed districts across the country. The districts have been identified by NITI Aayog based upon composite indicators from Health and Nutrition; Education; Agriculture and Water Resources; Financial Inclusion and Skill Development; and Basic Infrastructure which have an impact on the Human Development Index. To give impetus in this process, the Union Budget 2022-2023 has announced for aspirational block programme for the development of lagging blocks of aspirational districts.

Development of Healthcare Infrastructure

India has faced three waves of COVID-19 pandemic. However, the health infrastructure of India has shown resilience in combating the pandemic. India has vaccinated more than 68 percent of the population with one dose, with more than 50 percent have been fully vaccinated against COVID-19. The Union Budget 2022-23 has proposed for rolling out of National Digital Health Ecosystem. This will consist of digital registries of health providers and health facilities, unique health identity and universal access to health facilities. It also announced for National Tele Mental Health Programme for quality counselling.

Anganwadi centres, play a crucial role in providing nutrition and healthcare to children and mothers through counselling, pre-school education, immunisation, and supply of medical, health, and nutritional resources. The Union Budget 2022-2023 has proposed to upgrade two lakh Anganwadis to Saksham Anganwadi in 2022-23. Saksham Anganwadis, as specified, would be new generation anganwadis that have better infrastructure and audio-visual aids powered by clean energy so that they could provide an improved environment for early childhood development.

The budget also has proposed to cover 3.8 crore household in 2022-23 with piped water system under 'Har Ghar, Nal Se Jal' scheme.

Development of Educational Infrastructure

The educational infrastructure has been found to be improving for the last few years. The number of recognised schools and colleges continued to increase between 2018-19 and 2019-20, except for primary and upper primary schools. Basic facilities in schools have also been improved in 2019-20 compared to earlier years. Toilets (girls or boys), drinking water, and hand-washing facilities are now available in most of Government schools(Government of India, 2022). However, the COVID-19 pandemic has transformed the education system. The pandemic has boosted the online learning process. To boost the online learning experience the budget has announced 'One class-One TV channel' programme, which would be expanded to 200 TV channels. This initiative is expected to enable all states to provide supplementary education in regional languages for classes I-XII. The Digital learning process would be encouraged with development of quality e-content by the teachers. The Budget also has proposed to establish a 'Digital University' with world class quality education. The Union Budget aims to set up 750 virtual labs in science and mathematics, and 75 skilling e-labs in 2022-23, as part of vocational education. The Budget also has proposed to pave ways for world-class foreign universities to set up in India, free from domestic regulation, to offer courses in Management, FinTech, Science, Technology, Engineering and Mathematics.

Special Infrastructure Development Initiative for North East

The Union Budget 2022-2023 has announced special infrastructure development initiative for North Eastern States. The new scheme Prime Minister's Development Initiative for North-East (PM-DevINE) plan to fund and implement infrastructural projects in the spirit of PM Gati Shakti. The initiative also plans to fund social infrastructure development projects and other projects as per the felt need of the states. This is expected to create more livelihood opportunities for especially for youth and women in the eight northeastern states – Assam, Meghalaya, Manipur, Mizoram, Nagaland, Tripura, Arunachal Pradesh and Sikkim. The initiative expected to fill the critical gap of different central and state sponsored schemes and work as complementary effort to these states. An initial amount of Rs. 1,500 crore has been allocated in the budget 2022-2023 for the initially selected projects.

Financing the Infrastructure Projects

It is estimated that to achieve the GDP of USD 5 trillion by 2024-25, India needs to spend about USD 1.4 trillion (Rs. 100 lakh crore) over these years on infrastructure. To fulfill this target, the National Infrastructure Pipeline (NIP) launched in 2020 to provide world-class infrastructure across India and improve the quality of life for all citizens. The initiative also aims to showcase investment opportunities in India's infrastructure sector, improve project preparation and attract investments into India. The Union Budget 2022-2023 emphasises on PM Gati Shakti and announced that the projects in National Infrastructure Pipeline which pertain to seven engines will be aligned with PM Gati Shakti Framework. The National Monetisation Pipeline (NMP) has been created to boost up investment in infrastructure. Along with strong public investment in infrastructure, the NMP aims to pool private sector efficiencies and capital to redevelop or refurbish and run world-class facilities of infrastructure. The Union Budget 2022-2023 has perceived complementary role of private investment in infrastructure projects with public investment to play the major role. Measures are proposed to be taken to enhance financial viability of projects including PPP, with technical and knowledge assistance from multi-lateral agencies. Enhancing financial viability aimed to be obtained by adopting global best practices, innovative ways of financing, and balanced risk allocation. The outlay for capital expenditure in the Union Budget 2022-23 has increased to 7.50 lakh crore, which is more than 35.4 percent more than the Budget of 2021-22 and 2.2 times of the expenditure of 2019-20. This outlay in 2022-23 will be 2.9 percent of GDP. The 'Scheme for Financial Assistance to States for Capital Investment' has increased the allocation to Rs. 1 lakh crore. These fifty-year interest free loans to the states, expected to be used for PM Gati Shakti implementation and other productive capital investment of the states.

Conclusion

India is one of the worst hit countries by pandemic. However, the economy has started reviving from the setback. The Union Budget 2022-2023 has planned to facilitate a big push through infrastructure spending, mostly through public spending to sustain the revival process as well as to achieve the goal of USD 5 trillion economy. The process of strong infrastructure push, which was given in the Union Budget 2021-2022, has been continued in the Union Budget 2022-2023. This indicates goal of the government to steer the economy through creation of sustainable infrastructure.

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Animal Husbandry and Fisheries

Dr. Jagdeep Saxena

A significant increase in the allocation for National Livestock Mission is likely to boost employment generation, entrepreneurship development, and per animal productivity in livestock sector.

Allied sectors of agriculture; namely, animal husbandry, dairy farming, and fisheries play a pivotal role in the growth story of India due to their substantial contributions in national economy. Dairy is the single largest agricultural commodity contributing five percent of the national economy and employing more than eight crore farmers directly. Fisheries sector supports the livelihood of over 28 million people in India, especially the marginalised and vulnerable communities. It contributes about 1.24 percent to the country's GVA (Gross Value Added) and over 7.28 percent to the agricultural GVA. Recognising the increasing importance of allied sector, the Committee for Doubling Farmers Income has recommended a focused policy with a concomitant support system for accelerating growth in these sectors. Recent Budget proposals (2022-23) reflect the commitment of the Government for the inclusive development of allied sectors and welfare of associated farmers.

Higher Allocations for Accelerating

The Finance Minister has allocated Rs. 6,407.31 crore (2022-23) for the Ministry of

Fisheries, Animal Husbandry and Dairying. The Budget allocation has been increased by 44 percent over the last year. Centrally Sponsored Schemes under the Ministry also got an average hike of 48 percent in fund allocations. Department of Fisheries has been allocated highest ever annual budget of Rs. 2,118.47 crores, which is an increase by about 74 percent from FY 21-22 annual Budget. Pradhan Mantri Matsya Sampada Yojana (PMMSY), an umbrella scheme of Department of Fisheries, received big boost by 88 percent increase in budget. In last fiscal, its budget was Rs. 1,000 crores which now stands at Rs. 1,879 crores.

Table 1: Increased Allocations for Schemes of Department of Animal Husbandry

Scheme	Budget Allocation for 2021-22 (crores)	Budget Allocation for 2022-23 (crores)	Percentage Increase
Rashtriya Gokul Mission	502.04	604.75	20.46
National Livestock Mission	288	410	20.83
National Programme for Dairy Development	255	310	21.57
Livestock Health and Disease Control	886	2000	59.82
Infrastructure Development	262	315	12.21
Central Sector Schemes	1,148	2,315	48.95
Centrally Sponsored Schemes	1,177.04	1,394.76	15.95
Total Budget	3,053.75	4,288.84	40.45

A significant increase in the allocation for National Livestock Mission is likely to boost employment generation, entrepreneurship development, and per animal productivity in livestock sector. Breed development in livestock and poultry; feed and fodder development; and innovation and extension are major verticals of the scheme aiming overall growth in the sector. Fund allocation for Rashtriya Gokul Mission has also been increased to further accelerate the pace of development and conservation of indigenous bovine breeds. Cutting-edge techniques are being promoted under the mission to genetically upgrade bovine population for increasing productivity. Along with nationwide AI (Artificial Insemination) programme, modern facilities for embryo transfer, production of sex sorted semen and centres of excellence are also being established under the mission. Almost 60 percent enhancement in fund allocation for Livestock Health and Disease Control will help ensure healthier livestock and healthier India. Launched by the Government of India, the National Animal Disease Control Programme is the largest ever vaccination programme carried out either for human or animal vaccination in the world. It aims to control and eventually eradicate the dreaded Foot and Mouth Disease (FMD) and Brucellosis by 2030. Creation of infrastructure is a key requirement in animal husbandry sector to make it more profitable for dairy farmers and entrepreneurs alike. Hence, Government of India launched a special Animal Husbandry Infrastructure Development Fund worth Rs. 15,000 crore in 2020. The Fund facilitates investments (3 percent interest subvention and credit guarantee up to 25 percent of total borrowing) for the establishment of dairy and meat processing plants and animal feed plants. In addition to individual entrepreneurs and private sector companies, FPOs (Farmer Producer Organisations), MSMEs and Section 8 companies are also entitled to get benefits under the Fund. The investment in return is expected to create 3.5 million jobs.

Dairy for Livelihood Security

Growth of dairy sector in India is on a fast track with huge potential to evolve and expand in near future. Growing at a compound annual growth rate of 6.4 percent in the past five years, dairy industry is being promoted by the government as an excellent business opportunity and means of livelihood security. Dairying and its allied activities have become a very important secondary source of income for millions of rural families. The National Programme for Dairy Development, which got a boost in the present budget, aims to strengthen and create the necessary infrastructure for the production of quality milk and milk products. It includes the end-to-end value chain from production and procurement to processing and marketing of milk products. Training of dairy farmers and strengthening of the dairy producer companies/cooperative societies at village level are also undertaken in the scheme to promote dairying activities at the ground level. The Indian dairy industry, with the technical and financial support of the government, is aggressively moving from unorganised to organised status; and from liquid milk, butter, ghee and SMP (Skimmed Milk Powder) producer to supplier of novel value added milk products.

In recent budget proposals, the reduction in Alternate Minimum Tax for cooperatives from 18.5 percent to 15 percent is a significant step that would provide a level playing field between cooperative societies and private sector companies. In addition, Government has also announced the reduction in surcharge on cooperative societies from 12 percent to 7 percent for those having a total income of more than Rs. 1 crore up to Rs. 10 crores. This move will benefit thousands of dairy cooperatives translating into higher income for dairy farmers. Since most of our dairy fraternity represents the cooperative sector, the reduction in surcharge and Alternate Minimum Tax will help enhance dairy farmers' incomes across the country.

