

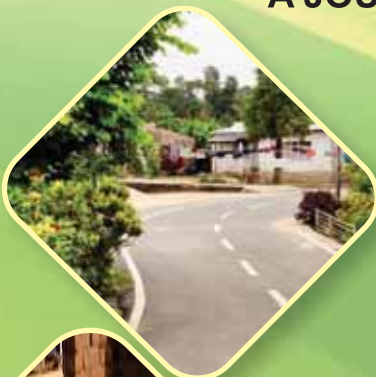
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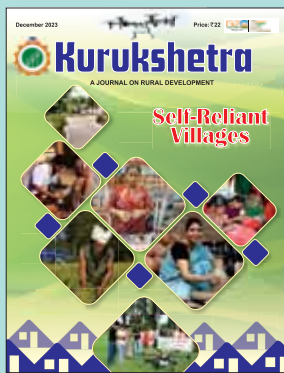


Kurukshetra

A JOURNAL ON RURAL DEVELOPMENT

Self-Reliant Villages





CHIEF EDITOR
Manogyan Rani Pal

EDITOR
Shiela Chaudhary

JOINT DIRECTOR (PRODUCTION)
D.K.C. Hrudhainath

COVER DESIGN
Rajender Kumar

EDITORIAL OFFICE
Room No. 653,
Publications Division,
Soochna Bhawan, C.G.O. Complex,
Lodhi Road, New Delhi-110003
Phone : 011-24362859
Email : kurukshetrajournal@gmail.com

For Subscription Enquiries,
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Journals Unit
Publications Division, Room No. 779,
Soochna Bhawan, C.G.O. Complex,
Lodhi Road, New Delhi-110 003
(Monday-Friday, 9:30 AM-6:00 PM)
Phone : 24367453, FAX: 24365610
Email : pdjucir@gmail.com
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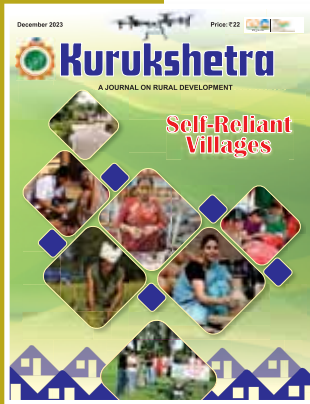
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Sarla Meena

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Editorial

India lives in its Villages. While the world glimpses the progress of cities, the true soul of India resides in its rural landscapes. As we delve into the fabric of these communities, we witness the profound spirit of self-reliance weaving itself into every aspect of life. India's social, cultural, political, and economic landscape still heavily relies on villages, even if urbanisation and the growth of cities have attracted a large number of people from rural areas. Self-reliance is a manner of life, not just a concept, in the symphony of rural existence. From the untiring efforts of farmers nurturing the land to the skilled artisans honing traditional crafts, everyone adds to the fabric of a self-sustaining ecosystem. This issue takes its readers on a journey to explore the articles that echo the heartbeat of self-reliance in every corner of rural India.

The article **'Towards the Goal of Aatmanirbhar Gaon'** explains how a village as a unit of human existence has all the potentialities to qualify as a 'self-sufficient, self-reliant' entity. The author mentions that the realisation of 'Aatmanirbhar Gaon' requires conviction that the revolution of prosperity in India is possible only when villages lead the movement.

The author of the article **'Empowering Rural India-Digital Transformation as a Sustainability Catalyst'** attempts to delve into the Government Initiatives that have been instrumental in transforming India's digital landscape, particularly in rural areas. The article discusses the conditions, role of youth agripreneurs, e-commerce for rural products, issues and challenges faced, and potential solutions for digital transformation. The author comprehensively explains that empowering rural areas for digital transformation is not just an opportunity but a necessity for sustainable development.

The article **'Sustainable Industries-The Backbone of Self-Reliant Villages'** provides an insight into the contribution of sustainable industries to the economic landscape of the region. They create jobs, attract investments, and generate income for local communities. Whether it's eco-friendly tourism, agro-based businesses, or renewable energy initiatives, these industries offer a diverse array of opportunities for economic growth. The author further mentions about the Government's multifaceted approach to support local industries, which provide economic diversification, job opportunities, environmental sustainability, and reduced dependence.

We gather inspiration and direction to move the country towards a future where every corner grows independently yet together in the spirit of progress by sharing the tales of self-reliance ingrained in our rural communities. While challenges persist, the rural landscape embodies the essence of self-reliance by embracing change while safeguarding heritage. Initiatives promoting entrepreneurship, skill development, and access to technology empower individuals to harness their potential, shaping a robust foundation for a self-reliant future.

This issue of Kurukshetra celebrates the men and women toiling in the fields, the artisans and craftsmen weaving dreams, and the indelible contribution of rural youth towards a self-reliant nation. As our readers flip through the pages, they can delve into the nuances and cultivate a deeper understanding of the multifaceted journey towards self-reliance.

Towards Making Villages Self-reliant

Role of Ministry of Panchayati Raj

Villages, districts and states must become self-sufficient at their respective levels and be able to fulfill their basic needs. Similarly, the whole country must become self-reliant, so that we don't have to look outside to meet our needs. Gram Panchayats of our country will play a major role in achieving it. Strong Panchayats are also the foundation for a self-sufficient village.

- Shri Narendra Modi, Prime Minister
24 April 2020, National Panchayati Raj Day



O

Giriraj Singh

ur esteemed Prime Minister, Shri Narendra Modi, has a clear vision that developing self-sufficient villages is the only way to create a self-sufficient nation. Currently, approximately 68% of India resides in rural areas, and 51% of our work force engages in the agrarian economy. Village empowerment in this context equates to national empowerment. The steps taken by the Government of India in the last decade towards making villages self-reliant are historic and far-reaching.



Our more than 2.5 lakh Gram Panchayats, which are responsible for local self-governance in rural India, are the driving forces behind implementing every effort made towards making the villages self-reliant. Gram Panchayats play an important role in the successful implementation of the schemes of the Central Government and State Governments. The Ministry of Panchayati Raj is contributing meaningfully towards the creation of self-reliant villages in various ways, like empowering them financially, re-orienting their capacities to generate their own resources, making them digitally friendly, environmentally conscious, preparing for the future to combat climate change for a sustainable future, and the like. The schemes/works/initiatives/activities of the Ministry of Panchayati Raj are discussed, which are helping the Panchayats become self-reliant.

Empowerment with Funds from Central Finance Commission

The Government of India devolves funds to supplement the financial resources of Panchayats. Under the Fifteenth Finance Commission (XV FC), Grants to the tune of Rs. 60,750 crore has been allocated for the interim period FY 2020-21 and Rs. 2,36,805 crore has been allocated for the period FY 2021-26 to Panchayats in all the three tiers and Traditional Local Bodies and Sixth Schedule areas in 28 States. The grants are in two parts: Basic (Untied) Grants and Tied Grants. The Untied Grants can be utilised for felt needs on 29 subjects enshrined under Schedule XI of the Constitution of India, except for salaries and other establishment costs. The Tied Grants are to be utilised for basic facilities, specifically, drinking water and sanitation.

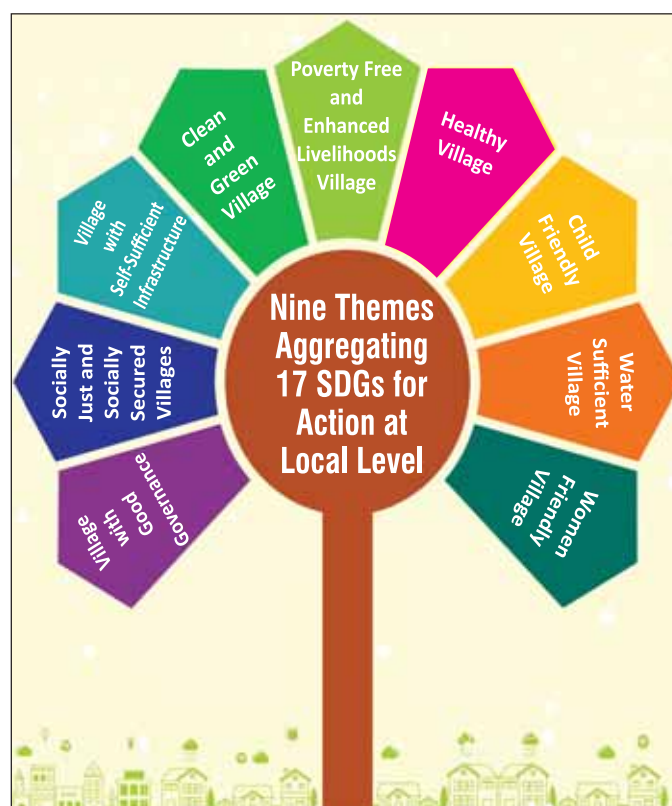
Through the flow of Central Finance Commission Grants, the provision of basic services in villages has improved. The per capita per annum allocation of central finance Commission grants increased from Rs. 54 in 12th Finance Commission (2005-2010) to Rs. 674 in 15th Finance Commission (2021-2026).

Localisation of Sustainable Development Goals (LSDG)

As a signatory to the 2030 Agenda for Sustainable Development, India is committed of 17 Sustainable Development Goals. Through internalising the motto

of Prime Minister Shri Narendra Modi, 'SabkaSaath – Sabka Vikas', we are making progress towards this goal with collective effort. Given that nearly 68% of India is rural India, attainment of Sustainable Development Goals at the National level requires actions at the grassroots of villages, which is at the Panchayat level.

In order to do this, the Ministry of Panchayati Raj has prepared a roadmap that integrates 17 SDGs into nine thematic areas in order to help Panchayats work together to accomplish sustainable development goals in villages through targeted evidence-based Panchayat Development Plans, particularly Gram Panchayat development Plans (GPDP).



By localising the Sustainable Development Goals, approximately 2.5 lakh Panchayats of the country have resolved to saturate their villages with local-level determined activities, and the Ministry of Panchayati Raj is re-orienting their capacities to this end by imparting training to them under the Rashtriya Gram Swaraj Abhiyan (RGSA) Scheme. They are now rapidly moving towards completing them. This campaign to achieve Sustainable Development Goals by localising them is an important step in building a self-reliant India.

Making Panchayats Financially Self-reliant

Own Source Revenue (OSR) plays a crucial role in empowering PRIs to make independent decisions. Strengthening the Own Source Revenue (OSR) of Panchayats is crucial, involving initiatives to increase revenue generation from local sources like property taxes, fees, fines, and other levies. This can be achieved through improved tax compliance, economic activities, and leveraging local resources effectively.

According to an estimate of the Fifteenth Finance Commission, the potential revenue from house taxes in rural areas was assessed to be around Rs. 42,159 crore at 2019 rates across 28 States. However, the OSR collected from all avenues amounted to just Rs. 4953 crore for the fiscal year 2019-20 across 25 States. Presently, the OSR generated by States and Union Territories (UTs) constitutes an average of only 6-7% of the overall revenue (including Central Finance Commission and State Finance Commission funds) allocated to Panchayats during the period from 2017-18 to 2021-22. This reveals a substantial potential for significantly enhancing OSR in rural India.

OSR is critically important for Panchayats as they have to undertake various activities as an institution of self-government and ensure economic development and social justice, and implement schemes of central and state governments. They are constrained due to inadequate financial resources. It is expected that OSR may grow fast and provide Rs. 1 lakh Crore to Panchayats gradually increasing over eight years from Rs. 5000-6000 crore and inculcate requisite capability to them to take much needed activities to fulfill its responsibilities. The Ministry of Panchayati Raj has constituted an expert committee on the creation of own revenue sources of local rural bodies and released its report. The findings and recommendations of the Committee will be guiding the Panchayats in this direction.

Leveraging Digital Technology in Panchayats

Digitisation and Information Technology has reshaped the 'Global Village' and Panchayats are not far behind in integrating

themselves with the mainstream decision making channels. This has scripted ambitious chapters to the self-reliant Panchayat stories.

Under the National e-Governance Plan (NEGP), e-Panchayat is a meaningful and far-reaching mission made to develop more transparent, accountable, and effective self-governance with greater public participation through technology in Panchayati Raj Institutions. The objective of this project is to automate the internal work processes of more than 2.5 lakh Panchayats across the country. There are multiple e-Governance initiatives launched by the Ministry to make the Panchayats self-reliant.

Gram Manchitra was launched in 2019. The application is being integrated with spatial and non-spatial data from various Ministries viz., district hospitals, sub-district hospitals, CSCs, PSCs, and sub centres (Ministry of Health and Family Welfare), banking amenities like bank branches, ATM, banking correspondence, etc. This application is also linked with Socio-Economic Caste Census (SECC) report, Mission Antyodaya (MA), and MA gap analysis and Resource Envelope allocated to the Gram Panchayat. All this information is available in one window, which will support/assist the Gram Panchayat user in better visualisation of works for integrated planning towards integrated development and less dependence in towns and cities.

e-Gram SWARAJ, a work-based accounting software for Panchayati Raj Institutions was launched



by the Hon'ble Prime Minister on 24 April 2020. Integration of accounting module of e-Gram SWARAJ and PFMS (eGSPI) was carried out to provide an



interface for the Panchayats to make online payments viz., expenditure incurred under Central Finance Commission. eGSPI is one of a kind interface for GPs to make real time payments to vendors/service providers. As on date, 2,63,043 PRIs have on boarded eGSPI; 2,33,433 PRIs have done online payments worth a cumulative of more than Rs. 1,59,000 crore (includes all the onboarded schemes).

In order to bring transparency to Panchayat procurement, e-Gram SWARAJ has been integrated with Government e-MarketPlace (GeM). The Prime Minister launched the eGramSwaraj-GeM interface on the occasion of National Panchayati Raj Day on the 24th of April 2023 in Rewa, Madhya Pradesh. This integration will enable the Panchayats to procure their goods and services through GeM, leveraging the e-Gram SWARAJ platform. The eGS-GeM integration will allow local producers/cooperatives/artisans/Self Help Groups, etc. to sell their product directly to government entities thereby promoting the spirit of 'Vocal for Local'. This is a step towards not only for promoting 'Vocal for Local' but also a step towards social inclusion in economic development efforts, which strengthen the self-reliance goals.

Initiatives towards Gram Urja Swaraj

Self-reliance in the field of energy is the need of the hour. Keeping in view the huge potential of renewable energy in India, the Ministry of Panchayati Raj has made efforts to promote the vision of 'Gram Urja Swaraj' in the rural areas of the country. This vision of 'Gram Urja Swaraj' is an attempt to accommodate and address the social, economic, environmental, and health concerns of the rural population, along with promoting renewable energy.

The Ministry of Panchayati Raj has also taken initiatives towards achieving the goal of zero carbon emissions. The Ministry will facilitate the preparation of local climate action plans for Panchayats by coordinating with various stakeholders at the central and state level. The Ministry has also launched 'Gram Urja Swaraj' dashboard for ascertaining the suitability and inclination of Gram Panchayats towards adopting renewable energy projects.

Under the Gram Urja Swaraj, GPs have developed their own implementation models with the support of Renewable energy development Agencies in the States. For example, Odanthurai Panchayat in Tamil Nadu has its own windmill, Thikekarwadi GP in Maharashtra has established Biogas plant in PPP mode and Meenvallam, project of Palakkad district Panchayat in Kerala is the first initiative of a Panchayat under micro hydel. Many panchayats have taken up solar energy models such as solar roof top models, solar kitchens, solar street lighting, and solar high mast light owned by the panchayats. These model of sustainable energy production and use will help Panchayats in not only meeting their own requirements but earn revenue out of surplus energy production and give rise to circular economy.