Some other Budget proposals, primarily meant for other sectors are likely to impact livestock sector positively. For example, infrastructure development under the 'Vibrant Villages Programme' will play a significant role in enhancing market access for dairy farmers. Incentives for natural farming will enhance the quality of animal feed and fodder; this will in turn increase the productivity of dairy animals. Incentivising digital banking will lead to greater transparency by streamlining payments during milk procurement and other services rendered by livestock farmers. Supporting start-ups in agriculture and allied sectors will increase productivity and income through infusion of new technologies in production to marketing systems. Promotion of Kisan Drones will pave the way for the application of drone technology for better herd management and farm safety.

Fisheries for Rural Prosperity

Recognising the significance of the fisheries sector in national economy and rural prosperity, the government has made Budget proposals to unlock its full potential. Steep hike in allocation for the flagship scheme PMMSY will push-up focused and sustainable development of fisheries sector in the country. Currently, India is the second largest fish producing country in the world accounting for 7.56 percent of global production. Backed by innovative entrepreneurial ventures and viable business models, export earnings from fisheries sector touched an all-time high Rs. 46,662.85 crores during 2019-20. Under PMMSY, key interventions are mainly undertaken along following verticals:

- enhancing fish production and productivity,
- modernising and strengthening the value chain,
- creating fisheries and post-harvest infrastructure, and
- developing robust fisheries management and regulatory frameworks.

Further, the Department of Fisheries has envisaged to accelerate the cultivation of seaweed and to open up additional livelihood opportunities to fisherwomen by providing technical and financial support. In this endeavour, seaweed seed banks will be established and marketing will be facilitated through suitable demand aggregators. To promote highly remunerative shrimp farming, a network of brood banks will be set-up using indigenous technology to make quality seeds available to shrimp farmers in sufficient quantity. In addition, Budget proposes to reduce duty on certain inputs required for shrimp aquaculture so as to promote its exports. Indian shrimp industry relies on imported larval seeds, artemia and shrimp brood stock. In current Budget, the government proposes to remove the 10 percent duty on these items that will help the industry to import more and will hopefully boost production. Budget also proposes to waive 15 percent import duty on frozen krill, squid and mussels used as feed in shrimp hatcheries. The 5 percent duty on shrimp aquafeed used in farms has also been suspended.

Supported by enhanced allocation, the Department of Fisheries will step up its efforts to modernise the fishing harbours and landing centres to ensure higher value for the catch of marine fishermen. Development of modern fish markets is also on the cards to improve hygiene and to attract new customers. Department of Fisheries also plans to modernise 50 new fish markets this year. New ventures such as aqua sports and fish tourism will be developed to promote alternative livelihood for fishermen. To address the credit needs of fish farmers, the facility of Kisan Credit Card (KCC) remains extended to fisheries to meet their working capital needs. Implementation of welfare activities such as fishermen's insurance, saving-cum-relief and vessel insurance with enhanced coverage will continue on priority basis. An effective and user-friendly institutional mechanism will be created for the delivery of digital and high-tech services to fishermen and fish farmers.

In view of increasing importance of allied sectors, the Government has now geared up its efforts to harness the full potential of allied activities. Strengthening of current schemes and launch of new initiatives are likely to change fortunes of millions of farmers engaged in allied occupations as a secondary source of income. Further, the conducive policy environment will help youth to explore the business potential of allied sectors as a source of dignified livelihood. Allied enterprises are now moving ahead on a path of progress and evolvement.

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Inclusive Rural and Agriculture Prosperity

Dr. G.R.Chintala

Over the years, Government has introduced major reforms in the agriculture sector, which are vital for the prosperity of the nation and improving the standard of living of farmers. With the *'Beej Se Bazaar Tak'* approach, government has brought remarkable changes in the agriculture sector.

Every year people of India look forward to the Union Budget with hopes and aspirations even as some budgets disappoint a few sections, some please a few, and quite a few may not evoke much reaction. Budget is also considered by quite a few as mere annual statements of government accounts. However, according to me, budgets must show some sense of continuity with an underlying vision running across while being growth-oriented without resorting to handing out doles, notwithstanding year-to-year compulsions to make a few announcements and adjustments to address current situations. Union Budget 2022-23, from the above criterion, stands out. First, it is a budget that maintains continuity of priorities and philosophy. Second, it is a futuristic blueprint to steer the economy over the *Amrit Kaal* of the next 25 years. It seeks to provide impetus to sustainable growth and all-inclusive welfare. Third, it is inclusive as it directly benefits youth, women, farmers, the Scheduled Castes, and the Scheduled Tribes. Fourth, with the proposed public investment of Rs. 7.5 lakh crore, a jump of 35 percent over last year's allocation of Rs. 5.54 lakh crore, this budget targets growth.

The Budget has acknowledged the importance of the rural economy and agriculture sector in the economy. Agriculture is the backbone of India's rural economy, which provides livelihood to 70 percent rural population. During the pandemic, agriculture remained the silver lining amidst the crisis. Hence as the economy is bouncing back, enough efforts should be taken to boost agricultural growth for it to remain intact and be supportive in the future too. Last year's Union Budget had paved the way for investments in agriculture under Aatma Nirbhar package. Further, over the years, the Government of India has introduced major reforms in the agriculture sector, which are vital for the prosperity of the nation and improving the standard of living of farmers. With the *'Beej Se Bazaar Tak'* approach, the government has brought remarkable changes in the agriculture sector. This Budget has continued

the efforts to unleash the true potential of Indian agriculture, which includes chemical-free natural farming, modernisation of agri-infrastructure, and technology-driven growth. Initiatives like 'Kisan Drones', delivery of digital and Hi-Tech services to farmers, and promoting post-harvest value chain will lead to long-term and sustainable growth of the agriculture sector. These initiatives will also make the Indian agri-market competitive and remunerative for farmers.

In this budget, the allocation to the Ministry of Agriculture and Farmers' Welfare is about Rs. 1.32 lakh crore out of which major portion (about 71 percent) goes to 3 major schemes viz. PM KISAN (51 percent), interest subvention on short-term credit to farmers (14.7 percent), and Pradhan Mantri Fasal Bima Yojana (11.6 percent). These three schemes have benefitted the farmers by augmenting working funds, mitigating risk, and providing cheap credit for agriculture. Additionally, the government has also implemented the schemes like Prime Minister Krishi Sinchayee Yojana, Rs. 1 lakh crore Agriculture Infrastructure Fund and umbrella scheme PM SAMPADA to create modern infrastructure with efficient supply chain management from farm to retail output and promoting food processing.

The rural economy has been at the centre stage of government's policy of *Sabka Saath, Sabka Vikas*. Union Budget 2022-23 has continued to provide thrust to inclusive development especially in rural areas through continued support to many social sector schemes and some new programmes. Social Sector Schemes like Har Ghar Nal Se Jal, Pradhan Mantri Sadak Yojana, Aatma Nirbhar Bharat Rojgar Yojana, PM Poshan, and Saksham Anganwadis will act as a catalyst in achieving the twin objective of enhancing the human capital development and boosting economic activity in the rural areas.

The broad focus of the budget and its impact on rural and agriculture sections are articulated below in sections I and II.

Section I- Fostering Inclusive Rural Prosperity

Promoting Village Development in Underdeveloped Regions

In our country, many border villages and aspirational districts lag in the development indicators. The government has announced a Vibrant Villages Programme and Aspirational Block Programme. Vibrant Village Programme, which will be implemented in villages on the northern border and will provide road connectivity, renewable energy, and support for livelihood generation.

Under the Aspirational Districts Programme, 95 percent of 112 selected districts have made significant progress in key sectors such as health, nutrition, financial inclusion, and basic infrastructure. They have even surpassed the state average values. Taking this initiative forward, this Budget has announced to focus now on such blocks which have continued to lag. This initiative will go a long way in providing all-round development of the backward pockets in the rural areas.

Focus on Tangible Assets for Inclusive Growth

Development of rural infrastructure is important from the perspective of agriculture, agro-based industries, poverty alleviation, and better access to markets and job opportunities in rural regions. This year, Union Budget has painted a bold vision for India@100 and has focused on the creation of tangible assets like roads and houses for spearheading the development in rural areas. Infrastructure bottlenecks have emerged as a major challenge in improving the socio-economic indicators and sustaining the economic growth in rural areas. Recognising this, the Budget has enhanced the allocation under Pradhan Mantri Gram Sadak Yojana from Rs. 14,000 crore in 2021-22 (RE) to Rs.18,000 crore in 2022-23 (BE).

Improving the Access to Basic Amenities

Lack of access to basic amenities like tapped water, access to primary education, and healthcare for all has been aggravating the challenges to reduce poverty levels and boost economic activities in rural areas. The Budget includes the creation of Saksham Anganwadis which will be new generation anganwadis that have better infrastructure and audio-visual aids, powered by clean energy and providing improved environment for early child development. The government's plan to upgrade two lakh anganwadis under this programme will go a long way in improving the learning outcomes of children in rural areas and will provide a sound foundation for their human capital development.

COVID-19 has hit rural children the hardest as they have lost almost 2 years of formal education. Pandemic induced closure of schools has particularly impacted the educational performance of rural children and those from Scheduled Castes, Scheduled Tribes, and other weaker sections. As a welcome step, Union Budget has announced the expansion of 'One class-One TV channel' programme of PM eVIDYA from 12 to 200 TV channels. This will enable all states to provide supplementary education in regional languages for classes 1-12. These measures will improve the learning capability of the children which will eventually lead to a larger skilled workforce in the rural economy.

Rural women travel for kilometres in many parts of the country to fetch water for their families. This laborious and time-taking activity takes away their opportunity to enter the workforce. The Jal Jeevan Mission was launched in August 2019 to provide safe drinking water to all rural households by 2024. It also involves the development of piped water supply infrastructure, reliable supply sources, and treatment plants. The Budget has earmarked Rs. 60,000 crore for the Jal Jeevan Mission that aims to provide potable water to 3.8 crore households in 2022-23. The current coverage of Har Ghar, Nal Se Jal is 8.7 crore households. The inclusion of more households in this scheme's ambit will help improve the quality of life in the rural area.

Taking a Giant Leap Forward to the Digital Bharat

COVID-19 pandemic has exposed the digital divide that exists in the country and the need for digital connectivity never seemed more essential than during this crisis. Educational, economic and government services had gone digital, but the vast majority of the rural populace is still not able to access these services due to digital poverty and poor connectivity. Union Budget has announced the laying of optical fibre in all villages, including remote areas, will be completed by the year 2025. This will provide access to e-services, communication facilities, and digital resources in all villages at par with the urban areas. The budget has allocated 5 percent of annual collections under the Universal Service Obligation Fund to enable affordable broadband and mobile service proliferation in rural and remote areas. This will help in bringing millions into the ambit of technology-driven growth and will further the objective of the RURBAN scheme.

Financially Including the Excluded

The deep penetration of post offices in rural areas makes it possible to reach a much wider customer base and it continues to remain a preferred choice for the rural public to deposit their savings. It plays a crucial role in providing access to formal banking channels to a large part of the population in rural areas. Recognising the role of post office branches in furthering the objective of financial inclusion and the need to upgrade technology to provide a seamless banking experience to the rural customers, Union Budget has proposed to bring 100 percent of 1.5 lakh post offices under the core banking system enabling access to accounts through net banking, mobile banking, ATMs, and provide online transfer of funds between post office accounts and bank accounts. This will be immensely helpful, especially for farmers and senior citizens in rural areas, in enabling inter-operability and financial inclusion.

Section II-Boosting Agriculture Sector

Enhanced Procurement to Ensure Remunerative Prices to Farmers

The procurement of wheat in Rabi 2021-22 and the estimated procurement of paddy in Kharif 2021-22 will cover 1,208 lakh metric tonnes of wheat and paddy involving a sum of Rs. 2.37 lakh crore direct payment of Minimum Support Price (MSP) value to the accounts of 163 lakh farmers. Higher procurement of wheat and paddy has not just supported higher food distribution during the pandemic, but it has also provided the remunerative price for their produce to the beneficiary farmers. The last two years have also witnessed record food grain production in the country. Higher production and enhanced procurement have protected farmers from the trap of cobwebs.

Moving Towards Chemical-free Farming

This Budget has sought to address the concern of growing consumption of fertilisers in agriculture. It is not only reducing the fertility of the soil and contaminating groundwater but also increasing the cost of production. Government has proposed the promotion of 'Chemical-free Natural Farming' throughout the country. In the first stage, focus will be on farmers' lands in 5-km wide corridor along the river Ganga. This will help in soil restoration and improve soil fertility especially in the area, which was benefitted during the green revolution. Growing awareness about healthy food and rising income of the people are creating the demand for chemical-free/ organic food. This initiative will help the farmers to encash the benefit of this growing opportunity and get higher prices for their organic produce.

Promoting Post-Harvest Value Addition and Branding of Millet Products

Massive strides have been made in agri-export since independence. India broke into the top 10 list of agricultural produce exporters in 2019 with a sizeable share in the export of rice, cotton, soybeans, and meat, according to a World Trade Organization (WTO) report[1]. However, this share is still not commensurate with our share in world production, and we hold immense potential to compete with leading exporting countries of the world, having been endowed with multiple agro-climatic zones. Budget announcement of supporting the millets products for branding will boost the production and help in increasing India's agri-export. Apart from that support will also be extended for post-harvest value addition and enhancing domestic consumption of millets. Focus upon food processing and post-harvest value addition will help in reduction of food wastage. This will also strengthen the linkages between agriculture and industry. Additionally, an outlay of Rs. 600 crore is allocated under the broader umbrella programme of the Rashtriya Krishi Vikas Yojana (RKVY) to boost the production of oilseeds and reduction of edible oil imports. As per the budget document, oilseeds production will increase from 36.10 million tonnes in 2020-21 to 54.10 million tonnes by 2025-26. Branding of millets and boosting production of oilseed through rationalised comprehensive scheme will also promote the production of millets and oilseeds in dryland/semi-arid region as around 51 percent of the country's net sown area comes under the rainfed area.

Leveraging Modern Technology to Agriculture Sector

Technology plays a vital role in all aspects of life. *No sector can realise its true potential without* investing in the technology and modernisation of infrastructure. Announcement of the 'Kisan Drones' for crop assessment, digitisation of land records, spraying of insecticides and nutrients can help in mechanising the agriculture sector and aid the farmers significantly. The budget announcement will facilitate the drone industry to engage with farming community to improve operational efficiency and maximise profitability. Drones can be very valuable in mapping the fields under Kisan Credit Card (KCC), Pradhan Mantri Fasal Bima Yojana (PMFBY), maintaining land records especially in north-eastern region, hilly region, and area affected by left-wing extremists, etc. This initiative will likely to make India's agricultural sector future-ready. Lack of land records is one of the biggest reasons for low credit penetration in credit-starved districts/regions. Encouragement being given to States for IT-based Land Records Management to adopt Unique Land Parcel Identification Number will facilitate more credit flow to the owners of such land.

Boosting Capex in Agriculture Sector

This budget has focused on the increase in capital expenditure in Indian economy. The government has recognised farm produce value chain as an area for capital infusion. Hence, the finance minister announced that the fund with blended capital, raised under the co-investment model, will be facilitated through NABARD. This would be utilised to finance start-ups for agriculture and rural enterprise, relevant for farm produce value chain. The activities for these start-ups will include, inter alia, support for

[1] World Trade Organisation (2017). Trends in World Agricultural Trade - 25 Years of the Agreement on Agriculture (AoA)

Farmer Producer Organizations (FPOs), machinery for farmers on rental basis at farm level, and technology including IT-based support. This will complement the target of formation of 10,000 FPOs in the country announced in budget 2021-22. FPOs have been doing a commendable job at reducing the input costs and facilitating the increase in the price farmers receive for their produce. FPOs with capital support may play an important role in start-ups, food processing, and supporting farmers by providing farm machinery. The fund with blended capital will be helpful in developing critical agri-infrastructure. Along with agri-infrastructure fund, this scheme will provide sustainable and long-term growth to the agriculture sector. Similarly, investment in Ken Betwa Link Project is expected to benefit 9.1 lakh hectares of farmland.

A better storage capacity itself will resolve most of the farmer's despairs. The COVID-19 pandemic has hit agricultural operations hard. Several reports have highlighted that farm operations mainly suffered due to infrastructure bottlenecks, for instance, supply chain disruptions, lack of storage and marketing infrastructure. In all these reports, one of the important reasons pointed out was the lack of public infrastructure, especially storage and marketing infrastructure. Hence, boosting Capex in the agriculture sector can be a game-changer.

Promotion of R&D in Agriculture

The government has recognised the necessity of research and development in agriculture to keep it contemporary. As per the budget announcement, states will be encouraged to revise the syllabi of agricultural universities to meet the needs of natural, zero-budget organic farming, modern-day agriculture, value addition and management. Introducing the promotion of new-age technologies in agriculture, encouraging data-driven solutions for smart farming and market connect, strengthening of FPOs, and enabling investment in research and development will provide necessary propulsion to agricultural growth.

Conclusion

Union Budget 2022-23 has laid thrust on four priorities: advancement and modernisation of infrastructure, inclusive development and welfare, boosting capital expenditure, and enabling growth through productivity enhancement. Rural India will be the major beneficiary of the announcements in the recent Budget as priorities highlighted therein will facilitate greater investment in the rural areas. Focus on infrastructure development will connect rural areas to the major economic centres which will generate employment opportunities for rural youth. These initiatives will also help in modernisation of agriculture sector will improve the productivity and availability of the market of agricultural produce. PM Gati Shakti driven by seven engines of roads, railways, airports, ports, mass transport, waterways, and logistics infrastructure will connect farm producers in the hinterland to the export zones at a faster pace and cheaper cost which will make Indian agri-produce more competitive in the global market. Rightly then, Union Budget 2022-23 has a long-term vision for progressive, developed, prosperous, and technologically driven India@100.

(The author is Chairman, NABARD. Views are personal. Email: ccd@nabard.org)

UNION BUDGET 2022-23

Nari and Yuva Shakti

Dr. Prem Singh and Piyush Prakash

The National Education Policy 2020 has laid down the roadmap to energise pre-school education in India. The Budget 2022 has taken a leap forward in this direction to fill in the gaps by announcing to create 2 lakh SAKSHAM Anganwadis in the country. Saksham Anganwadis, as shared by the Finance Minister, Government of India, are a new generation Anganwadis that have better infrastructure and audio-visual aids, powered by clean energy and providing improved environment for early child development. Saksham Aanganwadis have the potential in creating '*Saksham Balikas* and *Saksham Balaks*' who will be school ready.

The budget day is much awaited and closely analysed for all the big proclamations that are widely anticipated and often announced. The public debates follow and the vocal sections of the economy get heard and read across various media platforms. One could say that this budget was no different. But one would miss the subtle ways in which this budget has sought to empower the sections of society that are not so well organised and often unheard for various reasons. This budget made news for the infrastructure push and impressive capital outlays. It is equally remarkable for its far-sighted emphasis on building the social infrastructure by focusing on children and women.

A capital expenditure of Rs. 1 spent by the government adds around Rs. 2-3 to gross domestic product (GDP) over 1-2 years, as per the current Finance Secretary, Government of India. A similar revenue expenditure like cash transfer, however, adds somewhere between Rs. 0.90-0.99 to GDP. Given the pandemic induced economic jolts, the Budget 2022 has therefore put immense emphasis on capital expenditure – an increase of 35.4 percent in the capital expenditure outlay to Rs. 7.5 lakh crores – to boost the economy and create more economic opportunities especially for women and youth.

India has a double advantage of women and youth power. India is among the top nations with the youngest population in the world today at a median age of 28-29 years. At present, 55.8 percent of the Indian population is in the working-age group of 20-59 years – nearly half of them are women. The World Bank reports that India's GDP growth rate would climb above 9 percent if women had an equitable share of jobs, and that India could boost its growth by 1.5 percentage points per year if just 50 percent of women could join the workforce. That said, the real change could only be possible if a supporting ecosystem of public services and capacity building is built around the lives of women and youth in the country. The Budget 2022 precisely does this task – creating enabling support structures for women and youth through a life cycle approach.

Nari Shakti: From Foundations to Employment

A. Early Childhood Development

The National Education Policy 2020 highlights that over 85 percent of a child's cumulative brain development occurs prior to the age of 6 years. Similar research studies inform that actually over 80 percent of a child's cumulative brain development happens by the age of 3 years. This indicates the critical importance of appropriate care, nutrition and stimulation of the brain in the early years in order to ensure healthy brain development and growth[1]. In fact the pre-natal stage plays an extremely critical role in the fetal brain development. In this context, the Finance Minister's emphasis on PM POSHAN 2.0 is a welcome step in addressing long-standing issues of pre-natal and early childhood development and supporting mothers.

Mission POSHAN 2.0 is an Integrated Nutrition Support Programme. It seeks to address the challenges of malnutrition in children, adolescent girls, pregnant women and lactating mothers through a strategic shift in nutrition content and delivery and by creation of a convergent eco-system to develop and promote practices that nurture health, wellness and immunity[2]. The focus area of the mission is on maternal nutrition, infant and young child feeding norms, treatment of MAM/SAM and Wellness through AYUSH. It uses a two-pronged strategy to ensure that the objectives of the focus areas are met. First, it plans to initiate a massive awareness campaign through the POSHAN Abhiyan. The Abhiyan will be the key pillar for outreach and will cover innovations related to nutritional support, ICT interventions, media advocacy and research, community outreach and Jan Andolan. Second, the mission is leveraging technology to continuously track the progress and bring transparency and accountability in the delivery mechanism. "Poshan Tracker" was rolled out by MoWCD on 1 March 2021 which is being leveraged for (i) dynamic identification of stunting, wasting, under-weight prevalence among children; (ii) last mile tracking of nutrition service delivery. Mission POSHAN 2.0 has already been approved for the period 2021-22 to 2025-26 with a total financial implication of Rs.1, 81,703 crore, comprising Rs.1,02,031 crore as Central share and Rs. 79,672 crore as State share. The increase in Central share is approx. Rs. 10,108.76 crore (10.99 percent)[3]. This targeted approach will ensure that every child is healthy, meets the age-appropriate development goals and is ready for early childhood education.