SVAMITVA Scheme Conferring Property Rights- A Way to Monetise the Assets

Prime Minister Shri Narendra Modi launched the SVAMITVA scheme on 24 April 2020, bringing a new level of self-confidence and self-reliance to rural India. The SVAMITVA scheme aims to provide the 'record of rights' to village household owners possessing houses in inhabited rural areas and issuance of property cards to the property owners that are backed by State Revenue or Panchayati Raj Acts. This would facilitate monetisation of rural residential assets for credit and other financial services. Many rural youth of the country have started their own employment by taking loan from the bank on the basis of property card. Along with this, the value of rural property is also increasing, which is also leading to economic empowerment.

The high-resolution maps (5 cm accuracy) generated through drone survey and CORS technology under the SVAMITVA scheme are of immense value to Panchayats because they can be used to update

property registers and get accurate and up-to-date information of properties thereby, providing a faster and accurate way to assess property tax potential by Panchayats. Panchayats can become self-sufficient through property tax collection, which is the most effective own source of revenue for them.

Well-planned village development has also been made possible via the SVAMITVA initiative. Panchayats are using the maps of the SVAMITVA in making their Gram Panchayat Development Plan (GPDP). So far, 1.61 crore property cards have been generated for more than one lakh villages in the country, and drone flying work has been completed in 2.87 lakh villages.

The Hon'ble Prime Minister, Shri Narendra Modi, has given the clarion call to make India a Developed Nation during the AMRIT KAAL period by the completion of 100 years of our independence in 2047. This noble goal of becoming *Viksit Bharat* expects the villages to become self-reliant, for which the contribution of Panchayats is commendable. □

Aspirational Districts and Blocks Programmes

A Model for Socio-economic Transformation through Grassroots Empowerment



The flagship schemes of the Government of India, such as Pradhan Mantri Gram Sadak Yojana, Pradhan Mantri Awas Yojana, Mission Indradhanush, Swachh Bharat Mission, Poshan Abhiyan, Samagra Shiksha Abhiyan, Pradhan Mantri Kisan Samman Nidhi, among many others, formed a strong base that catalysed the rapid transformation under the Aspirational Districts Programme(ADP) and enabled a visible expansion of socio-economic wellbeing in India's hinterland.

N Saurabh Rishi and Shashank Shah

estled in the Himalayas, Chamba is a north-western district of Himachal Pradesh. Despite being blessed with natural beauty in abundance, the district faces many challenges due to its hilly terrain and harsh climatic conditions. With a population of around 5 lakhs, of which 93% are rural, the district faced difficulties in providing cost-effective basic services to far-flung remote locations that have low population densities. However, during the last five years, Chamba has taken giant strides in reaching the last mile and ensuring that no citizen is left behind. For example, the district administration has initiated

the services of Mobile Medical Units to provide basic medical services to the remotest locations. As a result, antenatal care for pregnant women has improved from 70% to 90%, and institutional deliveries have doubled from 40% to 80%. This has positively impacted the MMR/IMR in the region. Through the convergence of schemes and CSR funds, Chamba has also set up community libraries to improve learning outcomes and micro-irrigation facilities on mountain slopes. Like Chamba, many districts have historically faced unique challenges, either due to their geographic location or their demographic composition.

India is a multicultural nation of continental proportions, blessed with immense diversity. This richness manifests across languages and lifestyles. However, this variety also gives rise to socioeconomic disparities among citizens. While some regions rapidly industrialise and urbanise, others continue to face backwardness. The reasons for disparity are varied: difficult topographical terrain, lack of resources, historical injustice, social marginalisation and vulnerability, inefficient governance, and civil unrest, among others. To address these by ensuring equitable socioeconomic growth across regions and sections of society, the Aspirational Districts Programme (ADP) was launched by the Hon'ble Prime Minister in January 2018 with a focus on improved governance at the grassroots level.

Origin and Outcomes

ADP's origins lie in the Prime Minister's vision of rapidly transforming over 100 districts like Chamba to boost India's development. To achieve this, NITI Aayog formulated the Aspirational Districts Framework, which was an intricate and scientifically designed process to identify under-developed districts (named Aspirational Districts) across States and Union Territories (UTs) while also ensuring balanced regional representation. Extensive field visits provided contextual, ground-level data to supplement secondary statistics. This rigorous selection birthed one of the most ambitious decentralised development interventions by the Government of India.

Over the subsequent five years, the programme that was implemented as a mass movement (Jan Andolan) across 112 districts led to significant grassroots improvement across socioeconomic parameters by following the guiding principles of Convergence (of schemes), Collaboration (between all stakeholders), and Competition (among districts on key indicators). On 30 September 2023, while addressing over 3,000 field functionaries gathered at Bharat Mandapam in New Delhi, the Prime Minister observed that, "The ADP will find its place in golden letters in the top 10 list of all schemes the Govt. of India has implemented since Independence."

Innovative and Collaborative Approach

ADP has pioneered a new model of 'competitive cooperative federalism' centred on improved governance for accelerated and inclusive human development.

It shifted the narrative from seasonal silo-driven schemes to regular outcome-based reviews. It fostered collaboration between Centre and States while promoting competitiveness among districts in three ways. Firstly, though NITI Aayog anchored the initiative centrally, States were the primary drivers. District Collectors catalysed grassroots participation to prepare integrated Local Action Plans for addressing gaps. Secondly, the focus shifted from inputs to outcomes. Clear success metrics were defined for districts to catch up with State averages and aspire to become the best in their State. Lastly, ADP leveraged technology extensively. A real-time dashboard tracked 49 socioeconomic indicators on a monthly basis across five sectors including health and nutrition, education, agriculture and water resources, financial inclusion and skill development, and basic infrastructure. This enabled continuous monitoring and healthy competition through data-based rankings. Thus, the Programme represents a unique model of evidence-based policy interventions through data-driven governance.

Building on the previous initiatives that have supported these regions with funds, the Programme's primary focus has been to build capacity at the level of the district administration to ensure saturation of government service delivery to the last mile. It has focused on provision of basic services such as pucca houses, all weather roads, electricity, tap water connections, resilient health infrastructure, financial inclusion, provision of quality education, and enabling skill development to support income generation.

The Programme has led to significant progress in multiple key performance indicators across districts and has had a major impact on India's progress in localising the Sustainable Development Goals (SDGs). Some indicators, such as household electricity connections and individual toilets, have reached near-saturation levels across most Aspirational Districts (ADs). The flagship schemes of the Government of India, such as Pradhan Mantri Gram Sadak Yojana, Pradhan Mantri Awas Yojana, Mission Indradhanush, Swachh Bharat Mission, Poshan Abhiyan, Samagra Shiksha Abhiyan, Pradhan Mantri Kisan Samman Nidhi, among many others, formed a strong base that catalysed the rapid transformation under ADP and enabled a visible expansion of socio-economic wellbeing in India's hinterland.

Critical Success Factors

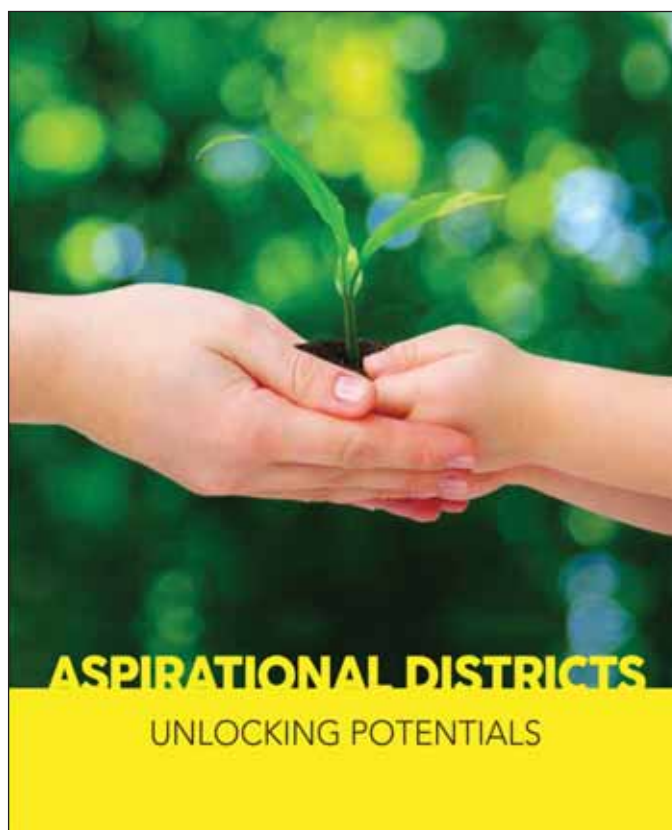
The core strategy of ADP is based on process reengineering and innovations to improve grass roots governance. Some of the critical success factors include:

1. **Positive Nomenclature:** The selected districts are called 'Aspirational' instead of 'Backward', as they aspire to first become the best in their State and thereafter, in the country. The Prime Minister's vision has been to infuse a sense of positivity in the district administration and the people of these districts so that they can become an inspiration for the rest of the country.
2. **Theory of Prioritisation:** The programme adopts the theory of prioritisation that identifies geographies, sectors, and communities. The ADs have been carefully selected using priority socioeconomic indicators. Similarly, basic social services have been identified for all sections of the society that can be saturated.
3. **Innovation in Governance:** Dynamic district administration with stable tenures have been an endeavour of the Government to fast-track progress on the ground. The ADs have adopted innovative solutions to tackle traditional challenges. Commitment from top leadership at all levels has also been a motivating factor in this progress.
4. **Competitive and Cooperative Federalism:** Robust monitoring and data-driven governance has been a focal strategy under the programme. The 49 socioeconomic indicators are a mix of input, process, output, and outcome indicators that are relevant for achieving SDGs. The ADs are ranked periodically based on improvement made in the indicators, instilling a sense of healthy competition and benchmarking with more developed districts.
5. **Horizontal Convergence and Collaboration:** Collaboration between district departments to achieve common goals is encouraged. Convergence with civil society organisations and development partners has also been an effective implementation strategy.
6. **Vertical Collaboration:** This focuses on collaboration between Central Ministries, State Departments,

and the District Administration. Senior-level Central Prabhari Officers have been appointed for every AD to mentor them and act as a bridge between the administrative levels.

7. **Peer Learning and Behaviour Change:** The community of ADs benefit from each other through sharing and benchmarking of best practices. Through inter-State workshops, cross-visits and digital masterclasses, laggard districts in similar geographies can learn from and replicate the success and innovations of well-performing peer districts in a competitive spirit.

Thus, ADP has enabled holistic improvement through optimal resource allocation, real-time monitoring, and capacity building of district administration. Even remote regions made strides, affirming that development is achievable if the collective commitment is strong. In its appraisal report of the programme, UNDP mentioned that "ADP is a very successful model of local area development. It is aligned to the principle of 'leave no one behind' – the vital core of the SDGs. It should serve as a best practice for several other countries where regional disparities in development status persist for many reasons."





Sub-national Transformation

The ADP has provided a unique opportunity to nurture and scale excellence at sub-national and regional levels such that the positive outcomes achieved are in the unique context of the local geography and demography. For example, Lohardaga district in Jharkhand, an LWE affected area, has raised registration of pregnant women for ante natal care within the first trimester. Districts such as Karauli in Rajasthan, Namsai in Arunachal Pradesh, and Dhalai in Tripura have increased the percentage of institutional deliveries from an average of 40% to over 90%. Many districts like Sukma in Chhattisgarh, where less than 50% children were immunised until 2018, have witnessed the immunisation rate go above 90% in the last five years. Darrang in Assam, Sheikhpura in Bihar, and Bhadradi Kothagudam in Telangana have drastically reduced the percentage of severe acute malnourished children. Districts like Goalpara in Assam and Chandel in Manipur have raised animal vaccinations to over 85%.

ADs have also shown significant improvement in the latest NFHS-5 Survey results when compared to NFHS-4, especially in indicators that are also tracked under the programme. In antenatal care registrations, ADs from Uttar Pradesh and Bihar have improved from 36% to 56%, and those from Madhya Pradesh have improved from 47% to 71%. In institutional deliveries, districts from Uttar Pradesh have improved from 53% to 79%, and districts from Bihar

from 62% to 74%. According to the NAS-2021 survey, Dhaulpur in Rajasthan has been one of the top performing districts in improving learning outcomes across grades and subjects. While some ADs have achieved substantial success in specific areas, some others have achieved holistic transformation and rank among top performers on multiple parameters. These include Dahod in Gujarat, YSR (Kadapa) in Andhra Pradesh, Virudhunagar in Tamil Nadu, and Baramulla in the UT of Jammu & Kashmir. Context-specific solutions leveraging community participation and resources have enabled most ADs to excel.

Aspirational Blocks Programme

While ADs have made good progress, there do exist intra-district variation in terms of development as many districts are very large in terms of area or population. Development Blocks ensure that a larger than proportionate share of development reaches the marginalised and vulnerable sections of the population. The block ensures that a 'one-size-fits-all' approach is not applied. Instead, customised approaches can be adopted based on the needs of the region. This can also bring the decision-making process closer to the ground.

Hence, to further decentralise development and build on ADP's success, the Prime Minister launched the Aspirational Blocks Programme (ABP) in January 2023 to deepen focus on localised planning for 100% saturation of schemes in the most difficult and underdeveloped blocks of India. The selection of blocks in the ABP was made based on various parameters and indicators covering major aspects of human development. The 500 Aspirational Blocks (ABs) have been selected by an Inter-Ministerial Committee in consultation with States and are located across 329 districts in 31 States and UTs. Nearly half of these blocks are in the five States of Uttar Pradesh, Bihar, Madhya Pradesh, Jharkhand, and Odisha. The selection also covers blocks in tribal districts and the Northeast States. Nearly one-third ABs are in 112 ADs and two-thirds are in 217 other districts, thus covering nearly half the districts in the country.

On the lines of ADP, the main strategy under the ABP is to strengthen basic service delivery through improved governance and implementation at the grassroots level for ensuring social development (Samajik Vikas) and regional development (Kshetriya Vikas). This would be achieved through the following approaches:

1. **Capacity Building:** ABP ensures continuous capacity building of block-level officials (BLOs) to ensure effective and accelerated implementation of schemes. Creation of capacity building modules and master trainers to deliver them has been a central piece of the ABP. Nearly 5,000 BLOs have benefitted from the leadership training which was organised across India in the last two quarters to develop the block-level functionaries as leaders of change. Thus, in contrast to the district-driven approach followed in ADP, ABP is focusing more on empowering BLOs.
2. **Block Development Strategy:** The ABP supports blocks to develop a robust Block Development Strategy (BDS). ABs undertake a SWOT analysis and develop strategies to maximise strengths and opportunities while developing methods and measures to address weaknesses and threats. ABs also identify key interventions across 40 Key Performance Indicators (KPIs) in five sectors including health and nutrition, education, agriculture and allied services, basic infrastructure, and social development, that could help achieve saturation of services and surpass the State average. The BDS is prepared through Chintan Shivirs and in consultation with multiple societal stakeholders. A weeklong 'Sankalp Saptah' was held in October 2023 across 20,000

Gram Panchayats in 500 ABs to spread awareness and inculcate behaviour change.

3. **Knowledge Portal:** The Programme includes a knowledge portal for documentation and dissemination of best practices. All States, Districts and Blocks would regularly contribute their grass-roots learnings, innovations, and best practices to the knowledge portal. A systematic approach to knowledge management is being adopted for continuous learning under the Programme.
4. **Institutional Support:** An Aspirational Block Fellow along with tech support has been provisioned for every AB to assist the block and district administration in programme implementation. Awards and recognition for innovations in governance for all levels of administration are also envisaged under ABP.

With States as the main drivers, the Programme will focus on the strength of each AB, identify implementable actions for immediate improvement, measure progress, and rank blocks.

Aspirational and Aatmanirbhar Villages

The transformation enabled by ADP and early gains under ABP underscore that empowered and inspired leadership, hyper-local planning, outcome-focused real-time monitoring, and optimal resource utilisation through convergence can drive development. However, community involvement remains the bedrock as districts witnessed dramatic improvements where people were not just beneficiaries but active agents of change. 'Sabka Prayas' is as important as 'Sabka Vikas' for the Programmes' success.

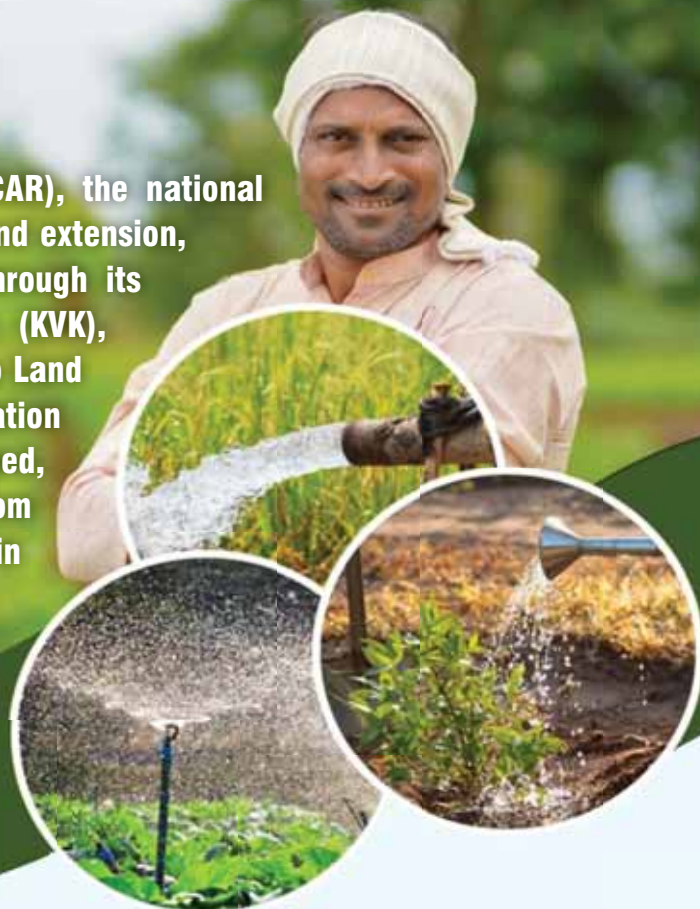
Rapid and decentralised development enabled by ADP and ABP has laid a strong foundation for citizens' welfare and fulfilment of their growth needs. By reaching remote grassroots, these initiatives have unlocked the aspirations of all Indians to accomplish the vision of a prosperous and inclusive nation. Mahatma Gandhi believed that the soul of India lives in its villages. The journey of the Aspirational Districts and Blocks will culminate in Aspirational and Aatmanirbhar Villages. It gives every Bharatiya hope that a Viksit Bharat in 2047 is an achievable reality. A socio-economically self-reliant village (Aatmanirbhar Gaon) is the foundation for achieving the vision of Amrit Kaal. □



Lab to Land

Empowering Farmers Technically

The Indian Council of Agricultural Research (ICAR), the national apex body for agricultural research, education, and extension, is spearheading the Lab to Land programme through its 731 strong network of Krishi Vigyan Kendras (KVK), across the country. Like almost all sectors, Lab to Land initiatives have also embraced modern information and communication technologies to value-add speed, efficiency, and cost-effectiveness. Apart from digital SMS and call services, various agencies in public and private sector have developed farmer-centric portals, mobile apps, and other digital platforms.



Dr. Jagdeep Saxena

According to UN projections, the population of India is expected to reach 1.64 billion by 2050. Qualitative and quantitative feeding of such a huge population is a formidable challenge owing to deteriorating natural resources, shrinking arable land, and the deleterious impacts of global climate change. However, emerging technologies and farm innovations have the potential to be game changers in ensuring food security for all. Over the years, India has developed one of the largest networks of agricultural R&D institutions in the world, which has evolved a vast repository of promising farm technologies and innovations to address forthcoming

challenges. Quick transfer and diffusion of these technologies among farmers is imperative to ensure sustainable food production, efficiency in farming, and profitability for farmers. It assumes especial importance in the light of the huge number of small and marginal farmers (cultivating on 2 hectares or less land), who own nearly 80 per cent land holdings, and have very scanty resources to access technologies, quality inputs, and advantageous information.

About nine years ago, Prime Minister Shri Narendra Modi gave the slogan 'Lab to Land', saying that farmers should be able to enhance production to increase their income and feed the country as well as

the world. The Prime Minister asked the scientists to elaborate upon their research in simple terms so that it could be understood by the farmers and they could be convinced to try out new products and initiatives (86th ICAR Foundation Day, July 2014). Since then, the Government of India, along with many other agencies, has launched various innovative schemes for efficient and effective outreach to farmers. The phrase 'Lab to Land' was coined in 1979 when the Indian Council of Agricultural Research launched an ambitious programme under the same banner. It covers all activities pertaining to the transfer of technologies, innovations, and information to farmers and fields. Academically, this is called 'Agricultural Extension', which is an established and recognised branch of studies and practice. A vast and robust agricultural extension system exists in the country, and is mainly driven by the public sector. The Union Ministry of Agriculture and Farmers' Welfare is the apex institution of extension service with supporting nodes in the States and Union Territories. However, of late, some players from the private sector have started to provide extension services to the farming community.

Mission and Modes

The Extension Division of the Agriculture Ministry implements a 'Sub-Mission on Agricultural Extension' (SMAE), which focuses on awareness creation and enhanced use of appropriate technologies in agriculture and allied sectors. The first of its four components, 'Support to State Extension Programmes for Extension Reforms', is being implemented in 704 districts of 28 States and five Union Territories through the Agricultural Technology Management Agency (ATMA) at the district level. Since its inception in 2005-06, over 6.31 crore farmers, including 1.71 crore farm women (27.04%) have participated in farmer oriented activities such as exposure visits, trainings, demonstrations, farm schools, and kisan melas (up to 31st December 2022). Over 1.94 farm schools have been organised on the fields of outstanding farmers. Its second component, 'Mass Media Support to Agricultural Extension', utilises countrywide infrastructure and networks of All India Radio and Doordarshan to disseminate the latest farm practices among rural masses. Additionally, it provides support for print media and social media through awareness campaigns and advertisements.

During 2022-23 (up to December 2022), over 4100 programmes were telecasted on DD and nearly 22,700 broadcasted through AIR. A unique concept of Kisan Call Centres was launched on 21st January, 2004 to provide answers to farmers' queries on a telephone call in their own dialect. Presently, these call centres are working in 21 different locations, covering all states and union territories. The toll-free number (1800-180-1551) is accessible through mobile phones and landlines on all telecom networks. Farm Tele Advisors, at least graduates in agriculture or allied areas, reply to the farmers' queries on all seven days (6 am to 10 pm). Facility of SMS to caller farmers is also provided after registration. So far, over 598.21 lakh calls have been registered in the call centres (up to December 2022).

A scheme for establishment of the Agri-clinics and Agri-business centres is under implementation since April 2022. This component aims to tap the expertise available in the large pool of agriculture graduates by providing them gainful opportunities for self-employment. After a specialised training, these graduates supplement the efforts of public extension by providing technical services to farmers in villages. Nearly 84,000 candidates have been trained and around 36,600 agri-ventures have been established till December 2022. The Extension Division also provides support to Central- and State-level institutions engaged in capacity building of extension functionaries, and skill development of rural youth, farm women and farmers. The Extension Division participates and facilitates organisation of farmer-centric exhibitions, fairs, seminars, etc. at the different levels in the country. The Division also supports five Regional Agricultural Fairs, one in each region every year. Such events showcase latest and modern technological advancements and also disseminate first hand information to the farming community.

Bridging the Gap

The Indian Council of Agricultural Research (ICAR), the national apex body for agricultural research, education, and extension, is spearheading the Lab to Land programme through its 731 strong network of Krishi Vigyan Kendras (KVK), across the country. KVKs were introduced in 1974 in Puducherry on a pilot basis for the transfer of agricultural technologies



and knowledge to farmers. Currently, it is the only institution at the district level that acts as a knowledge and resource centre with a two-way link between farmers and researchers. The main mandate of the KVKs is technology assessment and demonstration for its application and capacity development. Its major and regular activities include (i) on-farm testing to assess the location specificity of agricultural technologies under various farming systems; (ii) conducting frontline demonstrations to establish the production potential of technologies on farmers' fields; (iii) capacity development of farmers and extension personnel to update their technical knowledge and skill; (iv) acting as a knowledge and resource centre of technologies for improving the agricultural economy of the district; and (v) providing farm-advisories to farmers employing various means and modes.

The assessment of the location specificity of technologies under various agro-ecological situations and recommendations for further refinement accordingly are the core activities of KVKs. Technologies are assessed under various verticals, such as crops, livestock, enterprises, and women empowerment. Among crop sciences, technologies are assessed in a wide spectrum of areas, ranging from varietal evaluation to value addition, resource conservation to farm machineries, seed production to storage techniques, and so on and so forth. The KVKs assess

technology options pertaining to a variety of thematic areas of livestock production and management. Health, nutrition, and value addition are major thematic areas covered under women empowerment. KVKs are undertaking cluster frontline demonstrations to demonstrate the production potential of major pulses and oilseed crops in their respective areas of cultivation. On a national level, the average yield advantage in major pulse and oilseed crops was recorded at 37.42% and 38.40% respectively (2022-23). Farmers' awareness, suitable technology interventions, and skill development among farmers were the main factors responsible for higher yields.

KVKs have played an important role in popularisation of farm machinery in fields through demonstrations and trainings. During 2022-23, over 17,000 demonstrations were conducted on nearly 800 technology options on improved tools and farm implements, including drudgery reduction technologies covering an area of 9,750 hectares. During the same period, KVKs trained a total of 21.16 lakh farmers/farm women, rural youth, and extension personnel on various aspects. Further, KVKs organised a total of 5.68 lakh extension or Lab to Land programmes, which include field days, exhibitions, exposure visits, scientists' visit to fields, animal/plant health camps, kisan melas, etc. Soil, water, and plant analysis services continued and a total of 2.22 lakh Soil Health Cards have been issued

to farmers. KVKs produced high-quality technological products such as seeds and planting materials of improved varieties and hybrids, bio-products, and elite species of livestock, poultry, and fish which benefitted 11.18 lakh farmers in the country.

Going Extra Miles

Nearly 50 agricultural R&D institutions and universities have set up in-campus Agricultural Technology Information Centres (ATICs), which act as single window delivery system to provide technology, information, advisory services, and technological inputs to the farmers. ATICs also provide and facilitate various services, such as soil health cards, mobile agro advisories, extension programmes, etc. KVKs play

a vital role in implementation of some specialised programmes under 'Lab to Land' campaign. For example, to boost agricultural production and farmers' income in tribal areas, a special programme called 'KSHAMTA' (Knowledge Systems and Homestead Agricultural Management in Tribal Areas) has been launched with the support of KVKs. Extension activities, organised by the KVKs benefitted over 9.7 lakh farmers. To address the current crisis of burning the paddy crop residues in fields, a special awareness programme is being conducted through 60 KVKs of Punjab, Haryana, Uttar Pradesh, and Delhi. KVKs have specifically designed extension activities to sensitise farmers of targeted villages about the harmful effects of residue burning, benefits of in-situ (on-farm)

Success Story

Enhancing Farmer's Income via 'Strawberry Cultivation': A Case Study from Chittorgarh District of Rajasthan.

Shri Namichand Dhakar, a 32-years-old farmer, having a Post Graduate degree and belonging to Sripura village in Nimbahera Tehsil of Chittorgarh district of Rajasthan State, has 6.00 ha cultivable land with two tube wells as well as open well as source of irrigation, besides owing a cattle dairy unit. After completing post-graduation in the year 2014, he started looking after his family farms, and realised that only growing traditional crops like maize, wheat, mustard, gram, and groundnut is not profitable, and hence some innovative enterprise is necessary for enhancing his income. Then, he contacted some agriculture scientists and extension officers several times, while having thorough discussions regarding various innovative options to enhance farm income. In 2015, he visited KVK, Chittorgarh; and subsequently, he underwent training on improved cultivation practices of strawberry. In the same year, he started cultivating strawberry in a small area under the technical guidance of scientists of that KVK. After getting encouraging results, he gained confidence, and extended strawberry cultivation to 1.00 ha in the year 2020. He brought mother plants of three varieties (Winter Down, Sinter Star and Sweet Sensation), imported from California, and planted the same in his field. Afterwards, he was able to produce thousands of plants from runners of mother plants, and planted on raised bed, on mulching sheet, with drip irrigation system in September. He sold strawberry fruits in the market of Delhi, Jaipur, Ahmedabad, and other metropolitan cities. He earned a net income of Rs.11.60 lakh per ha with 5.83 Benefit: Cost Ratio. Other than strawberry production, now he has also raised 2.00 lakh plants of strawberry and earned a gross income of Rs.10.00 lakh, by selling of plants to the farmers during 2021. He has branded his strawberry as 'Shiv Shakti', and started selling with proper modern-day attractive packing.

Adding an innovative enterprise to his farm, he has enormously increased his income. With an increased income, he not only has improved and secured his livelihood but also has generated employment for his family members. He has also improved his social status with more acceptance, recognition and respect as an innovative young farmer, as he is the first farmer in the hilly area of Chittorgarh district to cultivate strawberry, successfully. Now, more than 15 farmers from Rajasthan and adjoining state of Madhya Pradesh have been motivated to start cultivation of strawberry, and they approached him for planting materials and cultivation technology. For strawberry cultivation, several farmers visited his farm, and took technical advices regarding cultivation on large scale, on a sustainable basis.

(Source: ICAR Annual Report, 2022-23)

residue management, and government schemes for procuring appropriate machines on subsidised rates. More than 3.5 lakh Common Service Centres in rural areas have been linked with the KVKs for providing technological solutions to the farmers visiting CSCs with agriculture related problems. KVKs are playing a significant supportive role in 'Jal Shakti Abhiyan' by conducting various awareness activities such as discussions and interactions of farmers with scientists, quiz competition, rangoli competition, film shows, etc. on better management of water resources. Under MoU with India Meteorological Department, District Agro-Net Units have been established in the premises of nearly 200 KVKs. These units provide agro-met advisory services in local language to serve the farmers in different agro-climatic zones of the country.

'Mera Gaon, Mera Gaurav' (My Village, My Pride) is a novel Lab to Land initiative by ICAR in which groups of scientists identify/adopt villages for dissemination of technologies, and information to farmers. For the purpose, they personally visit farms and also deliver advisories through smart phones. Under the project Farmer FIRST (Farm, Innovations, Resources, Science and Technology), participatory demonstrations are organised on farmers' fields on different modules of agriculture and allied sectors. ARYA (Attracting and Retaining Youth in Agriculture) is a specialised initiative which aims to create job opportunities in rural areas by skilling/training youth in various agro-enterprises. KVKs are empowering farmers technically to adopt 'climate-smart' agriculture under project NICRA (National Innovations on Climate Resilient Agriculture). Related demonstrations are conducted regularly on crop production, farm animals, livestock, and fisheries with emphasis on resource conservation and efficiency. Under the programme Student READY (Rural and Entrepreneurship Awareness Development Yojna), under-graduate students in agriculture are exposed to farm-realities to understand the specific problems and enable them to tackle these problems independently. In a recent initiative by the Ministry of Agriculture and Farmers' Welfare, Atal Tinkering Labs are being connected to KVKs and ATMAS to promote innovations in agriculture sector among school students. Launched on pilot basis, the initiative is likely to generate and increase the awareness of school students on agricultural issues, which is hitherto almost missing.