[1]National Education Policy 2020

[2]https://pib.gov.in/PressReleasePage.aspx?PRID=1794595

[3]Ibid.

B. Making Children School Ready

Early childhood education is the foundation for a successful personal and professional life. Studies have shown that school readiness, a combination of motor, cognitive and socio-emotional development influences the learning curve of children when they enter school. Nearly 43 percent students in class 1 are unable to recognise letters in rural India. As per an Annual Status of Education Report (ASER) report, only ~30 percent children in India are school ready. One of the reasons could be attributed to fewer children attending any pre-school education. The data from the Rapid Survey 2014 by MoWCD shows that 27 percent of the children in the age group 3-6 years don't attend any pre-school education.

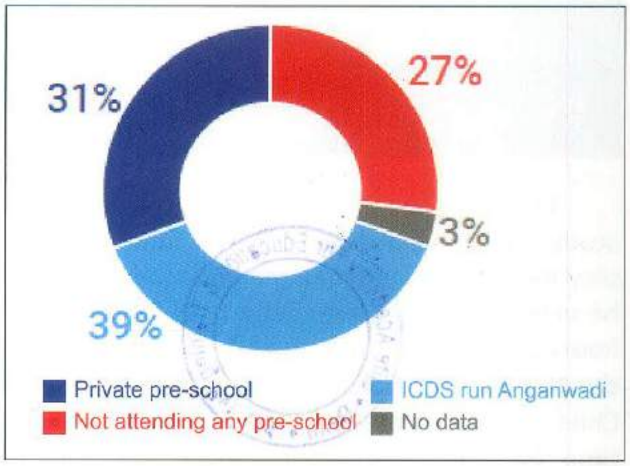


Fig 1. Status of pre-school attendance
(Rapid Survey, 2014, MoWCD)

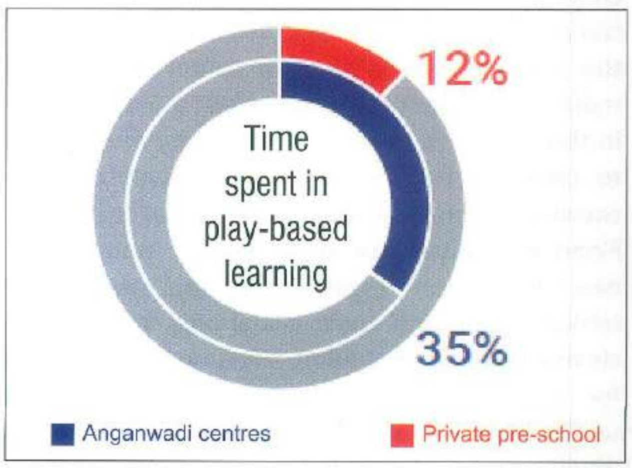
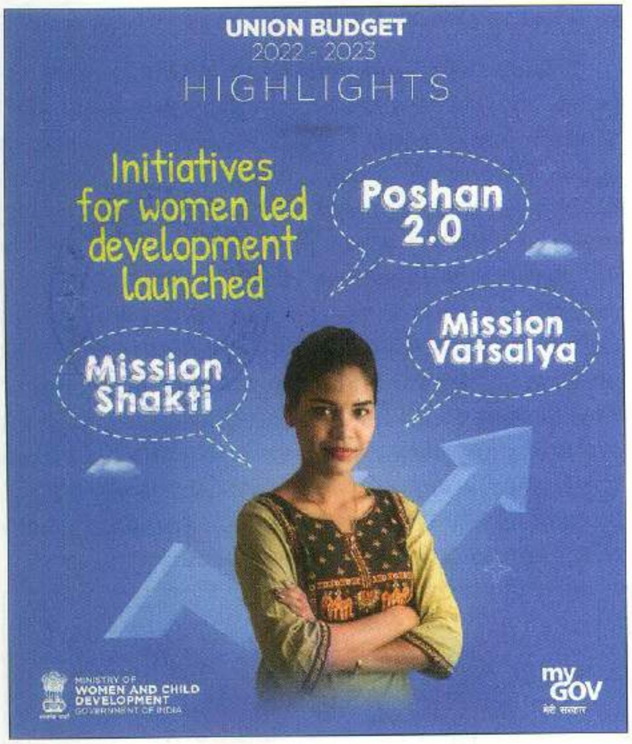


Fig 2. Time spent in play based learning at pre-schools
(India Early Childhood Education Impact Study, 2017)



The India Early Childhood Education Impact Study, 2017 highlights that the time spent in play based learning at Anganwadis was found to be only 35 minutes out of the total four and half hours that a child spends in an Aanganwadi. As per the National Institute of Public Cooperation and Child Development (NIPCCD), the recommended time for pre-school education is 120 minutes out of the 270 minutes in an Anganwadi day. It's therefore extremely important that a robust early childhood education system is put in place. The National Education Policy 2020 has laid down the roadmap to energise pre-school education in India. The Budget 2022 has taken a leap forward in this direction to fill in the gaps by announcing to create 2 lakh SAKSHAM Anganwadis in the country. Saksham Anganwadis, as shared by the Finance Minister, Government of India, are a new generation Anganwadis that have better infrastructure and audio-visual aids, powered by clean energy and providing improved environment for early child development. Saksham Aangan wadis have the potential in creating *'Saksham Balikas and Saksham Balaks'* who will be school ready.

C. Ensuring Last Mile Delivery of High Quality School Education

The National Education Policy 2020 is one of its first kind of document which has humbly accepted that there is a learning crisis in the country even before the COVID-19 pandemic began. A large proportion of students currently in elementary school - estimated to be over 5 crore in number - have not attained foundational literacy and numeracy, i.e., the ability to read and comprehend basic text and the ability to carry out basic addition and subtraction with Indian numerals[4]. The situation has further exacerbated because of the disruptions caused by the pandemic induced school closures across the country.

When schools were closed during pandemic, online learning became the most safe and prominent mode of learning. As per the ASER study, existing digital divide, however, exacerbated the equity in access to education. Although, the availability of smartphones has increased from 36.5 percent in 2018 to 67.6 percent in 2021, students in lower grade found it difficult to do online activities compared to higher-grade students. Non-availability of smartphones, non-availability of phone for child to use, and network or connectivity issues were the challenges faced by children[5]. The same study also highlights that although 67.6 percent of the households reported to have smartphones, only 27 percent of the children were able to use the smartphone all the time for study, 47 percent were able to use it sometimes and 26.1 percent of the children were not able to access the smartphone at all. In this backdrop, the announcement of the PM eVIDYA – which unifies all efforts related to digital/online/on-air education to enable multi-mode access to education– has been instrumental in increasing the last mile delivery.

Radio broadcasting is being used for children in remote areas who don't have access to internet. 289 Community Radio Stations have also been used to broadcast content for NIOS for grades 9 to 12. A Podcast called ShikshaVani is being effectively used by learners of grades 9 to 12. It

[4]National Education Policy 2020
[5]Economic Survey 2021-22

contains over 430 pieces of audio content for all subjects of grades 1 to 12.

'One class-One TV channel' was launched to cater to the students from class 1 to 12 who didn't have access to smart devices and internet. However, since the numbers of channels were limited, the content couldn't be delivered continuously in all the states in their mother tongue. The Budget 2022 announced to increase the One class-One TV channel programme under the PM eVIDYA scheme from 12 television channels to a total of 200 channels is an attempt to solve the problem of access and language. High-quality e-content in all spoken languages will be developed for delivery via internet, mobile phones, TV and radio through Digital Teachers. The initiative will ensure that the children continue to get the supplementary education even when the schools are opening up. This is particularly relevant for the girls enrolled in schools.

As per the NSSO 2017-18, 75^{th} round – Household Social Consumption: Education, at the higher secondary level, the average annual household expenditure on girls at this level was Rs. 2,860 lesser than on boys. There is a clear bias against the usage of household resources on girls. It has only worsened because of the pandemic and reduced household income. More channels with content in regional languages throughout the day will offer avenues for girls to augment their learning in schools especially when the learning levels have dipped across grades and regions of India.

D. Building Capacity for Employment

The Indian employment ecosystem is facing a paradoxical situation – there are thousands of people who are seeking jobs and at the same time firms find it hard to find the right talent for jobs. The issue of employability is a serious problem which requires a systemic approach to overcome it. In the recent years the efforts taken by the Government of India have shown very promising results in creating a pool of skilled and employable labour force. The employability in India has increased from 37.22 percent in 2015 to 45.9 percent in 2021[6]. However, the lack of exposure to vocational education and hands-on experience in schools and colleges has been flagged as a major roadblock in creating an employable talent pool in India. The National Education Policy 2020 has set up an ambitious target to expose 50 percent of the learners in school and higher education to vocational education by 2025, while it also aims to start coding classes for students starting at class 6 for future job readiness.

However as per the latest UDISE 2019-20 data, there are 1, 12,674 government secondary and higher secondary schools in India catering to 1,10,84,787 students. Out of these schools, 10,992 (~10 percent) schools are offering vocational courses under NSQF to 12,08,485 (~10 percent) students across the country. The Government of India has taken concrete steps towards increasing the penetration of vocational education in schools as well as colleges. National Skill Development Corporation has worked with the Ministry of Education to restructure the implementation model of skill development training in schools from 4-year (1 entry at 9^{th} class and 1 exit at 12^{th} class) to 2-year model (entry at 9^{th} and exit at 10^{th}; again entry 11^{th} and exit at 12^{th} class) to offer skill training under 73 Job roles (mapped at NSQF Level 2 to 4) across 21 Sectors.

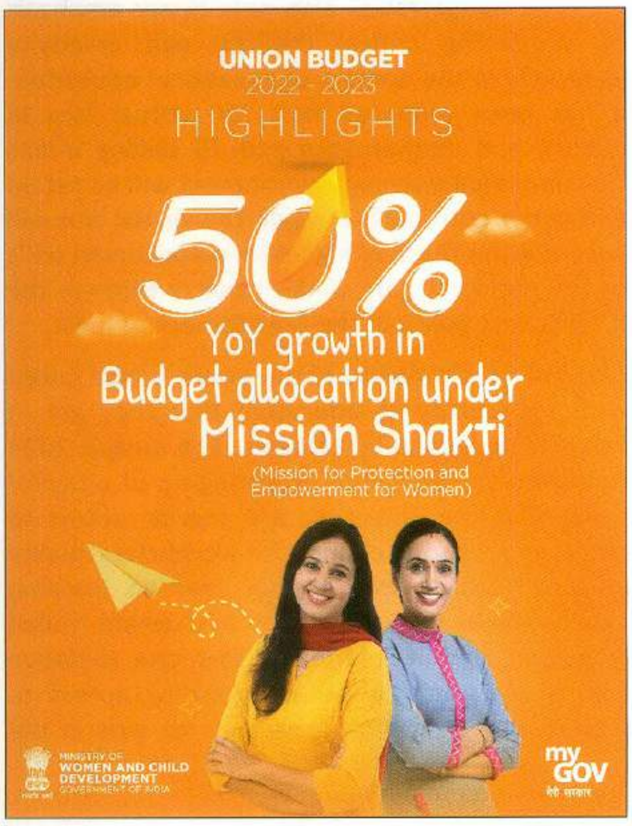
The Budget 2022 also puts heavy emphasis on promoting critical thinking and creativity especially in the domain of vocational education. It has been proposed that 750 virtual labs in science and mathematics and 75 skilling e-labs for stimulated learning environment will be set up during the year 2022-23 itself. The virtual labs will ensure wider reach of higher level vocational skills to the remotest part of the country through the ICT@School policy of the Government of India.

The employability of our youth is also linked with the quality of education that they get in higher educational institutions. The Budget 2022 has taken the bold step of setting up of a Digital University. The University will provide access to students across the country for world-class quality universal education with personalised learning experience at their doorsteps in different Indian languages and ICT formats. This one initiative can be a game changer in providing access to high quality education especially for girls in the

[6]India Skills Report 2021, AICTE

remotest part of the country. Most of the girls drop out after higher secondary levels due to domestic work, safety issues, distantly located colleges, etc. Imagine a girl in Chhattisgarh or Bihar or Nagaland - she will now be able to get a high quality education from the professors of top institutes such as IITs/ BHU/DU at her own convenient time and pace. The announcement made by the Hon'ble Finance Minister to lay optical fibres in all villages by 2025 in her Budget 2022 speech will further catalyse the Digital University initiative.

The National Education Policy 2020 has brought novel reforms in the higher education sector which will boost the employability of our graduates such as the apprenticeship embedded curriculum, mandatory internships and project based learning. Budget 2022 has taken a leap forward in this direction in the form of DESH-Stack e-portal. The DESH-Stack e-portal (Digital Ecosystem for Skilling and Livelihood) aims to empower citizens to skill, reskill or upskill through online training. It will also provide API-based trusted skill credentials, payment and discovery layers to find relevant jobs and entrepreneurial opportunities. The portal is a complete solution for the youth. At the tap of their smartphones



they can upgrade their skills, learn new and emerging skills, and find relevant jobs all at the same platform.

While these initiatives will pave the way for the young men and women to chart their own success path, the Budget 2022 has ensured that a strong support structure is also in place for youth to succeed, particularly for girls and women. Mission Shakti, announced in the budget, envisages a unified citizen-centric lifecycle support for women through integrated care, safety, protection, rehabilitation and empowerment through its two sub-schemes– 'Sambal' and 'Samarthya'. While the "Sambal" sub-scheme is for safety and security of women, the "Samarthya" sub-scheme is for empowerment of women. The "Samarthya" sub-scheme empowers the women through initiatives such as the Working Women Hostel, the National Creche Scheme for children of working mothers, etc. It must also be noted that the gender budget has gone up to Rs. 1,71,006.47 crores (2022-23 BE) rising from Rs. 1,53,326.28 crores (2021-22 BE); an increase of 11.5 percent. The focus on capability development with adequate resourcing will prepare women and the youth for personal, professional and national development.

Conclusion

A visionary initiative, however exceptional, is still the first step of a long journey. Unlike the physical infrastructure, social transformation is slower, amorphous and therefore less amenable to concrete measurements. It is for this reason that such transformation calls for the sustained efforts of not merely the whole of government, but all the stakeholders including civil society. This is where the clarion call of the Prime Minister for '*Sabka Prayas*' is a necessary condition for success. The active and concerted efforts of all the stakeholders can help ensure effective implementation, real and timely feedback to inform further iterations in sync with the ground realities. India could, then, truly leverage the newly resurgent *Nari* and *Yuva Shakti* to enter the *Amrit Kaal*, as it steps on the threshold of its centenary. The Budget 2022 shows the way.

(The authors are Adviser, NITI Ayog and Senior Associate, NITI Aayog, Views expressed are personal. Email: piyush.prakash90@gov.in.)

UNION BUDGET 2022-23

Inclusive Development

Karishma Sharma and Ishita Sirsikar

When we speak of the Budget for a country like India, rural development and the development of agriculture play a telling role in understanding the government's ambition behind the Budget. The ambition of inclusivity becomes abundantly clear with the strong focus on the development of the rural regions and general infrastructure development which puts as much emphasis on industrial infrastructure as it does on infrastructure that connects the diverse mass of India.

The Union Budget 2022-2023 came out at a rather promising time regardless of the ongoing pandemic. With the remarkable vaccination coverage, visible reduction in cases of the Omicron variant, and positive response from the industry on the recent government policies and initiatives, the nation expected the Budget to make announcements relating to the long-term growth of the economy, considering the stability achieved for the short run. Many scholarly articles in the media and papers by private enterprises spoke of compliance reduction, support to MSMEs and COVID-affected industries, and infrastructure development.

Keeping up with the nation's expectations, the Finance Minister delivered a forward-looking budget detailing the strategy for India@75 to become the India@100 that the government envisions it to be. The budget spoke of inclusive and sustainable development led by productivity enhancement and investment, sunrise opportunities,

energy transition, climate action, financing of investment, incentives for COVID-19 hit sectors like tourism, infusion of technology into India's primary sector, and infrastructure development that does not just reduce supply-side constraints but connects the nation starting from border villages to difficult to reach terrains across the country.

The budget reiterated the government's promise of a predictable tax regime with a reduced compliance burden. As a testimony to the success of India's changing tax regime, the average monthly gross Goods and Services Tax (GST) collection for the third quarter of FY 2021-22 has been Rs. 1.30 trillion against the average monthly collection of Rs. 1.10 trillion and Rs. 1.15 trillion in the first and second quarters respectively[1].

As far as the MSMEs are concerned, the budget announced that the Udyam, e-Shram, NCS, and ASEEM portals will be interlinked, and their scope will be widened. They will perform as portals with live, organic databases, providing G2C, B2C, and B2B services. Raising and Accelerating MSME Performance (RAMP) programme with an outlay of INR 6,000 crore over five years will also be rolled out. This will help the MSME sector become more resilient, competitive, and efficient. The MSME industry is not just important in terms of its output contribution to the economy but also in terms of its employment potential and its potential to bring prosperity to the tier-II and tier-III cities of the country. The government has paid consistent attention to the MSME sector, especially post the pandemic as the industry will be critical in making India the manufacturing hub of the world.

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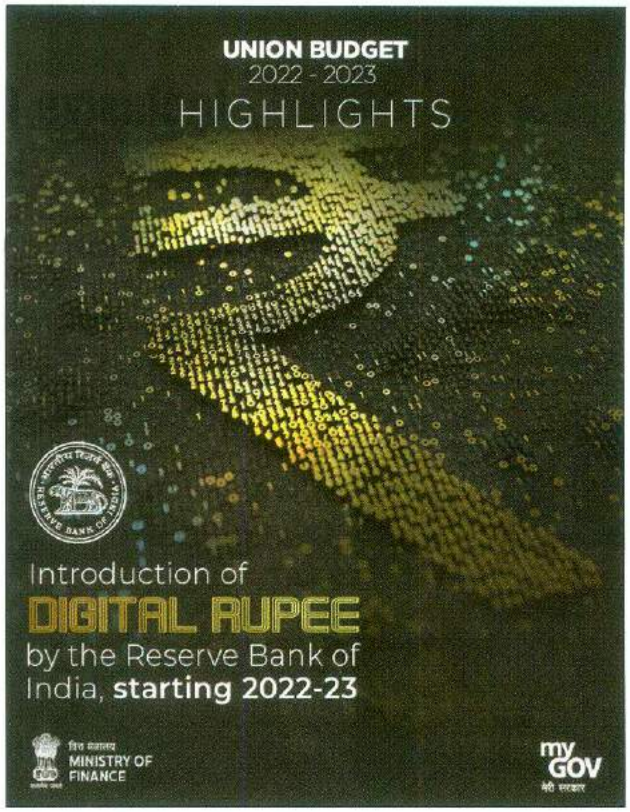

industrial infrastructure as it does on infrastructure that connects the diverse mass of India.

Almost 68 percent of India's population resides in its villages and with such a sizeable number of its people living in villages, it becomes essential for the government to provide the necessary technological and infrastructural impetus for the development of our villages. Rural development is crucial not just because the majority of our population resides in villages but also because the growth activities undertaken in rural areas are necessary to simulate the speed at which the overall economy grows. An example of the government's effort to further infrastructural developments in India's remote or border villages comes in the form of the Vibrant Villages Programme. The program will ensure that villages along India's borders receive the essential infrastructural development and enhanced connectivity required to potentially stop and even reverse the out-migration trend from Indian border areas.

[1]https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1796308#:~:text=1%2C40%2C986%20crore%20reported%20for%20January%2C%202022&text=The%20average%20monthly%20gross%20Goods,first%20and%20second%20quarters%20respectively.

Looking at what the budget brought in for the agricultural sector, modernisation of the sector continues to be the top priority of the government. According to research by McKinsey and Company, if digital connectivity is implemented successfully in agriculture, the industry could tack on USD 500 billion in additional value to the global gross domestic product by 2030. This would amount to a 7 to 9 percent improvement from its expected total and would alleviate much of the present pressure on farmers. It is one of just seven sectors that, fueled by advanced digital connectivity, will contribute USD 2 trillion to USD 3 trillion in additional value to global GDP over the next decade[2].

A paper published by the Food and Agriculture Organisation of the United Nations highlighted the three-pronged benefits that digitisation of agriculture will have for the world – the alleviation of hunger, alleviation of poverty, and inclusive development[3]. Clearly, the global mandate is towards the rapid digital transformation of the agriculture sector.

From the Indian perspective, the agriculture sector has probably seen the fastest transformation since independence owing to the Green Revolution. India rapidly became a food surplus country from being a food-insecure country. This is to say that the change management and innovation appetite of the agriculture sector in the country is high enough to absorb quick changes that lead to improved productivity.