New Pathways

Like almost all sectors, Lab-to-Land initiatives have also embraced modern information and communication technologies to value-add speed, efficiency, and cost-effectiveness. Apart from digital SMS and call services, various agencies in public and private sector have developed farmer-centric portals, mobile apps, and other digital platforms. mKISAN is a versatile portal launched by the Ministry of Agriculture and Farmers' Welfare, which aims quick transfer of knowledge to farmers. It unleashes the power of mobile/smart phones in the hands of farmers to get information/advisories as per their preference in the form of text/voice messages in their own language. It also allows access to numerous databases of their interest. Further, it enables Central and State Government organisations engaged in agriculture and allied sectors to release information, services, advisories etc. to farmers by SMS in their language. IVRS (Interactive Voice Response System) and Pull SMS are value-added services which have enabled farmers and other stakeholders to get web-based services on their mobile phones without having internet. Mobile agro-advisories are provided to over five crore farmers by the KVKs alone. mKISAN mobile app has also been made available to farmers.

'Kisan Suvidha' is an omnibus mobile app launched by the Ministry of Agriculture. It facilitates dissemination of information to farmers on some critical parameters such as weather, market prices, plant protection, input dealers, farm machinery, soil health card, cold storage and godowns, veterinary centres, and diagnostic labs. It's a multi-language app which helps farmers taking informed decisions for better productivity and profitability. The ICAR has compiled more than 100 mobile apps developed by ICAR, Agricultural Universities and KVKs and uploaded on its website for quick downloads. The thematic area of these mobile apps range from various verticals of farming to livestock, poultry, fisheries, and various other commodities. Various government and private agencies are supporting Lab to Land initiatives through social media platforms as well. Various modules of extension services in India are moving and converging in a fast-track mode to deliver best knowledge services and transfer of technologies to bridge the gap. Enhancing agricultural productivity and profitability along with prosperity of farmers is the motto. □

Towards the Goal of Aatmanirbhar Gaon



‘Aatmanirbhar Gaon’ is a movement of the people. The success of a people-centric programme can only be expected by engaging with the communities. Under the ‘Unnat Bharat Abhiyan’, the task of providing knowledge and technology support involving higher education institutions was taken up by subject experts with the objective of improving livelihoods. The realisation of ‘Aatmanirbhar Gaon’ requires conviction that the revolution of prosperity in India is possible only when villages lead the movement.

T Prof. (Dr.) Virendra Kumar Paul

he enriching heritage of India defines its identity. Material and non-material cultures are the true reflection of the heritage; the unity in diversity is the strength. And the harmonious coexistence of cultural diversity within the notion of India is its magnificence. India is blessed to have this unique character, which is still preserved and practised in the villages. If this is so, then the essence of India lies in its villages. And, instant rejection of contrary views is an instinct of the Indians. Obviously, connecting with villages is beyond a simple emotional affinity, and tangible values associated with it must be the reason enough for the continuity of this essence of India to exist. Sir Charles Metcalfe referred to Indian village communities as ‘little republics’ in possession of everything for their needs and desires, but they were

not isolated from the rest of the world. He further goes on to attribute happiness, enjoyment, freedom, and independence of Indian people to the village communities. The essence of India was underlined by Gandhiji as ‘We are inheritors of a rural civilisation’. Thus, the significance of village is far greater than the physical entities, such as the built environment and the land associated with it. At the dawn of independence in 1947, over 85% of the Indian population lived in villages and derived their livelihoods from the agrarian economy. Needless to say, self-sufficiency was at the core of this structure.

Gandhiji was emphatic on the significance of villages in the development of independent India and supported the idea of supplementary industry for the villages. The

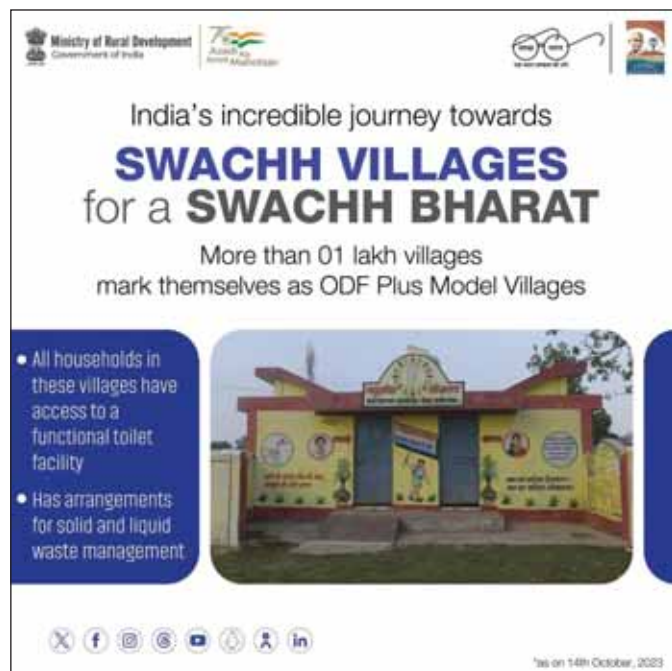
Gandhian view centres on self-sufficient communities and the balance between man and nature. Thus, the self-sufficient village as an economic unit is an obvious catalyst for environmental sustainability. In the context of contemporary environmental crises, the 'Aatmanirbhar Gaon' is the undeniable solution.

Paradox of Urbanisation vis-à-vis Village Existence

Rapid urbanisation has led to an existential crisis for the villages. According to an estimate, in 2021, one-third of the Indian population lived in cities, and the growth is unabated. Urban areas are known to be engines of economic prosperity, but the development model based on urbanisation will have a declining dividend unless it consumes more rural space. The paradox is that insatiable consumption will lead to prosperity in GDP terms, but what happens to the environment if the villages perish? The notion of a self-reliant city is still a conjecture, as the model for catering to the magnitude of demand of resources, including vegetables, poultry, and other natural products, is still a rather hypothetical one. To heal the devastation of the environment caused by urbanisation by its internal mechanisms is not even a conjecture yet. Self-reliance builds on the principle of the adequacy of a habitation to at least meet its necessities of goods and maintain environmental suitability within its own footprint of existence, including the associated communities. The autonomy so achieved is a sense of pride, leading to social cohesion. Unfortunately, globalisation and consequent urbanisation may have realised this limitation rather late, even if it has.

The concept of self-reliance may not find solid ground in urban cities, as the newer generations are finding the 'big city life' increasingly intriguing and attractive. With the hope of better career opportunities and an optimism for growth, the youth of the villages are rapidly migrating to the urban centres. While it may be true for some, most end up living a life of drudgery and sustaining themselves at the threshold of existence. The realisation of the value of village life, in such cases, comes at a time when migrating back may not be an easy decision.

On the other hand, a village as a unit of human existence has all the potentialities to qualify as a 'self-sufficient, self-reliant' entity. The paradox is that the inevitability of urbanisation at some point of



development in the past overlooked the relevance of the village as an important unit. As we experience degradation of the urban environment and loss of quality of life due to pressure on resources and social structures, there is a growing realisation that village are the only valid option for human existence. Who can forget the days of Covid-19 pandemic, when mass exodus to native villages was the only hope for survival and existence? In a few days, the hitherto engines of economic growth had no resilience to cater to the material needs of people or provide emotional support in the face of a life-threatening virus. And villages indeed rendered the necessary care to their people and we saw the environment bounce back to its pristine glory in a short time. At the time of the crisis, the Prime Minister called upon the nation to work towards 'Aatmanirbhar Bharat' supplemented by the 'Aatmanirbhar Gaon' resolution. Thus, the Covid experience is an opportunity to build conviction to reign urbanisation to the saviour, the village as an Aatmanirbhar Gaon.

Challenge of Reigning Urbanisation

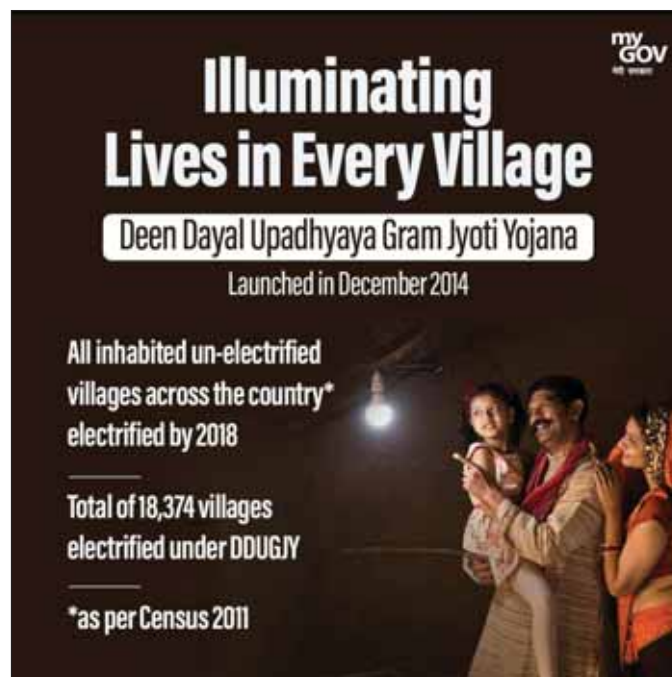
Counter-urbanisation, or deurbanisation, is defined as a 'demographic and social process whereby people move from urban areas to rural areas'. The concept of counter-urbanisation builds itself on the reality of deprivation of facilities, amenities, and quality of life in especially inner-city areas. Thus, overpopulation is one of the causes of what is referred to as 'shrinking cities'.

The underlying reason is the capacity of an individual to counter deprivation in terms of affordability. Considering the population of India will reach 170 crore by 2050, the dependence on the limited area available for food grains in Aatmanirbhar Bharat would necessitate exponential productivity of agro-based activities. Therefore, the postulation that entrepreneurial opportunities in villages will reign in urbanisation is a reasonable hypothesis. The flip side of this hypothesis is that the creation of enterprising human capital in villages will reign in migration from rural to urban areas. In either case, the outcome is the same, i.e., strengthening the village entities, consequently leading to a sustainable environment, and living with the pride of cultural heritage.

The reality is that the advances in telecommunication technology have connected rural communities for remote working at a lower cost. New-age employment opportunities do not necessitate migration. The concept of rural sourcing evolves from a lower cost of service or production for the corporate and an economically superior option for the employee in spite of lower wages due to the lower cost of living. Thus, one can see the light of optimism in the existence of villages in the evolving paradigm of urbanisation. However, it needs to be supplemented with enablers in terms of other urban attractions such as amenities and social infrastructure. The recent revolution in access to infrastructure such as electricity, water, and connectivity in Indian villages in the recent past has already laid the foundation for the realisation of Aatmanirbhar Gaon within a reasonable time frame.

The Village as an Institution

The earliest references to village can be traced to the Vedic period, which evolved in scale, type of occupation, and having its own administrative structure. Broadly, three aspects of a village can be identified. The first is related to intangible aspects of identity, such as people, their social order, their culture, and their belief systems. The second one can be related to occupational interdependency and sustenance through the resources that nature offers. Survival and sustenance necessitated trade and mutual benefit to the other village units based on their entrepreneurial capacities. The third aspect can be related to amenities and social infrastructure such as water tanks, temples with prayer halls, and community spaces. Thus, the village worked as an institution,



strengthening each of the three aspects. Different classes, castes, trade activities, and competencies had a symbiotic relationship with the centrality of sustainability, self-sufficiency, and self-reliance of the village as an Institution. This resulted in identity, social bonding, and pride evolving over time. The context of modern times has undergone a transformation, and the need is to rejuvenate the institutions of Indian villages on the same aspects that are equally relevant in contemporary times.

Proactive Interventions for Revival of Village-Institution

Entrepreneurship development is a fundamental intervention for livelihoods. It is not sufficient to limit existential self-sufficiency, but also to meet the aspirational needs of quality of life in modern times. This requires the orientation of research and development through scientific and technological interventions towards rural needs. As an initiative of Government of India under 'Unnat Bharat Abhiyan', the Council of Scientific and Industrial Research, through its various laboratories in the country, 53 technologies have been completely commercialised, and many others are at various stages of being commercialised. While the technologies begin to be rolled out, research in agro-produce-based supply chain will anchor the economic base at the village level. 'Unnat Bharat Abhiyan', with a network of about 3000 higher education institutions, is engaged with about 15000 villages across India. The social dimension of this

village-centric initiative is to utilise vast locally available resources and empower weaker sections of society. The focus of the Council of Scientific and Industrial Research on technologies for rural livelihoods is an indication of resource commitment for long-term outcomes, as the gestation period of research and development can be more than 5 years, although in this case, most technologies had a gestation period of less than one year. This is an encouraging experience of the positive outcomes of scientific and technological interventions.

The approach to the development of physical infrastructure and built environments in villages is distinctly different from the urban development paradigm. The architects, engineers, and planners are not specifically trained to deal with rural stakeholders. The development of competencies by such professionals would be critical to retaining the basic structure of a 'village' and supporting its institutional character. It is observed that most villages fall prey to an unorganised growth pattern and graduate into an urban setting. This requires early and proactive interventions wherein social infrastructure, safeguarding land for agro-based activities, and the allocation of space for entrepreneurial activities, such as process units, are in tandem with the physical growth of the village. Rurbanisation is a globally accepted area of specialisation. The Ministry of Rural Development, Government of India, under the Shyama Prasad Mukherji Rurban Mission (SPMRM) envisioned 'Development of a cluster of villages that preserve and nurture the essence of rural community life with a focus on equity and inclusiveness without compromising with the facilities perceived to be essentially urban in nature, thus creating a cluster of 'Rurban Villages''. This initiative to channelise the physical growth of villages would be a significant milestone towards the realisation of 'Aatmanirbhar Gaon'.

Another challenge would be to develop competencies in villages to meet the demand of emerging opportunities in rural India. Considering the diversity of nature of villages in India, it is imperative that the professional education and skilling initiatives break free from the shackles of stereotypes curricula and evolve with hands-on experience.

Engaging Communities for Instilling Conviction

'Aatmanirbhar Gaon' is a movement of the people. The success of a people-centric programme can only be

expected by engaging with the communities. The current inertia set in by migration out of villages can only be stalled by instilling a sense of confidence amongst the people. In this regard, it is important to factor in the drag due to apprehensions. The role of non-governmental organisations and higher education institutions in handholding is critical, as they often possess superior community engagement capabilities. Besides, they are also resilient enough to adapt to a variety of operational needs. The 73rd Amendment to the Constitution of India empowers village-level institutions through the Panchayati Raj System. It is time to transition the responsibility towards village development leading to self-sufficient entities, by tapering off direct Government involvement at the village governance level. Training and knowledge sharing would continue to be the responsibility of the Government. Villages exist in a highly fragile ecosystem of nature. Entrepreneurial activities can be expected to conflict with the complex natural settings. While village folk knowledge has been intrinsically superior, modern science, technological, and management knowledge must carry forward various activities. Village development is a complex phenomenon, more so because of a lack of experience in contemporary times. It is important for the village communities to be revived to take ownership of the reviving village as an institution.