With the impact of start-ups on innovation and the economy in the last two years, in particular, the government strategically roped in start-ups for the development of India's agriculture through this year's Budget. In the Budget, it was announced that a fund with blended capital, raised under the co-investment model, will be facilitated through NABARD. This will be to finance start-ups for agriculture and rural enterprise, relevant for

[2]https://www.fao.org/3/ca4887en/ca4887en.pdf
[3]https://www.indiabudget.gov.in/doc/budget_speech.pdf

farm produce value chain. The activities for these startups will include, *inter alia*, support for FPOs, machinery for farmers on a rental basis at farm level, and technology including IT-based support[4].

Understanding that modernisation is more than mere technology infusion, the Budget also elaborated on the government's plan for bringing modern farming practices to India. For farmers to adopt suitable varieties of fruits and vegetables, and to use appropriate production and harvesting techniques, the Central Government will provide a comprehensive package with the participation of state governments. Chemical-free natural farming will be facilitated throughout the country, concentrating on farmers' land in 5 km wide corridors along river Ganga, at the first stage[5]. Use of 'Kisan Drones' will be stimulated for crop inspection, digitisation of land records, spraying of insecticides, and nutrients. A rationalised and extensive scheme to boost domestic production of oilseeds will also be executed. The Ken- Betwa Link Project will be implemented at an evaluated cost of Rs. 44,605 crore to provide irrigation benefits to 9.08 lakh hectares of farmers' lands, drinking water supply for 62 lakh people, along with 103 MW Hydro power and 27 MW of solar power[6].

Having said that development of agriculture is crucial to inclusive and sustainable development, the budget made extensive provisions for education and healthcare as well –the two pillars of growth for a modern economy. The overnight shift from an offline to a completely online school system was a particularly tough one for many students and teachers alike. Keeping this in mind, this budget talked about various new measures in both education and skilling with a push to enhance employability and increase employment. To impart supplementary teaching and create a resilient mechanism for education delivery, the 'one class-One TV channel' program of PM eVIDYA will be expanded from 12 to 200 TV channels, helping all states to deliver supplementary education in local languages for classes 1-12[7]. Additionally, to equip Indian students with a world-class education that they can access anywhere across the country, a Digital University will also be set up. Further, a Digital Ecosystem for Skilling Livelihood (DESH-Stack e-portal) will also be built to empower citizens to upgrade their skills, with a particular focus on reskilling or upskilling[8].

In 1975, the government launched the Integrated Child Development Services Programme as a subset of the National Policy for Children. Anganwadi centers (AWCs) were an integral part of this program that aimed at providing food, healthcare, early education, and other services that are essential for the balanced development of children (under the age of 6) and their mothers. Aanganwadi workers perform a variety of tasks including early childhood care, pre-school education, and nutritional support to infants and their mothers. They are also responsible for collecting data on the health and nutrition levels of mothers and their infants from all over the village. There are around 12.8 lakh workers and 11.6 lakh helpers who work across different Anganwadi centres in India.

However, despite their manifold importance several Anganwadi centers today are dealing with issues like lack of infrastructure, manpower, and sanitation facilities. In an effort to address the same, the finance minister announced the up-gradation of two lakh Anganwadis into Saksham Anganwadis[9]. These Anganwadis would be new age Aganwadis, with heightened infrastructure and use of audio-visual aids as modes of teaching. Further, to provide a conducive environment for early child development these centers would also be powered by clean energy as opposed to other sources. The Union Budget 2022-23 outlays a budget estimate of Rs. 20,263 crore for Saksham Anganwadi and Poshan 2.0[10].

[4]https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1794167
[5]https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1794167
[6]Ibid.
[7]https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1794167
[8]https://pib.gov.in/PressReleasePage.aspx?PRID=1794165
[9]https://pib.gov.in/PressReleasePage.aspx?PRID=1794165
[10]https://www.indiabudget.gov.in/doc/budget_speech.pdf

As a first of its kind step in the field of healthcare, the budget acknowledged the toll the pandemic has taken on the mental health of the citizens of all age groups. After the success of the telemedicine initiative alongside the general digitisation of the healthcare system in the country, the budget launched a National Tele Mental Health Programme to provide better access to quality mental health counselling and care services to all citizens. This will include a network of 23 tele-mental health centres of excellence, with NIMHANS being the nodal centre and the International Institute of Information Technology-Bangalore (IIITB) providing technical support. It is important to mention here that mental health counselling is an expensive service all around the world, including India, with many considering it a luxury. The program, therefore, does not just provide critical support but is also bringing previously unaffordable facilities to the masses in the country.

As mentioned earlier, the Union Budget 2022-23 has identified inclusive development as one of its major priorities going forward. The umbrella term inclusive development is reflective of both social and financial inclusion. The government, through Pradhan Mantri Awas Yojana (PMAY), has demonstrated its commitment to housing-for-all by allocating Rs. 48,000 crore to the PMAY[11], which has sanctioned nearly 1 crore *pucca* dwellings since 2015. This initiative will not only address the skewed ratio of high-end to affordable housing but will also be a crucial step to keep up with the fast rate of migration from rural to urban areas while ensuring that housing is not in short supply to those who migrated from villages to towns.

Further, with the aim of incorporating senior citizens and rural folk into the modern banking system, so as to give a boost to financial inclusion, the Central Government announced that 100 per cent of the 1.5 lakh post offices in the country would come under the core banking system[12]. Consequently, the beneficiaries would be able to access their accounts through net banking as well as transfer funds between post office accounts and bank accounts. This is a welcome step taken by the government to bridge the rural-urban divide at a time when internet penetration is at its all-time high in rural India.

The years 2022 and 2023 will be the years when India will reap benefits of the extensive vaccination coverage and the improved mobility support owing to the massive infrastructure development happening in the economy. All this is complementing the development of a nation that displayed one of the promptest responses to the pandemic by implementing strict social distancing as early as in March 2020. Against this backdrop, the Union Budget of 2022-23 is rightfully forward-looking, focusing on the bigger picture while the finer details continue to shape in a way that will benefit India in the near future.

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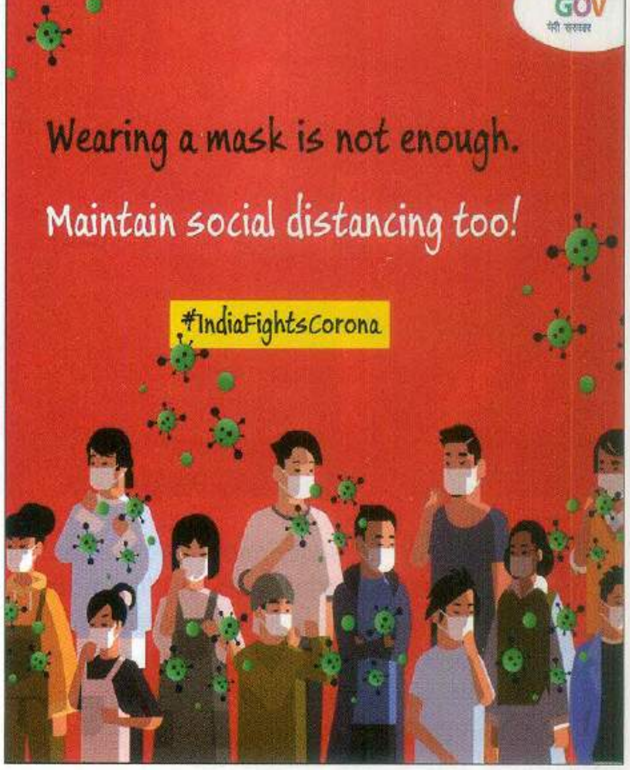


[11]https://pib.gov.in/PressReleasePage.aspx?PRID=1794165
[12]https://pib.gov.in/PressReleasePage.aspx?PRID=1794165

UNION BUDGET 2022-23

Sustainable Agripreneurship

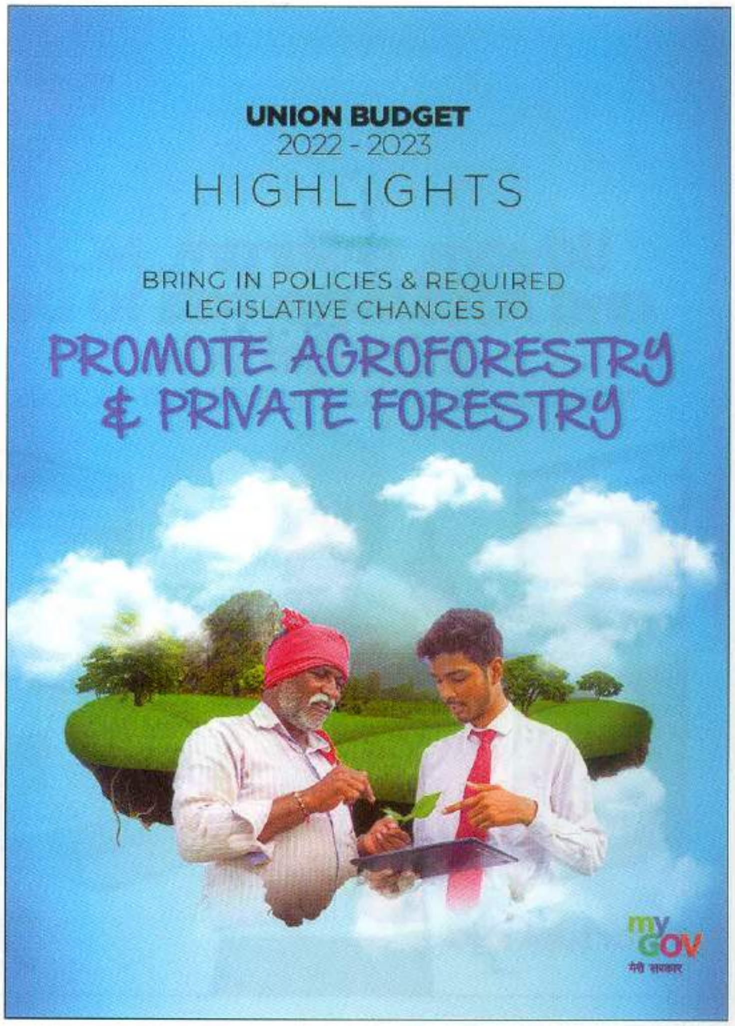
Partha Pratim Sahu

The Union Budget 2022-23 has made many significant provisions to put agriculture on a sustained higher growth trajectory and also encourage agri-startups and entrepreneurial activities in agriculture and allied activities. Adequate emphasis has been accorded on digital infrastructure for infusion of agriculture technologies in public private partnership (PPP) modes. Use of Kisan Drones for crop assessments, land records, spraying of insecticides and micronutrients, etc will bring transformative changes in agriculture sector.

Creation of sustainable livelihood and entrepreneurial avenues for women, youth and marginalised sections of the society in rural areas, especially in the pandemic era and beyond has been recognised as a major challenge for the rural economy. Agriculture which was almost synonymous with the rural economy is contributing about 20 percent to national GDP. Agriculture continues to be a major source of livelihood in the rural economy and during the intense and prolonged lockdown period, it not only supported the existing families and but also accommodated millions of migrants who returned from the urban locales, losing their jobs and livelihoods. There is a renewed and enhanced focus on agriculture and allied activities to energise the local economy and built a self-reliant India.