Under the 'Unnat Bharat Abhiyan', the task of providing knowledge and technology support involving higher education institutions was taken up by subject experts with the objective of improving livelihoods. This helped in providing resource support from academic institutions to rural areas and, at the same time, helped in building institutional capacity in the higher education system. Village adoption was an innovative approach used for experiential learning and community engagement.

Enabling the Development of Aatmanirbhar Gaon

The realisation of 'Aatmanirbhar Gaon' requires conviction that the revolution of prosperity in India is possible only when villages lead the movement. According to Gandhiji, 'The cities are capable of taking care of themselves. It is the village we must turn to'. As Gandhi ji cautioned, 'If the village perishes, India will perish too. It will be no more India's will'; it is time to focus on the villages. Thus, the policies and the actions should be based on the principle that 'Development of India is development of Aatmanirbhar Gaon'. □



Sustainable Industries

The Backbone of Self-Reliant Villages

The promotion of sustainable industries in rural villages entails empowering local communities for economic advancement while upholding environmental sustainability. This involves implementing sustainable methods, providing skill development and training initiatives in organic farming and renewable energy, and advocating for green and eco-friendly sectors such as sustainable agriculture, renewable energy production, and waste management. In the specific context of Jammu and Kashmir (J&K), there is a pronounced emphasis on the Government's homestay initiative, the development of the pencil industry, the increasing demand for Kashmir bat, adventure tourism, as well as the handicraft and handloom industry.

Irtif Lone

Jammu and Kashmir has always been renowned for its awe-inspiring natural beauty and has traditionally thrived as an agrarian and tourist hub. However, in light of evolving global dynamics, the concept of self-reliant villages takes on an increasingly paramount role in fostering the development of this region. At the heart of this endeavour lies the significance of sustainable industries, which not only present economic opportunities but also function as staunch guardians of the environment and vehicles for local community empowerment.

In today's fast-paced, interconnected world, where global dynamics are perpetually shifting, the imperative of self-reliance for Jammu and Kashmir cannot be overstated. Sustainable industries emerge as a potent solution to this predicament, offering a multifaceted approach to bolstering self-reliance.

Sustainable industries are defined by their capacity to endure and thrive without depleting the resources they depend on. They prioritise the long-term well-being of not only the economy but also the environment. In the context of Jammu and Kashmir,

where the natural environment is both a source of beauty and a fragile asset, these industries become indispensable. By emphasising sustainability, they ensure the preservation of the region's natural beauty and resources for future generations.

Furthermore, sustainable industries contribute significantly to the economic landscape of the region. They create jobs, attract investments, and generate income for local communities. Whether it's eco-friendly tourism, agro-based businesses, or renewable energy initiatives, these industries offer a diverse array of opportunities for economic growth.

In recent times, the Government has taken serious steps to promote sustainable industries in rural J&K to empower local communities by fostering a sense of ownership and control over their economic destiny. They allow for local expertise to flourish as individuals and communities take charge of the production, management, and distribution of resources. In this manner, self-reliance catalyses social empowerment, enabling residents of Jammu and Kashmir to shape their own future.

The Concept of Aatmanirbhar Villages

Self-reliant villages, often referred to as 'Aatmanirbhar Villages', are a visionary approach to community development. These communities seek to establish self-sustaining local economies. More than just economic self-sufficiency, these villages prioritise sustainable development, emphasising resource utilisation, skills development, entrepreneurship, infrastructure improvements, cultural preservation, social connectivity, and environmental sustainability.

Economic diversification is essential for regions heavily reliant on traditional sectors like agriculture and tourism, as it offers stability and growth. Sustainable industries such as renewable energy, handicrafts, and agro-processing provide alternative income sources, reducing vulnerability to economic fluctuations. Additionally, these industries promote environmental sustainability by minimising their ecological footprint, aligning with the need to protect the environment while fostering economic development.

Moreover, job creation is crucial, particularly in a region like Jammu and Kashmir, where unemployment poses

significant challenges. Sustainable industries play a pivotal role in providing employment opportunities for the local population, contributing to social stability, and reducing dependence. By supporting self-reliance and environmentally conscious practices, these industries enhance the region's economic resilience and overall well-being.

To understand the practical application of sustainable industries in Jammu and Kashmir, let's look at some of the growing sectors:

Homestays

Homestays have surged in popularity due to several factors reshaping the travel and tourism industry. One key driver is the increasing desire among travellers for authentic cultural experiences. Homestays provide an opportunity for visitors to immerse themselves in the local culture, traditions, and daily life, making their journeys more enriching and memorable. Another significant aspect of homestays is their cost-effectiveness. The sustainability aspect of homestays appeals to environmentally conscious travellers, as these accommodations tend to have a smaller ecological footprint than larger, commercial establishments.

The ease of booking homestays through online platforms and the influence of word of mouth and online reviews have played a pivotal role in popularising this accommodation choice. Technology has made it convenient for travellers to find and book homestays while providing transparency and extensive information for informed decision-making.

The Government of Jammu and Kashmir is actively promoting homestays as a means to boost tourism and local economies. They provide financial incentives, including grants and low-interest loans, to encourage locals to establish homestays, thereby improving their homes to accommodate tourists. Training programmes equip hosts with hospitality and cultural sensitivity skills.

Regulatory simplification makes it easier for individuals to enter the homestay sector. The Government actively markets and promotes homestays through its tourism department, attracting visitors to the region. Infrastructure investments, such as better roads and utilities, improve accessibility and overall quality of life.

The Government encourages networking among hosts and collaborates with travel agencies to include

homestays in broader tourism packages. Cultural preservation is a focal point, with hosts showcasing local traditions and heritage. Safety and quality standards are enforced to ensure a positive experience for tourists. Tourist information centres offer one-stop assistance, while visitor-friendly policies simplify travel.

In sum, the Government's multifaceted approach supports homestays, creating economic opportunities, preserving culture, and enhancing the overall tourism experience in Jammu and Kashmir.

Pencil Industry

The Kashmiri pencil industry is celebrated for its exquisite handcrafted wooden pencils, prized for their top-notch quality, artistic designs, and cultural importance. These pencils are meticulously created from fragrant and durable cedarwood, which imparts a unique aroma and durability to the writing instruments. The process of crafting these pencils is a labour-intensive one, with skilled artisans meticulously involved at each stage, from selecting the wood to the detailed carving and artistic designs. What sets these pencils apart is the intricate patterns adorning them, often drawing inspiration from traditional Kashmiri motifs like chinar leaves and paisley designs. The crafting of each pencil can take several hours to complete, adding to their distinctive appeal.

Moreover, the local craftsmanship involved in this industry is a source of employment for Kashmiri artisans and contributes significantly to the region's economy. Beyond their artistic allure, these pencils are fully

functional and cater to educational and artistic needs. They are also cherished as unique souvenirs, attracting tourists and collectors alike due to their artistic and cultural value.

A village with 17 units and 4,000 employees is contributing to the country's self-reliance. Known as the 'pencil village of India', it has significantly reduced the need to import pencil wood from other countries. This achievement has garnered recognition, even in Prime Minister Narendra Modi's radio programme, Mann Ki Baat. The village's production of wooden slats, which were previously imported from China, Sri Lanka, and Germany, now serves major Indian pencil manufacturers like Nataraj, Apsara, and Hindustan pencils, thus promoting self-sufficiency in pencil manufacturing.

Saffron Cultivation

Saffron cultivation in Jammu and Kashmir (J&K) holds promise as a sustainable industry that benefits both the local economy and the environment. For centuries, saffron has been grown in the region, and it is cultivated in a sustainable manner. Its sustainable potential lies in its traditional and low-impact farming methods. Saffron is well-suited to the climate of the region, and it requires minimal use of pesticides and fertilisers. This traditional approach minimises the environmental impact, making it an environmentally friendly crop.

The saffron cultivation offers economic opportunities to local farmers in J&K. It serves as a source of income for rural communities, supporting their



livelihoods. The high value of saffron in national and international markets also presents significant export potential. The revenue generated from saffron exports contributes to the region's economic development, making it a valuable cash crop.

Saffron also holds cultural and historical significance in Jammu and Kashmir. Sustainable saffron cultivation not only helps preserve this cultural heritage but also adds to the unique identity of the region. Moreover, it can be done with an emphasis on water management and biodiversity conservation, ensuring efficient use of water resources, and maintaining diverse crop rotations to support local ecosystems.

In 2011, the Government launched the National Saffron Mission, with an aim to revitalising and promoting the saffron cultivation industry. Saffron has deep historical and cultural roots in the region, but it has faced challenges in recent years. The NSM's primary objectives included expanding the saffron cultivation area, adopting modern farming practices, and ensuring high-quality saffron production.

The NSM also focused on providing financial assistance, subsidies, and incentives to saffron farmers to reduce the financial burden and encourage investment in saffron cultivation. It also focussed on market linkages, connecting saffron growers with buyers and export opportunities, to ensure fair prices for saffron produce.

Sustainable saffron farming practices, environmental conservation, and investment in infrastructure development are integral components of the NSM. Through these efforts, the mission seeks to rejuvenate the saffron industry, making it economically viable and environmentally sustainable while improving the livelihoods of those engaged in saffron cultivation. The NSM not only benefits the saffron sector but also contributes to the overall economic development of the region.

Handicraft and Handloom Industry

The handicraft and handloom industry in Jammu and Kashmir (J&K) holds the potential to serve as a sustainable and economically viable sector with profound cultural significance. This industry is deeply rooted in the region's heritage and traditions, offering a range of advantages that contribute to its sustainability

and growth. At present, J&K is home to more than 3.5 lakh artisans working across different crafts.

Cultural preservation is a paramount benefit of supporting the handicraft and handloom sector in J&K. By promoting these traditional crafts and designs, the region safeguards its rich cultural heritage, ensuring that age-old skills and practices are preserved and passed down to future generations.

Economic growth is another compelling reason to nurture this industry. It provides employment to a substantial number of people, particularly in rural areas. By bolstering handicrafts and handlooms, J&K can stimulate income generation, reduce unemployment, and alleviate poverty, thus fostering sustainable economic development.

Furthermore, the industry often employs eco-friendly practices and locally sourced materials, promoting environmental sustainability. By encouraging traditional production methods and sustainable practices, the region reduces its ecological footprint and contributes to a more environmentally conscious approach to economic growth.

The Government of Jammu & Kashmir introduced the 'Wool Processing, Handloom and Handicrafts Policy-2020' to recognise the potential and importance of the handicraft and handloom sector. The policy aims to create a vibrant and sustainable industry in the region with an increased market share both domestically and internationally. It seeks to improve the income and living standards of artisans, create income-generating opportunities, and preserve the cultural heritage of Jammu and Kashmir. The policy encompasses various strategies, including promoting crafts, providing credit linkages, ensuring access to raw materials, enhancing marketing efforts, offering training, and developing infrastructure.

The policy has introduced several landmark schemes to support artisans and stakeholders in the handicrafts sector. These include financial assistance to artisan societies, skill upgradation through the Karkhandar Scheme, minimum support prices for certain products, export incentives for GI-certified items, an education scheme to cover school and college dues for artisans' children, and enhanced stipends for trainees.

Srinagar's recognition as a UNESCO Creative City Network for arts and crafts has opened doors for showcasing its handicrafts on the global stage. The Government has also initiated Crafts Safaris to connect buyers with local artisans across the city, aiming to strengthen the handicraft ecosystem and promote the industry.

Cricket Bat Industry

Kashmir's cricket bat industry is primarily centred in the southern regions of Pulwama and Anantnag, where the ideal conditions for cultivating the willow trees exist in the lush, wet highlands nearby. These areas provide the necessary environment for the growth of the specific type of willow wood, which is highly sought after for making high-quality cricket bats. These willow groves have become the lifeblood of the local economy in these districts, sustaining numerous families and businesses.

Approximately 200 bat manufacturing units are scattered throughout Pulwama and Anantnag, collectively engaging a workforce of approximately 50,000 individuals. The industry is not only a source of livelihood for these workers but also a reflection of the region's rich heritage and craftsmanship. Local artisans, often working in small, family-owned workshops, meticulously select, shape, and craft these cricket bats to perfection, upholding traditions that have been passed down through generations.

The female cultivar of the white willow tree is highly regarded for cricket bat production due to its unique characteristics. This type of willow wood, known for its lightweight and shock-absorbing properties, is the preferred choice for bat manufacturing. The intricate process of selecting the right wood and transforming it into a cricket bat of exceptional quality highlights the expertise and dedication of Kashmir's artisans. The cricket bat industry in Pulwama and Anantnag is not just a means of economic sustenance but a testament to the region's commitment to producing some of the world's finest cricket bats. The demand for Kashmiri cricket bats remains high in cricket-playing nations. These bats have also found their way into ICC events besides those of various premier leagues, including the IPL.

Agro-Processing

Agro-processing, as a sustainable industry, holds

immense significance in Jammu and Kashmir. It not only extends the shelf life of perishable agricultural goods like apples, saffron, and walnuts but also adds substantial value to these products. Job creation, economic diversification, and market expansion are



key benefits, and they promote sustainable practices, benefiting both the environment and the economy. Government support and investment in infrastructure are playing a vital role in its growth and offering solutions to the challenges, including infrastructure development, technical expertise, market access, investment requirements, and the regulatory framework. Agro-processing can become a cornerstone of self-reliance, contributing to the prosperity and sustainability of Jammu and Kashmir in the near future.

Conclusion

Sustainable industries are the key to self-reliant villages in Jammu and Kashmir. These industries provide economic diversification, job opportunities, environmental sustainability, and reduced dependence.

However, implementing sustainable industries in Jammu and Kashmir requires addressing challenges related to infrastructure, skill development, financial resources, marketing, and regulatory frameworks. Government intervention, through policy initiatives, is crucial to supporting the growth of these industries and empowering local communities. The integration of sustainable industries not only fosters economic growth but also ensures that the beauty of Jammu and Kashmir's landscapes is preserved for future generations, making it a win-win approach for all stakeholders. □

Empowering Rural India

Digital Transformation as a Sustainability Catalyst

The concept of 'rural e-commerce' is distinct from mainstream e-commerce, providing electronic platforms for rural products. Its purpose is to connect rural areas with urban markets and enhance income levels. The Government initiatives like 'Make in India,' 'Digital India,' and 'Skill India' are geared towards promoting SME growth and facilitating their entry into the e-commerce realm.

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Dr. Harveen Kaur

redominantly a rural nation, India has about two-thirds of its population residing in approximately 6.49 lakh villages. Smart villages, a novel and high-tech concept, aim to revolutionise underdeveloped villages, making them economically, socially, environmentally, and physically sustainable. The core idea behind 'smart villages' is that the use of digital technology can act as a catalyst for comprehensive and sustainable rural development, granting rural areas access to 21st century amenities while preserving their rural essence.

In light of the United Nations projection that the global food system must sustain more than 9 billion

people by 2050 without harming the ecosystem, it is crucial to reimagine an efficient and sustainable food production system. Concurrently, rural communities grapple with issues such as market inaccessibility, ageing populations, depopulation, and inadequate public services, which can impact sustainable food production. In view of the same, 'Digitalisation' emerges as a solution, improving agricultural resource efficiency and enriching rural services. This approach also aligns with the UN's Sustainable Development Goals, promoting progress in rural areas by addressing interconnected issues like poverty, food security, and climate change.

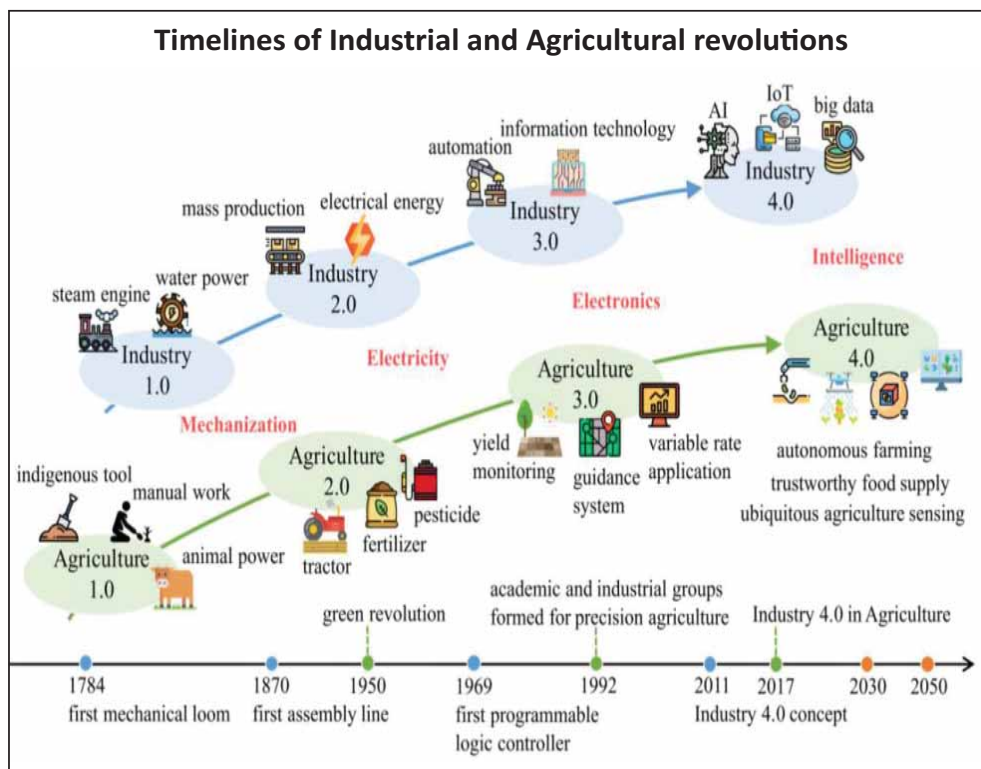
Industrial and Agricultural Revolutions

The Industrial Revolution 4.0, marked by the integration of digital technologies, holds transformative potential, contrasting historical societies like electricity and automation. Despite its promise, challenges hinder universal digital connectivity, primarily in rural areas where the urban-rural digital divide is intensified due to limited access, inadequate digital skills, and affordability. Lioutas et al, 2021 emphasised the pivotal societal impact of digitalisation, advocating for science-based approaches in evolving digital agriculture.

In parallel, the agricultural sector is embarking on its own revolution known as 'Agriculture 4.0', and this paradigm shift is integrating digitalisation, automation, and artificial intelligence to address a spectrum of agricultural and environmental challenges, from crop and livestock production to weeding, pest control, and harvesting. This timeline of technological advancements in agriculture is illustrated by Liu et al, 2021 in the below figure as the journey from Agriculture 1.0 to Agriculture 4.0, signifying the significant transformations that are reshaping the agricultural landscape.

Digitally Self-Reliant Village and Digital Transformation

A Digitally Self-Reliant Village acts as a gateway to crucial rural services, offering a range of high-tech amenities. This approach integrates high-tech education, providing internet access, e-content, educational apps, smart classes, and video conferencing for enhanced learning. Additionally, it offers e-health services through online consultations with specialist doctors and ensures efficient e-governance, including public utility services and social welfare schemes. The village is equipped with intelligent ICT infrastructure and eco-friendly amenities, complemented by robust hard infrastructure like all-weather roads, transportation facilities, healthcare centres, well-maintained schools, advanced anganwadi centres, banks, and water supply systems. Furthermore, surveillance through CCTV cameras enhances village security. This blend of smart services and infrastructure not only enhances the quality of life but also creates economic opportunities. By fostering entrepreneurial interventions, the Digitally Self-Reliant Village paves the way for a self-sufficient, technologically advanced rural economy, transforming the village into a thriving hub of innovation and progress. Digital hubs represent one of the many strategies that



Source: Liu et al (2021)

policymakers can employ to promote digital engagement among rural communities and businesses, contributing to the realisation of Digitally Self-Reliant Villages.

Digital technologies are revolutionising agriculture, enabling the seamless integration of smallholders into a tech-driven agrifood system. This digitalisation transforms every aspect of the agrifood chain, optimising resource management with individualised, intelligent, and real-time solutions. Hyper-connected by data, value chains become traceable to minute details, while fields, crops, and

animals are precisely managed. Digital agriculture ensures high productivity, adaptability to climate change, and anticipatory capabilities, potentially enhancing food security, profitability, and sustainability for the future.

Conditions for a Digital Transformation

The digital transformation of agriculture relies on specific conditions in various contexts:

- a. **Basic conditions:** essential for technology use, encompass availability, connectivity (mobile subscriptions, network coverage, internet access), affordability, ICT education, and supportive policies (e-government) for digital strategies.
- b. **Enabling conditions, or 'enablers':** include internet, mobile phones, social media use, digital skills, and support for agripreneurship and innovation culture (talent development, hackathons, incubators, and accelerators).
- c. **Digitalising:** the sector will profoundly reshape work dynamics and shift labour and skill demands.


I. Government Initiatives for Digital Empowerment


Government initiatives for digital empowerment, particularly in rural areas, have been instrumental in transforming India's digital landscape. The flagship 'Digital India' programme, launched in 2015, strives to bring government services to every corner of the country through high-speed internet. The Bharat Net Project further boosts this effort by enhancing e-banking, e-governance, internet services, and e-education in villages, aiming to connect all Gram Panchayats with 100 Mbps connectivity. Additionally, the Pradhan Mantri Jan Dhan Yojana (PMJDY) promotes financial and digital inclusion in rural India by enabling online transactions through RuPay debit cards, reinforcing the nation's digital outreach.

a. AI for All: NITI Aayog's Initiative for Agri Digitalisation


India's agriculture sector requires multi-faceted technological integration and collaboration among stakeholders. Solely relying on the private sector may


not be cost-effective or efficient. Thus, government intervention is essential to address challenges. NITI Aayog targets 5 key sectors for AI implementation:

 **Healthcare:** increased access and affordability of quality healthcare.

 **Agriculture:** enhanced farmers income, increased farm productivity and reduction of wastage.

 **Education:** improved access and quality of education.

 **Smart Cities and Infrastructure:** efficient connectivity for the burgeoning urban population.

 **Smart Mobility and Transportation:** smarter and safer modes of transportation and better traffic and congestion problems.

b. Self-Reliant India (SRI) Fund empowering MSMEs for Aatmanirbhar Bharat

The SRI Fund stands as a key initiative in empowering Micro, Small, and Medium Enterprises (MSMEs) for Aatmanirbhar Bharat (Self-Reliant India). This approach taps into the private sector's robust capabilities to provide essential growth capital to viable MSMEs with clear expansion strategies. The fund employs a Mother Fund-Daughter Fund structure, ensuring a sustainable influx of growth capital for MSMEs. This support is extended through various financial instruments such as equity, quasi-equity, and equity-like structures, fostering financial resilience and self-reliance among India's small and medium-sized enterprises.

c. Fintech Companies Initiatives for Digital Empowerment

Fintech companies have emerged as key players in advancing digital accessibility in rural India, recognising its pivotal role in the nation's economic development. Through collaborative efforts with the Government, these companies have propelled India from a cash-reliant society to a digitally empowered nation, where digital payments have become universal.

These fintech entities are diligently establishing digital infrastructure in rural areas, deploying Kiosks, PoS devices, and Mobile Vans to facilitate digital bill payments (mobile, electricity, DTH, water) in remote villages. Payment methods encompass UPI,

net banking, mobile banking, debit/credit cards, and even cash, all conducted through secure blockchain-based gateways. Additionally, fintech companies are focusing on need-based products, financial literacy, and social/physical infrastructure investments. Government bodies, including the National Bank for Agriculture and Rural Development (NABARD), offer a range of financial services like direct finance, short and long-term loans, promoting financial inclusion in rural India. The Government also emphasises robust risk management assessments, audit investments, and measures to prevent agent misconduct, ensuring the effective implementation of digital financial services in rural India.

II. Smart Entrepreneurship for a Self-Reliant Smart Village Economy

Rural areas, blessed with abundant natural resources and a skilled workforce, possess untapped entrepreneurial potential. Entrepreneurial endeavours

in villages can catalyse rural economic development, bridge the income gap between rural and urban regions, and generate employment opportunities. To harness this potential and bolster rural livelihoods, the Government has introduced numerous schemes.

Addressing these challenges, a research team has developed the Entrepreneurial Funnel Framework, a process innovation derived from the NIFTEM village programme. This framework, illustrated in the figure, outlines a step-by-step process to identify potential entrepreneurs within smart villages. It involves focused activities that are interlinked and interdependent, guiding the identification of candidates who can transform the rural economy. As per this framework, the participation rate decreases progressively, with approximately 5-8% emerging as potential entrepreneurs who successfully complete all stages and are prepared to launch their enterprises, marking a crucial step towards self-reliant village economies.

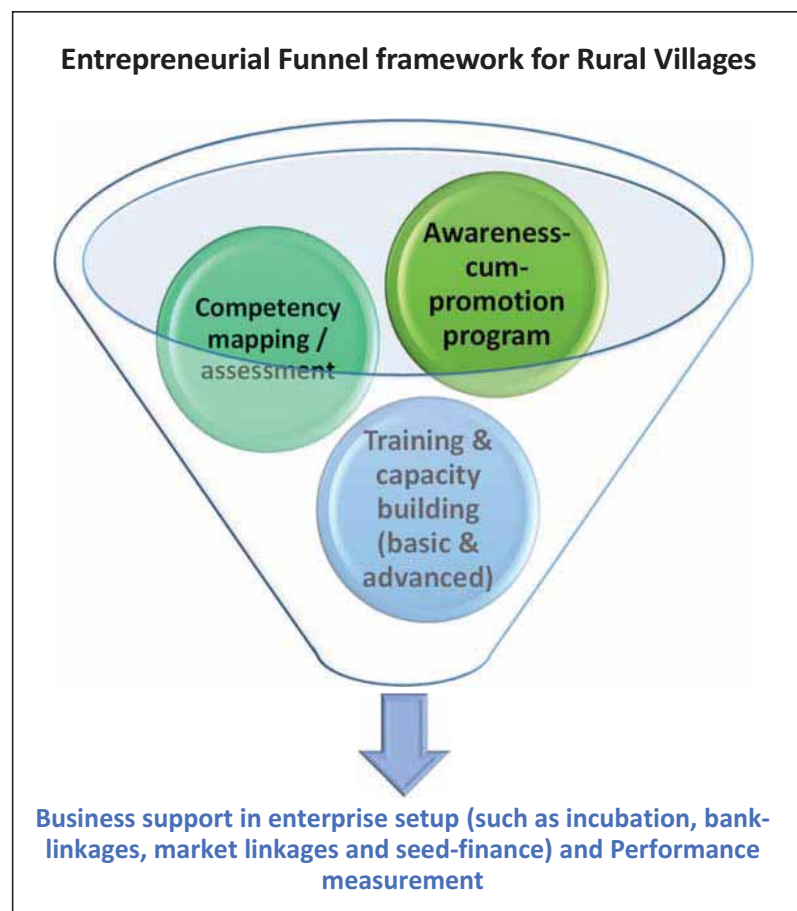
Role of Youth Agripreneurs

Youth Agripreneurs are pivotal in driving agricultural digitalisation. Drawing from generational insights, they create startups focused on assisting farming communities, often rooted in their own backgrounds. To succeed, these young innovators require sprint programmes and financial backing, which not only attract investments but also foster collaborations between investors and startups, catalysing progress in the agripreneur market.

Encouraging digital agripreneurship requires companies to cultivate pools of digitally skilled employees. This entails identifying individuals with the necessary skills, attracting and retaining them, nurturing talent within the existing workforce, and investing in enhancing digital skills in current roles.

III. E-commerce for Rural Products

The concept of 'rural e-commerce' is distinct from mainstream e-commerce, providing electronic platforms for rural



Source: Project on Designing Entrepreneurial Policy Framework for Smart Eco-Social Villages Development, IMPRESS-ICAR New Delhi

products. Its purpose is to connect rural areas with urban markets and enhance income levels. The Government initiatives like 'Make in India,' 'Digital India,' and 'Skill India' are geared towards promoting SME growth and facilitating their entry into the e-commerce realm. Similar to how UPI (Unified Payments Interface) revolutionised retail payments, the Open Network for Digital Commerce (ONDC) initiative is poised to transform e-commerce, breaking entry barriers and fostering innovation opportunities. This initiative creates a technology infrastructure where every Indian, regardless of location, can engage in digital entrepreneurship. ITC Limited's e-choupal initiative has successfully provided farmers with vital information on farming practices, weather conditions, prices, and the freedom to choose buyers, reducing dependency on intermediaries and enhancing rural procurement efficiency.

a. Issues and Challenges faced

- **Payment-related Issues:** Limited access to online payment solutions and banking services, along with a lack of trust in financial systems.
- **Lack of digital infrastructure:** high internet costs among rural populations impedes their engagement with digital platforms such as fibre optic lines, cell towers, internet routers, wireless spectrum
- **Logistics Challenges:** including inefficient postal services, limited logistics providers, high logistics costs, poor road infrastructure, and inadequate logistics solutions.
- **E-commerce Awareness:** Rural populations, farmers, and entrepreneurs often lack knowledge about e-commerce, requiring training in mobile phone use, mobile banking, and e-commerce platforms.
- **Business Competence:** Rural producers lack knowledge in drafting business and financial plans, branding, packaging and marketing of their products and knowledge and application of new product technologies.
- **Product Quality:** Rural products may suffer from poor packaging, low quality, and a lack

of competitiveness compared to imported goods.