Entrepreneurship development, especially, in and around agriculture and allied activities, agro-based industries, food processing sectors, etc. can ensure sustainable livelihoods and create employment opportunities for local people in the midst of pandemic. There is an apathetic attitude among youth to not work in agriculture. Even so, the contemporary situation demands for a transformation of subsistence agriculture into a diversified farming business and this process of transformation can be driven by youth. To attract youth into agriculture, it has to be transformed into a vibrant and tech-savvy sector by introducing robotics, ICT and nanotechnology. Agro-entrepreneurship, food processing and value chain development will also encourage youth into agriculture. It is high time the government should increase public investment on crucial agriculture infrastructure, including irrigation, cold storage, market linkages, and mechanisation, inter alia, to enable farmers to take up high-value agriculture.

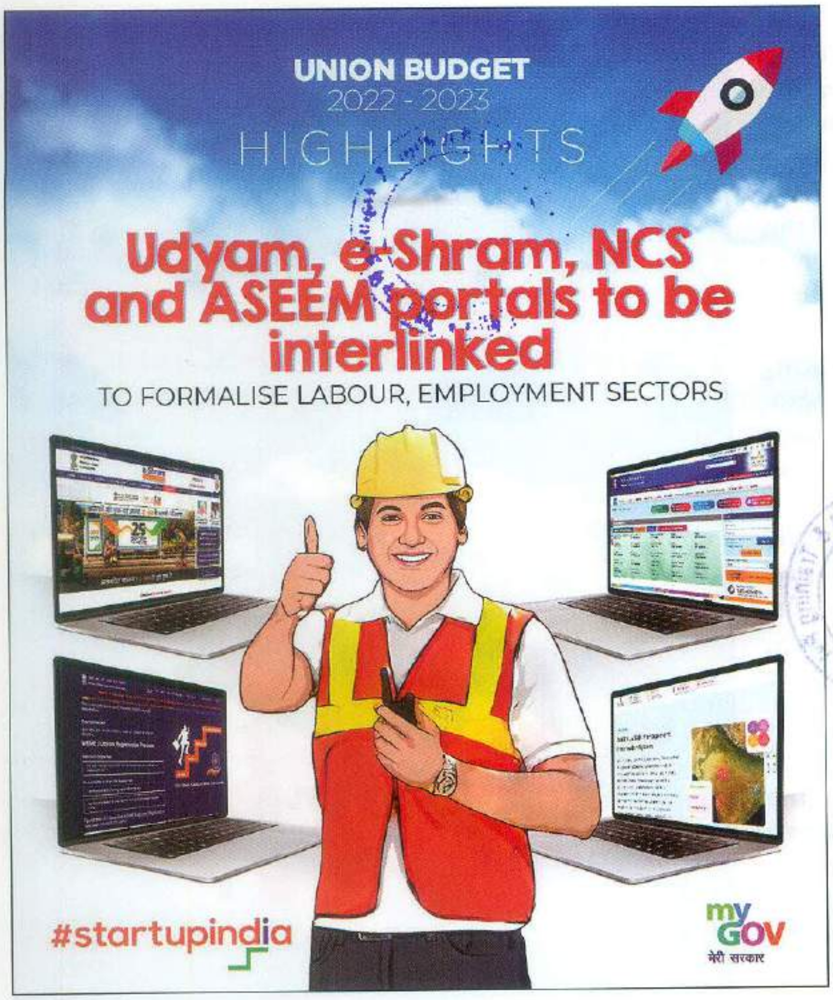
It is important to note that this year 16th January was celebrated as the National Start-up Day, to strengthen innovation, entrepreneurship and start-up ecosystem. It was also envisaged to liberate entrepreneurship, innovations from government processes, bureaucratic silos and create institutional mechanism to promote innovations. Handholding young innovators and young enterprises, simplification of tax procedures, removal of more than 25,000 compliances, arranging government funding and making lives of entrepreneurs easy were few of the key focus areas to be emphasised in coming years.



Provisions Under the Union Budget 2022-23

The current year's budget, 2022-23 has made many significant provisions to put agriculture on a sustained higher growth trajectory and also encourage agri-startups and entrepreneurial activities in agriculture and allied activities. Adequate emphasis has been accorded on digital infrastructure for infusion of agriculture technologies in public private partnership (PPP) modes. Use of Kisan Drones for crop assessments, land records, spraying of insecticides and micronutrients, etc will bring transformative changes in agriculture sector. The Government's push towards digitalisation of agriculture coupled with the focus on hi-tech services would enhance rural entrepreneurship and encourage youth to go back in the farmlands, boosting the farm income. This year's budget has also made provisions for capital allocation towards aid for agri- and rural start-ups, FPOs and Custom Machinery Hiring Centres for farmers will enhance access of small landholding farmers to affordable mechanisation. Promoting chemical-free natural farming is another key highlight of this year's budget, which will not only ensure healthy produce for Indians but also open ample opportunities for exports. It may also lead to reduction in input expenses, especially for small and marginal farmers, resurrect soil health and contribute favourably to climate change and biodiversity.

Various measures have also been proposed to streamline the agri-value chain and enhance farm productivity. Tax incentives for agribusiness



start-ups will benefit the overall agriculture sector. Similarly, initiatives such as provisioning of funds through NABARD for agri-startups and rural enterprises will help in infusing capital in the budding ecosystem of value chain start-ups along with ensuring delivery of digital and hi-tech services to farmers and other stakeholders of agri value chain system. In addition, many exemptions are also being rationalised on tools for the agri-sector which are manufactured in India. More thrust on millets and increasing the domestic production of oilseeds are also few of the welcome moves by the government.

Schemes and Programmes

We have a large network of formal institutions, agencies operating at different level and implementing variety of schemes and programmes to promote entrepreneurship in general and agri-enterprise development in particular. In addition to Central Government and State Government schemes, many initiatives are also being undertaken by NGOs and CSR affiliates. However so far as agri-startups are concerned, it has not witnessed significant headways. On the one hand, there is very little awareness among various stakeholders, including farmers, about the schemes and programmes due to lack of education and training and on the other hand, the regulatory procedures, compliances and formalities are still cumbersome. There is a need to sensitise both aspiring and existing entrepreneurs about formal institutions and the whole of range of programmes and schemes, which are meant for them. It is also equally important to simplify regulatory compliance formalities for agri-startups.

The recently announced PM Formalisation of Micro Food Processing Enterprises Scheme (PM FME Scheme) by the Ministry of Food Processing Industry (MoFPI) aims at providing financial, technical and business support for upgradation of existing micro food processing enterprises. It provides support of capital investment for upgradation and for formalisation with registration for GST, FSSAI hygiene standards and Udyog Aadhar. Under this scheme, skill training and hand holding support is also provided to prepare bankable business plans. Support towards capital investment, common infrastructure such as Common Facility Centres, and branding and marketing are also provided to FPOs, SHGs and PCs to formalise and grow. It is important to enhance the access to information and support for these enterprises and provide all support measures on a single platform.

Skill training and capacity development are key concern areas in promoting agri-startups, especially among youths. To promote agri-entrepreneurship among youths, Student READY (Rural Entrepreneurship Awareness Development Yojana)Programme is implemented by the Ministry of Agriculture and Farmers' Welfare. It aims to provide: a) Experiential Learning with business mode; b) Hands-on training (HOT)/ Skill development training i.e., Experiential Learning without business mode; c) Rural Awareness Work Experience (RAWE); d) Internship/ In Plant Training/ Industrial attachment; and e) Students Projects.

Rashtriya Krishi Vikas Yojana –Remunerative Approaches for Agriculture and Allied Sectors Rejuvenation (RKVY-RAFTAAR) is another unique scheme of Ministry of Agriculture and Farmers' Welfare. It aims at strengthening infrastructure in agriculture and allied sectors to promote agripreneurship and agribusiness by facilitating financial aid and nurturing a system of business incubation. Under this scheme, efforts are being made to provide all necessary supports to start as well as scale up agribusiness and agri-startups. It includes capacity building in preparing business plans, personalised mentoring, funding opportunities, regulatory and advisory guidance, support to get IPRs or patents, and so on.

Scheme for Creation of Infrastructure for Agro-Processing Clusters as a sub-scheme of Central Sector Scheme – Pradhan Mantri Kisan SAMPADA Yojana (PMKSY), Ministry of Food Processing Industries. It aims to: a) create modern infrastructure for food processing closer to production areas; b) provide integrated and complete preservation infrastructure facilities from the farm gate to the consumer; and c) create effective backward and forward linkages by linking groups of producers / farmers to the processors and markets through well-equipped supply chain.

Agri-Clinics and Agri-Business Centers (AC&ABC) Scheme aims to supplement efforts of public extension by providing extension and other services to farmers either on payment basis or free-of-cost as per business model of agripreneur, local needs, and affordability of target group of farmers. It also aims at creating gainful self-employment opportunities to unemployed agricultural graduates, agricultural diploma holders, intermediate in agriculture, and biological science graduates with PG in agri-related courses. Under this scheme, the government is now also providing start-up training to graduates in Agriculture, or any subject allied to agriculture like Horticulture, Sericulture, Veterinary Sciences, Forestry, Dairy, Poultry Farming, and Fisheries, etc.

Ministry of MSMEs is also working on an Agro MSME policy focusing on entrepreneurship development in rural, tribal, agricultural and forest areas for manufacturing products using local raw material. Besides government agencies, agri-entrepreneurship over the years is also gaining attraction among corporates and banks. Many private corporates such as Syngenta, Tata Trusts, Rabobank, Kuza Technologies, IDBI, and SBI are playing a key role in promoting agri-startups. Syngenta Foundation of India (SFI) is operating in 7

states covering 75,000 farmers through 580 trained agri-entrepreneurs. The programme focussed on transforming rural youth agri-entrepreneurs into a cadre of trained agri-entrepreneurs who are closely working with farmers. These trained agri-entrepreneurs provide advisories in terms of knowledge related to crop science, input services, value-addition and market linkages as a one-stop solution. The agri-enterprise platform provides key services like credit and market linkage, access to high quality inputs and crop advisory for groups of farmers and many other personalised digital extension services to farmers.