- **Language Barriers:** Many e-commerce websites primarily use English, which poses a language barrier for rural users.
- **Currency Challenges:** Handling international currencies can be a challenge for e-commerce businesses operating within India.

b. International e-commerce initiatives

Several international initiatives have been instrumental in promoting rural e-commerce:

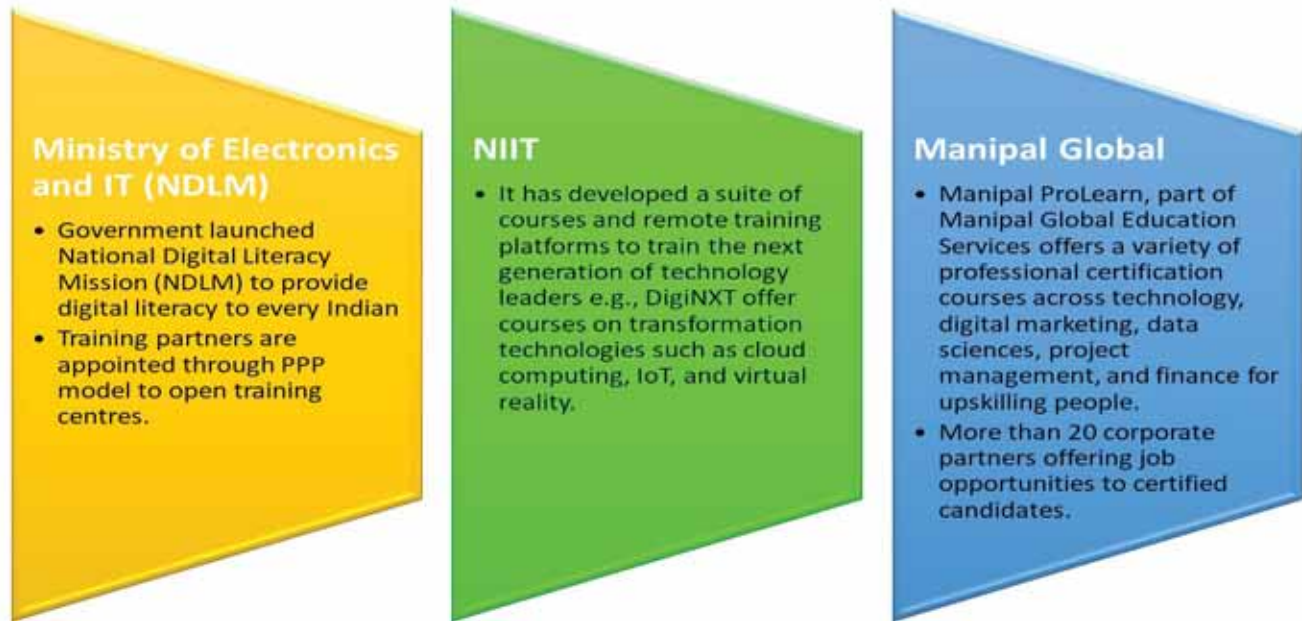
- China:** China has seen growth in rural e-commerce, primarily led by companies like Alibaba and Jingdong. Alibaba, with its subsidiary Taobao villages, has created e-marketplaces for rural e-tailers while also focusing on infrastructure development and digitisation. Jingdong specialises in logistics, including innovative methods like drone delivery.
- Japan:** Japan's 'One Village One Product (OVOP)' initiative, initially implemented in Oita prefecture, aims to rejuvenate rural communities and enhance the rural economy following World War II.
- Republic of Korea:** The Information Network Village (INVIL) project in South Korea aims to empower rural communities with high-speed internet access, bridging the digital divide between urban and rural areas. The project further aimed to close the digital gap between urban and rural areas; create new sources of revenues from existing industries; and build sustainable local communities (OECD).

IV. Potential Solutions

Examples and impact of the use of digital technologies in agrifood systems

- Mobile Apps:** Mobile apps like M-Farm in Kenya have empowered farmers with real-time price information, enabling informed decisions and altering cropping patterns. The FAO's EMA-I App supports early livestock disease reporting,

Skill Programmes to Impart Digital Literacy



Source: Report on India's Trillion-dollar Digital Opportunity, MielY

enhancing food security across several African countries.

b. Agrobots and AI Startup Innovations (AgTech):

- These robots are revolutionising farming by assisting with tasks like water management and irrigation optimisation. Agrobots, such as Dino Agrobot, contribute to preserving soil health, addressing concerns about pesticides, and mitigating labour shortages.
- Indian startups (AgTech) are utilising digital innovations to transform agriculture. Startups like Intello Labs employ image recognition for crop monitoring, while Aibono utilises agri-data science and AI to stabilise crop yields. Drones from companies like Trithi Robotics provide real-time crop monitoring, enhancing precision farming. SatSure utilises machine learning to assess farm images and predict future yield value.
- AI-driven solutions, employ facial and voice recognition, reducing labour costs and improving efficiency. Using AI, pig farms will reduce pig farmers' labour costs in the range of 30% to 50%, and lower the need for feed

c. Internet of Things (IoT) in Precision Agriculture:

IoT-based Precision Agriculture incorporates guidance systems, Variable Rate Technologies (VRT), and drones. These technologies optimize resource use, reduce costs, and enhance productivity by delivering precise data on planting, fertilisation, and irrigation.

d. Blockchain Technology:

ERP software, exemplified by Mycrop, streamlines processes, enabling farms to adapt to environmental challenges, enhance efficiency, and facilitate data-driven decision-making. Additionally, Blockchain ensures food traceability, enhancing transparency, and reinforcing consumer trust. Walmart's adoption of Blockchain exemplifies its ability to detect food quality issues, enabling swift responses and safeguarding consumers.

V. Conclusion

In conclusion, empowering rural areas for digital transformation is not just an opportunity but a necessity for sustainable development. By bridging the digital gap between urban and rural regions, we can unlock the potential of these areas, boost economic growth, improve livelihoods, and contribute to environmental conservation. □



Accelerating Economic Growth in Villages

Growth in rural areas should be driven by agriculture-based industrialisation, which may gradually shift to the non-farm sector. It will require investment in post-harvest rural activities, such as agro-processing, packaging, cold storage, cold chains and transport. A strong linkage between farm and non-farm sectors needs to be developed for augmenting income and creating jobs in rural areas.

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Dr. Harender Raj Gautam

he idea of self-sufficiency of the Indian village was first propounded by Sir Charles Metcalfe in 1830. Mahatma Gandhi conceptualised 'Gram Swaraj' in a realistic manner and envisioned the concept of an ideal village—a complete republic independent of its neighbours for its vital needs. Hence, any kind of balanced growth in future will have to start from villages, with the farmers being its primary beneficiaries. Villages are the lifeline of India as 65 per cent of the country's population lives in the rural areas. Rural economy contributes 25-30 per cent to the GDP. Agriculture is the main source of income and employment in rural areas as 47 per cent of the population is dependent on agriculture for livelihood. The rural areas can be converted into micro-economic units which can sustain and thrive on their own. Dr Verghese

Kurien established Institute of Rural Management, Anand (IRMA) with a foresighted vision of rural development and his vision fructified in creation of Amul, which is an excellent example of farm-led processing, branding and marketing of milk for various dairy products.

Analysis by the International Fund for Agricultural Development (IFAD), the World Bank, and International Food Policy Research Institute indicate that developing countries with rapid agricultural growth had the largest reduction in poverty rates and incidence of undernourishment. There is a need for more investment in terms of money and technology in agriculture as one per cent per annum increase in agricultural growth, on an average, leads to a 2.7 per cent increase in the income of people in the lowest three income deciles in the developing countries. Investment in agriculture is 2.5 to

3.0 times more effective in increasing the income of the poor than is non-agricultural investment. Villages can be the super economic model of development with focus on agriculture and the best example is Maraug which may be one of the prosperous villages of India with population of around 400 people in Shimla district of Himachal Pradesh. Farmers of this village produces each year more than 2 lakh of apple boxes and majority of the farmer families sell their apple between Rs. 1-2 crore thus bringing this village into prominence.

Financial Support in the Rural Areas

Development in the rural areas should take into consideration the budgetary allocations to 'Rural Economy' by the Union and State Governments which include expenditure under agriculture and allied activities, rural development, fertiliser subsidy, irrigation, health, education and cooperation. An IFPRI study on prioritisation of investment opportunities also suggested that investment in education and health in rural areas significantly contribute in reducing poverty and increasing agricultural growth. In 2023-24, the Ministry of Rural Development has been allocated Rs. 1,59,964 crore which implements programmes such as the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Pradhan Mantri Gram Sadak Yojana (PMGSY), and Pradhan Mantri Awas Yojana-Gramin (PMAY-G). Allocation for the flagship programme National Rural Livelihood Mission (NRLM) has been increased from Rs. 13336 to Rs. 14129 crore in the 2023-24 budget. Agriculture, which is the major growth driver in the rural areas is allocated about Rs. 1.25 lakh crore in the budget of the Ministry of Agriculture and Farmers Welfare. The Jal Jeevan Mission, which aims to provide direct water supply in every household, received an increased allocation of Rs. 70,000 crore for the FY 2023-24. In addition, Rs. 77,000 crore has been allocated for Swachh Bharat Mission – Rural. The government has also increased the agricultural credit flow by over 11 per cent to Rs. 20 lakh crores for the new financial year and to make deployment and disbursement of credit seamless, the Government has initiated computerisation of 63,000 primary agricultural credit societies with an investment of Rs. 2,516 crore. The Government has given greater impetus for infrastructural development in agriculture through Agriculture Infrastructure Fund (AIF) and has supported more than 18,321 projects totalling Rs. 13,681 crores. In a bid to support agriculture and rural

development activities, NABARD has also done an all-time high refinance disbursement of Rs. 2.68 lakh crore during the year 2021-22.

Skill Building in Rural Areas

Villages require revitalisation with the infusion of skills and technologies to generate meaningful employment so as to make rural areas a better place to live and work. Rural economy can receive a boost by ensuring suitable livelihood opportunities during the lean period to the agricultural workers and farmers. Employability has become heavily dependent on upskilling to cater to the demands of the evolving, knowledge-intensive economy. Currently, the Central Government is implementing three schemes for employment generation- Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) and Skill development through Rural Self Employment and Training Institutes (RSETIs). While MGNREGS provide employment opportunities to unskilled workers of all age groups; Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) launched in 2014 is uniquely focused on rural youth between the ages of 15 and 35 years from poor families and 14.51 lakh candidates have been trained in this programme till date. In Rural Self Employment Training Institutes (RSETIs) scheme, development support is extended for promoting self-employment in the unemployed rural youth, particularly those below the poverty line, and periodic skill upgradation to keep them abreast of latest technologies. Once trained appropriately, the youth are supported to



launch profitable micro-enterprises to enhance their own standards of living and thereby extending help in contributing to the overall national economy. These RSETIs are promoted and managed by banks with active cooperation from the State Governments.

Additionally, Pradhan Mantri Kaushal Vikas Yojana (PMKVY) is a part of the Skill India Mission and is enabling skill-based training of rural youth. Prime Minister's Employment Generation Programme (PMEGP) is another initiative that aims at generating self-employment opportunities through the establishment of micro-enterprises in the non-farm sector by helping traditional artisans and unemployed youth. Central Government has also approved a new centrally-sponsored scheme- "Vibrant Villages Programme" with financial allocation of Rs. 4,800 crore for the years 2022-23 to 2025-26 and it is aimed at boosting infrastructure development and livelihood opportunities in villages along the northern border.

Need for Micro, Small and Medium Scale Industries for Non-Farm Sector Jobs

Growth in rural areas should be driven by agriculture-based industrialisation, which may gradually shift to the non-farm sector. It will require investment in post-harvest rural activities, such as agro-processing, packaging, cold storage, cold chains and transport. A strong linkage between farm and non-farm sectors needs to be developed for augmenting income and creating jobs in rural areas. Such a linkage will help the farm sector to produce market-driven commodities, reduce transportation costs, receive remunerative prices at farm gate, and minimise farm waste. The role of Micro-Small and Medium Enterprises (MSMEs) will be very critical in developing rural industrialisation to strengthen the village economy. There are 63.4 million MSMEs units spread across the country, out of which 324.88 lakh (51.25 per cent) are in rural areas and 309 lakhs (48.75 per cent) in the urban areas. They provide employment to about 111 million workers. As MSMEs absorb the surplus agricultural labour, they help reduce the problem of disguised unemployment in rural areas and are complementary to large industries as ancillary units and play a significant role in the whole eco-system of the secondary and tertiary sectors.

Special Focus Needed on Forest Fringe Villages

Forest Survey of India (2019) estimated that

roughly 26 per cent of the total 6,50,000 villages can be classified as forest fringe villages, where forests fulfil significant socio-cultural and livelihood needs. As per the report, these villages were home to around 22 per cent of the country's total population and almost 60-70 per cent income of the forest dwellers depends on the collection and sale of minor forest produce (MFP) which is part of their subsistence-level income. It is estimated that about 300 million tribal and other local people depend on forests for their subsistence and livelihood. India has an estimated diversity of 3,000 plant species, from which MFP is derived by the tribal people and other forest dwellers. Enactment of Provisions of the Panchayats (Extension of the Scheduled Areas) Act, 1996 (PESA 1996) inter-alia empowers the Gram Panchayats and Sabhas in Scheduled Areas with the ownership of minor forest produce and vest power to manage village markets and exercise control over local plans and resources for such plan. Further development in this direction is the enactment of Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 which has vested the Scheduled Tribes and Other Traditional Forest Dwellers with right of ownership, access to collect, use and dispose of minor forest produce. The Van Dhan Yojana under 'Mechanism for Marketing of Minor Forest Produce (MFP) through Minimum Support Price (MSP) & Development of Value Chain for MFP' has been launched in 2018 with The Tribal Cooperative Marketing Development Federation of India (TRIFED) as the nodal agency at the national level for the socio-economic development of the tribal population of the country.

Promote Villages as Tourism Hubs

Presently, the travel and tourism industry employ 14 million people, which is expected to rise at the rate of 2.5 per cent per annum till 2027. There is need to open villages for tourism with required infrastructure which will boost development and create new opportunities for jobs and income, while preserving and promoting community-based values and products. Rural Tourism has the potential to create villages into micro-economic units, independent from metros and big cities and at the same time can help farmers with direct access to the markets. Growth of Rural Tourism should not just be an opportunity, but the goal in itself to elevate the role of villages and small towns in the process of strengthening

our national economy. In 2022, 32 destinations from all around the world have been named as 'Best Tourism Villages 2022' by the World Tourism Organization (UNWTO). The villages were evaluated on a set of criteria covering nine areas comprising of Cultural and Natural Resources, Promotion and conservation of Cultural Resources, Economic Sustainability, Social Sustainability, Environmental Sustainability, Tourism Development and Value Chain Integration, Governance and Prioritisation of Tourism, Infrastructure and Connectivity and Health, Safety, and Security. Government of India has also started such an initiative with almost similar set of criteria. Chitkul village in Himachal's tribal Kinnaur district has been adjudged India's best 'tourism village' of the year which is situated in the picturesque Kinnaur Valley with majestic Kinner Kailash in the backdrop and the Baspa river flowing through one side and snow-clad mountains present a dazzling look of this village. Chitkul has emerged as a paradise for tourists and trekkers with a large number of visitors making a beeline to reach this travel destination. India is adorned with thousands of such villages enriched with nature's bounties and there is need to create required infrastructure in these villages for comfortable stay of the visitors.

Smart Villages

Agriculture is the primary occupation in villages which needs total revamp with infusion of smart technologies to strengthen village economy. Start-ups are emerging as the major technology generating hubs to make agriculture smart. The use of Artificial Intelligence, Internet of Things, Big Data Analytics, drones for various farm operations, ICT applications, technology for weather forecasting are some important technologies which have potential in transforming the country's agriculture industry. Agritech startups are developing innovative solutions for various aspects of agriculture, including precision farming, supply chain management, and market linkages. These technologies can help improve productivity, reduce costs, and increase the income of farmers. 'Villages of Tomorrow' is one such initiative which is designed by the United Nations Development Programme (UNDP) with Trendyol-an e-commerce platform based in Turkey to reduce inequalities and develop gender-sensitive digitalisation in the rural area. The project focuses on enhancing the utilisation of e-commerce platforms and developing



pilot rural settlements as holistic and sustainable hubs. In the Union Government's Budget of 2023, 'Agriculture Accelerator Fund' was introduced to encourage agri start-ups founded by young entrepreneurs in rural areas.