Box 1: Agri-entrepreneurial Opportunities at our Villages
Organic input stores
Veterinary services and medicine shops
Seed production
Custom Hiring centres (equipment stores)
Micro irrigation spare part stores
Agricultural equipment servicing and spare parts
Transportation logistics
Procurement logistics
Poultry, dairying, livestock, horticulture etc.
Back-end supplies to small local grocery shops
Vermicompost
Vegetable nurseries
Cold storage/warehousing facilities on rental basis
Fumigation and sterilisation services for warehouses
Pest management services
Gunnies and packaging material stores
Processing units (sorting and grading, powdering, etc.)
Packing houses
Feed mixing and trading units
Hydroponics units
Kitchen garden, Nutri garden activities

Agri-enterprises and start-ups will not only lead to employment creation, especially for the rural youths, but also will contribute to enhance the income of farmers. However for an inclusive and sustainable agri-enterprise development, a robust ecosystem or enabling environment needs to be developed which will provide all kinds of support services on a single platform. Persisting problems such as lack of funding, marketing problems, lack of knowledge of IT, complying with various legal formalities, lack of training facilities and extension services, lack of regular mentoring and handholding, etc. need to be addressed. With demand for value added products continuously rising, there is lot of scope and potential of starting and scaling up a variety of entrepreneurial activities in rural areas. (See Box 1.)

Although we have a large network of institutions providing skills and training, there is need to formulate some new skills, keeping in mind the specific requirements of farm sector and associated activities. For instance, business skills in some of the areas including analysing the demand and opportunities in the market, mapping the value chain of the market, maintaining the records relating to the finance of the business, preparing business plans, etc. will help farmers increase their productivity as well as profitability. Access to shared services such as Common Facility Centres, Cluster Development Programmes, Farmer Producers Organisation (FPO), and Producers Companies is going to make significant impacts on sustainable agri-enterprise development. The goal of self-reliant India can be achieved when a vibrant rural India is in place and a shift from 'agriculture' to 'agri-entrepreneurship' is the only imperative.

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From India to her Villages - Localisation of SDGs with Local Self Government

Jayashree Raghunandan

The way to achieve the SDGs for India, Leave No One Behind, Leave No Village Behind is to go down to the Village Panchayat, involve the people of villages fully; it is their life. The Government of India and State governments must make it a vibrant mission, alongwith Local Self-Governments. People at the grassroots must be active participants and decision makers.

"We, the peoples" are the celebrated opening words of the Charter of the United Nations. It is "we the peoples" who are embarking today on the road to 2030. Transforming Our World- The 2030 Agenda for Sustainable Development adopted in the UN General Assembly September 2015.

"We, the people of India, give to ourselves", are the resounding words of the Preamble to the Constitution of India.

The Sustainable Development Goals (SDGs) are universal goals and targets. They are integrated and indivisible, and balance the three dimensions of sustainable development-economic, social and environmental. The journey of the 17 SDGs with 169 global targets, was committed to by 193 countries in September 2015, and it came into effect on 1 January 2016.

The year 2015-2016 was also the year in which the process of development planning through the Gram Panchayat Development Plan (GPDP) was introduced in the Village Panchayats in India. It was also a landmark year in which devolution of funds of Rs. 200,292.20 crore to rural local bodies was done under the 14th Finance Commission (2015-2020).

SDG India Index

NITI Aayog brought out the first SDG India Index (SDGII) Baseline Report in 2018. This consisted of a set of 62 priority indicators out of the 306 indicators of the National Indicator Framework (NIF) flowing from 39 Global Targets covering 13 goals, based on national priorities. The composite score for India was 57. The range of scores of States (including Union Territories) was 42 to 69. Kerala and Himachal Pradesh were at 69, Chandigarh was at 68. At the lower end of the scores were Uttar Pradesh (42), Bihar (48) and Assam (49).

The SDGII 2.0 in 2019 covered 16 goals, 54 National Targets with 100 indicators from the NIF. States' positions and scores and SDG-wise target and indicator-wise positions were brought out. The last SDGII 3.0 in March 2021, covers 17 goals, 70 targets and 115 National indicators showing that the composite score for India has moved up to 66, score range for states is 52 to 75, Kerala continues at the top at 75, Tamil Nadu and Himachal Pradesh at 74, the fastest movers are Haryana (+10) reaching 67 and Uttarakhand (+8) at 72, Mizoram (+12) at 61, since 2018. Uttar Pradesh being the lowest scorer in the previous year's index is now at 60 and Assam has moved upto 57, while Bihar stays at the lowest position at 52. The argument that the addition of targets and modification of indicators makes it a 'comparison of apples to oranges' is to be seen in the context that all States are operating from the same 'basket of apples and oranges (indicators)' and it is the inter-se positionality which also is of significant relevance and calls on States to look at the progress against goals, targets and indicators.

Of greater significance and for attention for action are the actual figures of the SDGs, targets and indicators therein. These figures show huge ups in SDG 7 (Affordable and Clean Energy) (+22), SDG 11 (Sustainable Cities and Communities) (+26), SDG 12 (Responsible Consumption and Production) (+19), while the downs are in SDG 6 (Water and Sanitation) (-5), SDG 13 (Climate Action) (-6), SDG 9 (Industry, Innovation and Infrastructure) (-10). State wise and indicator wise details are showing that, clearly, there are goals and indicators requiring attention, and States need to see why they are where they are.

State and District

Apart from NIF, there is also a need to look at the State Indicator Framework, which emanates from not only the NIF, but is of relevance to individual states also. The selection of indicators and their weightages would provide annual progress monitors.

Even more important is moving to the Sub-State level. Inter-district disparities on specific measurable indicators enable focused investment by State under various centrally sponsored schemes and State sponsored schemes. Many States have prepared their District Indicator Framework (DIF). How effectively the DIF can be used, can be gauged by the Aspirational Districts programme (ADP) of NITI Aayog focusing on identified 112 backward districts. The range of improvement in 49 indicators has been upto 50 percent in 2 years. Remote and difficult districts such as Rayagada in Odisha was in position 112 in September 2018 and moved to 5 in October 2020; Fatehpur in UP at 105 in November 2018 moved to 2 in May 2019 (Delta rankings). Undoubtedly the improvements at such a pace, in these and other districts can be attributed to the impact of the philosophy behind the programme; measurable

indicators, comparison and close monitoring with focused action. The ADP looks at health and nutrition; education; agriculture and water resources; financial inclusion; skill development and basic infrastructure. These sectors identified fall in the realm of Sustainable Development Goals.

Sub-district

SDGII shows a mirror to States of their performance on SDGs. On the other hand, the DIF gives evidence of details of the inter-district disparities for the State Government to see and act upon. From National to State, the 2 levels of Government are covered in the process for achieving SDGs. The Government of India and State Governments are directly involved in the planning, implementation and monitoring of the programmes. Centrally sponsored schemes and State sponsored schemes are implemented in rural areas, through government officials with Districts being the critical level for delivery responsibility. Yet it is necessary to go more into Sub-district level — Block and Village Panchayat levels which undoubtedly show different levels of development and different issues calling for attention in different places and the need for decentralised and targeted approach. Neither is the term, nor the philosophy, nor action new.

A stark example to state support for this is that ironically, the race for achieving top rank in providing 55 lpcd water under Jal Jeevan Mission (JJM) seems to get greater attention of State governments (and district administration), than addressing villages and hamlets' needs for quality drinking water and water sources, though funds is not an issue at all under this most critical mission.

Going further, the holistic view of water needs of a village beyond drinking water and household needs, to assessment of agriculture needs, ground water levels, water harvesting, etc. and use of available multiple schemes from different departments is not planned around the target of what the Village Panchayat seeks to achieve and prioritise, but on disparate physical targets as achievements under different schemes implemented by officials.

Localisation of SDGs with Local Self-Government

It is impossible to visualise the achievement of the global goals for all without the localisation of these global goals relevant for each and every Panchayat and people there. Officials have long decided what should be given and where it should be given and we see the inequities within all sectors.

The Local Indicator Framework, to achieve locally relevant targets at Gram Panchayat level that also link and aggregate to performance reflected in the targets and indicators at Block, District, State and National level would be the next essential step. This would provide the picture of positions of different Panchayats on the entire spectrum of the SDGs and provide open evidence for planning and interventions.

While many flagship schemes of the Government of India such as the National Health Mission(NHM), Jal Jeevan Mission (JJM), Swachh Bharat Mission (SBM), Poshan Abhiyan, etc. specifically state in their guidelines that there must be village level plans, involvement of Gram Sabhas, sharing of data, training for Elected Representatives of Panchayati Raj Institutions (PRIs), amongst others, that seek to involve the Local Self Government in the process, the ground reality is quite different. Devolution, and to what extent the Panchayats are involved is left to State governments. There is no doubt that the progress in SDGs have taken place due to the multiple schemes of the various ministries implemented by States in the rural areas, as also due to State specific schemes.

The Scheme performances data— physical and financial when monitored, reasonable number of these coincide with the Indicators in the NIF, such as those connected to Water, Nutrition, Health, Education, etc. However, addressing issues like ground water availability, improving nutrition status, prevention of crimes against women and children, and support services for the vulnerable, ensuring a targeted approach and follow up to achieve outcomes of 'Leaving No One Behind' (LNOB) and leaving no village behind, needs localisation of SDGs right down to the village (hamlet) level.

"Localisation relates both to how local and sub-national governments can support the achievement of the SDGs through bottom-up action...Further, the responsibility to localise the SDGs is not limited to the executive arm of the government but also spearheaded by elected representatives at all levels." - Localising SDGs – Early lessons from India 2019, NITI Aayog

The third tier of Government – Local Self-Government is most important for the localisation of SDGs. They need to be recognised as equal partners both by State and Central Government.

The 5Ps for achieving Sustainable Development Goals - People, Partnership, Prosperity, Planet and Peace should be taken to sub-district levels, to blocks, to each Village Panchayat and it is best done with the 3 tiers of Local Self Government.

The 73rd Constitutional Amendment introduced Part IX in the Constitution; Article 243G of the Constitution to ensure that the Panchayati Raj Institutions at all three levels can function as Institutions of Local self-governance. The 29 subjects listed (transferred) as the responsibility of the PRIs, are directly connected to the SDGs such as drinking water, health and sanitation, water and watershed management, poverty alleviation, women and child welfare, social and farm forestry, etc.

The way to achieve the SDGs for India, Leave No One Behind, leave no village behind is to go down to the Village Panchayat, involve them fully, make it a vibrant mission, of both the Government of India and State governments. It is their life, and they must be active participants and decision makers.

COVID-19 has pushed back and impacted all walks of life and progress on SDGs across the world. In the process of building back better, we need to consciously and systematically localise SDGs in rural areas, with involvement of PRIs, moving from the level of Central and State governments to Local Self-Government; Panchayati Raj Institutions with 31 lakh elected representatives (over 14 lakh women representatives) in the 2.56 lakh village panchayats, 6,626 Block Panchayats, 621 District Panchayats, are a huge force that can propel change in all of India's villages. Achieving SDGs for India needs Localisation of SDGs in rural areas to facilitate the move from India to her villages with equal partnership for Panchayati Raj Institutions – the Local self-government.

"We reaffirm the key role of all levels of government and legislative bodies in promoting sustainable development."-Extract from the UN Resolution July 2012, 'The Future We Want', endorsed in the UN General Assembly September 2015.

(Data Source: SDGII Reports, NITI Aayog)

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Kurukshetra

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