Providers of farming supplies such as agrochemicals, fertilisers, and seeds are also using such smart technologies to strengthen farming economy. There are over 1,000 such agritech startups that are assisting farmers in improving farming techniques. State Bank of India (SBI) has developed the YONO Krishi app to meet farmers' finance, inputs, and advisory needs. Another important multinational with major stake in agriculture-Indian Tobacco Company is using its e-Choupal network to expand direct-from-farm procurement over the past 20 years. It has now launched a super app- ITC MAARS (Meta Market for Advanced Agricultural Rural Services) to boost farmers' income and efficient procurement of Agri products by providing agricultural and related services to farmers on a digital platform. To bring prosperity to our rural landscape, we need to adopt the concept of Provision of Urban Amenities in Rural Areas (PURA) given by former President Dr. APJ Abdul Kalam. It calls for urban infrastructure and services to be developed in rural hubs to create economic opportunities outside of urban areas. These include better road network, education, health, drinking water, power, sanitation and social safety net. □

Aatmanirbhar Villages through Agricultural Development



The Aatmanirbhar Bharat Abhiyan (Self-Reliant India) has gained momentum in recent years, with a dedicated emphasis on the development of self-reliant villages, commonly known as Aatmanirbhar Villages. The initiative seeks to reduce dependence on foreign resources and infuse self-sufficiency across various sectors. Promoting self-reliance at the village level is crucial because a significant portion of India's population resides in rural areas, facing economic challenges like poverty, unemployment, and inequality.

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*** Dr. H.L. Sharma**

**** Dr. Anjana Sood**

he rural landscape of India has always been at the heart of the nation's identity, with its huge area, vibrant culture, and vast population residing in these areas. In recent years, the concept of Aatmanirbhar Bharat (self-reliant India) has gained significant momentum, aiming to reduce dependency on foreign resources and foster self-sufficiency across diverse sectors. One of the most critical aspects of this initiative is the promotion of Aatmanirbhar Villages, where agriculture and allied sectors play a pivotal role in the process of economic development. Promoting self-sufficiency at the village

level is imperative to achieving comprehensive and sustainable growth at the national level.

Need of Making Villages Aatmanirbhar

Strengthening the rural economy to attain self-sufficiency at the village level occupies significant importance in a country like India, where nearly two-thirds of the total population and more than 70 per cent of the workforce reside in rural areas. The rural areas face formidable economic challenges, including poverty, unemployment, and inequality. Addressing these challenges is crucial not only to foster sustainable growth but also to stem the rural-urban drift. The

** The author is Principal at Govt. P.G. College Nerwa, District Shimla, H.P. Email: hlsharmablp@gmail.com*

*** The author is Associate Professor of Economics at Govt. Degree College Dharampur, District Solan, H.P.*

concept of Aatmanirbhar Villages embodies the potential to create opportunities for livelihood and income generation in rural communities. This, in turn, can be a powerful tool for lifting people out of poverty, improving their quality of life, and reducing the income disparities that exist between urban and rural regions.

The Significance of Agriculture in Rural India

The rural economy relies heavily on agriculture and allied sectors for its development. The significance of agriculture in making villages self-reliant can hardly be overstated, as it forms the essential socio-economic fabric for these regions. A self-reliant nation must be self-sufficient in terms of domestic food grain production. Making villages self-reliant can enhance food security through higher agricultural production and productivity, ensuring a consistent supply of food grains and thus reducing dependence on external sources for essential commodities.

Employment Opportunities

Agriculture, not only makes the country secure in terms of food, fodder, and raw-material for industries, but also serves as the source of livelihood for a significant portion of the rural population. The proportion of the population depending directly or indirectly on agriculture for employment opportunities is the highest among all the sectors in India. The significance of agriculture and the allied sector is brought out by the fact that as many as 70 per cent of rural households still depend on agriculture for their livelihood in the country. Agricultural development in rural India has the potential to generate a plethora of employment opportunities, extending far beyond the farming sector. It also catalyses job creation in associated fields like agribusiness, food processing, and allied sectors. This diversification of the rural labour market not only empowers local rural communities but also plays a pivotal role in stemming the tide of rural-to-urban migration which further alleviates the issues of urban overcrowding and unemployment, ultimately fostering a more balanced and sustainable socio-economic landscape.

Sustainable Development

The promotion of self-reliance in villages serves as a catalyst for eco-friendly practices. Villages can adopt eco-friendly and regionally appropriate solutions for

water, energy, and waste management, thus making a significant contribution to environmental conservation. Additionally, fostering local industries and small businesses in villages can lead to the promotion of diverse ventures such as micro- and small-scale manufacturing, artisanal crafts, agro-processing units, and more. This multifaceted approach not only bolsters rural self-sufficiency but also champions the principles of sustainability and ecological responsibility.

Agriculture, being the cornerstone of rural economies, is central to this vision, as it not only ensures food security but also generates significant employment opportunities, thereby reducing rural-urban disparities. It also offers avenues for environmentally sustainable practices and women empowerment. Infrastructure development and integration of modern technology further enhance the self-reliance of villages. The Government's initiatives and schemes, like the National Agriculture Market (e-NAM) and the Vibrant Villages Programme, are set to play a pivotal role in supporting this vision. In a nutshell, achieving self-reliance in villages is essential for realising the broader goal of Aatmanirbhar Bharat.

Role of Women

The empowerment of women is essential for attaining self-sufficiency at the village level and fostering comprehensive socio-economic national development, as women in rural areas are pivotal to agricultural and allied activities. Agricultural development initiatives should encompass measures promoting gender equality and provisions for women's access to education, health, land, and credit, enabling them to actively participate in farming and decision-making, thereby enhancing the overall welfare of rural communities.

Infrastructure Development

Investments in infrastructure, including roads, electricity, irrigation, sanitation, and storage facilities, are the basic requirements to make villages self-reliant. These improvements not only enhance the overall quality of life in rural areas but also attract business and investment to these areas. Better infrastructure connects

the villages to the market, thus making it easier for the farmers to sell their produce and access resources.

Technology Integration

The adoption of modern technology and information systems in agriculture has the potential to significantly boost productivity. Empowering rural India necessitates equipping farmers with the necessary tools and knowledge to embrace cutting-edge farming practices. This encompasses precision agriculture, data-driven decision-making, and the use of innovative equipment and tools.

Present Status

Currently, India has not only achieved self-sufficiency in food grains but has also emerged as a prominent net exporter of agricultural products, occupying seventh position in the world. This remarkable transformation began to gain momentum after 1970-71, but it experienced a substantial boost with effect from 1994-95, coinciding with the period of global trade reforms and progressive reductions in agricultural tariffs under the WTO regime. The import portfolio of agricultural goods in India encompasses a wide variety of agricultural and allied products, such as cereals & cereal preparations, edible oils, unprocessed cashew nuts, raw wool, raw cotton, raw jute and fertilisers. In 1990-91, the imports of agricultural goods of the country were to the tune of Rs. 1206 crore which mounted up to Rs. 2,31,850 crore in 2021-22, witnessing an annual compound growth rate of 18.49 per cent during the period under context (Table 1).

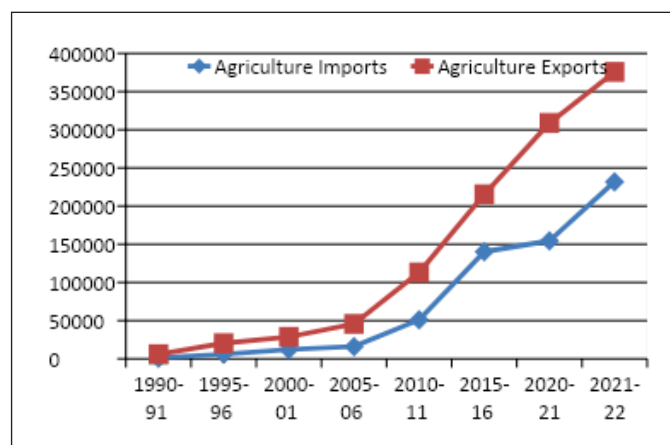
Table1: Trends in Agricultural Exports and Imports of India (Amount in ₹ Crore)

Years	Agricultural Imports	Agricultural Exports	Agricultural Trade Balance
1990-91	1206	6013	4807
1995-96	5890	20398	14508
2000-01	12086	28657	16571
2005-06	15978	45711	29733
2010-11	51074	113047	61973
2015-16	140289	215396	75107
2020-21	154511	308830	154319
2021-22	231850	375742	143892
ACGR(%)	18.49	14.27	11.59

Sources: (1) *Agricultural Statistics at a Glance, (Various Issues)* (ii) *Economic Survey (Various Issues)*.

On the other hand, the export basket of India includes a diverse range of agricultural and allied products, such as rice, pulses, fruits, vegetables, tea, coffee, tobacco, spices, sugar & molasses, cashew, raw cotton, fish, meat, and processed food. Over the past three decades, agricultural exports have witnessed remarkable growth, soaring from Rs. 6,013 crore in 1990-91 to an impressive level of Rs. 3,75,742 crore in 2021-22, registering an annual growth rate of 14.27 per cent (Fig.1). It is noteworthy that while India's overall trade balance has consistently been negative, the trade balance for agricultural goods has not only remained positive but has also grown nearly 30-fold, with a remarkable compound annual growth rate of 11.59 per cent over the past three decades. This underscores the pivotal role of agriculture in generating foreign exchange for the country.

Figure 1: Trends in Agricultural Imports and Exports of India (Amount in ₹ Crore)



Sources: (1) *Agricultural Statistics at a Glance, (Various Issues)* (ii) *Economic Survey (Various Issues)*.

In the wake of liberalisation, the composition of Indian agricultural exports has undergone a substantial transformation. Traditional agricultural commodities have given way to a more diversified range of value-added products. This shift towards higher value-added items demonstrates India's adaptability and ability to cater to the emerging global market demands.

The major export destinations of India's agriculture and allied products are Bangladesh, China, Iran, Indonesia, Japan, Malaysia, Nepal, Netherland, Pakistan, Saudi Arabia, Thailand, the UK, the USA, the United Arab Emirates, etc. Despite a multi-fold expansion in agricultural exports, India's agricultural export basket represents just over 2.5 per cent of

global agricultural trade. Its overall share in total world exports has always been less than 1.7 per cent. Given the country's diverse agro-ecological zones, there exists significant potential to boost agricultural exports through targeted interventions. Use of modern farming techniques, adoption of high yield variety seeds and cultivating genetically modified and drought-resistant crops is indispensable to enhance domestic production of agriculture goods.

Government Initiatives

Realising the significance of agriculture in achieving the goals of Aatmanirbhar Villages, the Government of India has launched many schemes and programmes for ameliorating the economic situation of rural masses. The main focus has been on raising productivity, cutting costs, and diversifying towards high-value agriculture crops by introducing supply chain reforms, a streamlined and rational tax system, transparent and concise legal frameworks, a skilled and capable workforce, and a robust financial system.

On 12 May 2020, the Aatmanirbhar Bharat Abhiyan, (Self-Reliant India Movement) was announced by the Government of India with a groundbreaking economic package of Rs. 20 lakh crores, primarily focusing on promoting local products. The mission is poised to synergise with the 'Make in India' initiative, which is designed to encourage manufacturing in India including the highly promising agricultural sector. The Aatmanirbhar Bharat is a vision that empowers both individuals and enterprises to foster prosperity and fortify the nation's strength. With a substantial portion of our population residing in rural areas, the essence of India's soul can truly be found in its villages. Thus, fostering the development of the rural economy and generating employment and opportunities in these regions becomes imperative for the realisation of 'Aatmanirbhar Bharat'.

Agriculture, being the lifeline of rural communities, possesses the potential to play a pivotal role in realising the goals of Aatmanirbhar Bharat Abhiyan. It exerts a profound and far-reaching influence on every citizen of the country, whether through direct or indirect means. With the objective of ushering sustainability in the agriculture sector, the Ministry of Agriculture & Farmers' Welfare enacted three landmark ordinances on 5 June 2020, heralding a new era in Aatmanirbhar Krishi (self-reliant agriculture). The main thrust lies in

mitigating market risks, addressing the volatility in food prices, encouraging contract farming, promoting private investments in agricultural supply chains and food processing industries, bolstering export infrastructure, and ultimately elevating the livelihoods of farming communities. These landmark ordinances are regarded as a significant stride towards liberalisation and the establishment of a free-market regime providing greater autonomy to farmers. It is anticipated that the agricultural produce market committees (APMCs) will become more proficient and cost-effective in delivering services to farmers, thereby enhancing their income through efficient marketing of their agricultural products.

As a significant stride towards achieving self-sufficiency in the agricultural sector (Aatmanirbharta in Krishi), the Government of India's flagship scheme, the National Agriculture Market (e-NAM), stands as an innovative endeavour in agricultural marketing. This pan-India electronic trading platform for agricultural products was launched on 14 April 2016, completely funded by the Central Government and implemented by the Small Farmers Agribusiness Consortium (SFAC) under the aegis of Ministry of Agriculture and Farmers' Welfare. The e-NAM platform provides better marketing opportunities for the farmers to sell their produce through an online competitive and transparent price discovery system and ensuring fair prices based on the quality of their produce. With the objective of reaching even the remotest farmers and revolutionising their approach to selling agricultural produce, e-NAM has expanded its reach to encompass 1361 mandis across 23 states and 4 Union territories as on 31 March 2023.

Furthermore, the Union Government, in February 2021, launched a new central sector scheme to form and promote 10,000 new Farmers Producers Organisations (FPOs) in the country by 2027-28 with a budgetary provision of Rs. 6,865 crore. These FPOs are specialised organisations created by primary producers, including small and marginal farmers, milk producers, fishermen, weavers, rural artisans, craftsmen, etc. Under the scheme, the formation and promotion of FPO are based on produce cluster area approach and a specialised commodity-based approach. While adopting a cluster-based approach, formation of FPOs will be focused on 'One District One Product' for development of product specialisation. The formation and promotion of FPOs is to be done through a network



of nine implementing agencies including, the Small Farmers Agri-Business Consortium (SFAC), the National Cooperative Development Corporation (NCDC), and the National Bank for Agriculture and Rural Development (NABARD). The scheme aims at providing support to the members with end-to-end services covering almost all aspects of cultivation, from inputs, technical services to processing and marketing. This will not only help to augment the income of farmers but will also bring a paradigm shift at the grassroots level towards Aatmanirbhar Bharat.

Advancing further on the path to fostering self-reliant (Aatmanirbhar) villages, the Union Budget for the financial year 2022-23, has introduced a groundbreaking initiative known as the 'Vibrant Villages Programme', specifically targeting villages situated along India's northern border. This visionary programme is designed to revamp and elevate the infrastructure of villages in key states such as Himachal Pradesh, Uttarakhand, Arunachal Pradesh, Ladakh, and Sikkim. The primary objective of this initiative is to substantially enhance the quality of life for the residents of border villages by focusing on improvement of infrastructure, development of modern housing, creation of vibrant tourist hubs, expansion of road connectivity, provision of decentralised renewable energy sources, facilitation of direct-to-home access for Doordarshan and other educational channels and dedicated support for livelihood generation. In total, the Vibrant Villages Programme will encompass a significant number of 2,963 villages, with the initial phase focussing on 663 of them. In a significant step towards realising this vision, the Union Cabinet approved an allocation of Rs. 4,800 crore on 15 February 2023, for the implementation of the programme. This financial commitment

underscores the Government's dedication to fostering progress and prosperity in these border communities, ushering in a new era of sustainable growth and an improved standard of living.

Conclusion and Way Forward

In a nutshell, a large number of schemes and programmes have been initiated by the Government to make villages Aatmanirbhar (self-reliant) through agricultural development and promoting rural entrepreneurship. These programmes provide an excellent opportunity to the excluded sections to come forward at the forefront and actively participate in the process of Aatmanirbhar Bharat Abhiyan. To attract unemployed educated youth into agribusiness and agri-preneurship, special impetus on creating scientific temper and fostering innovative spirit among the rural youth is required. An appropriate policy coupled with a strong strategy to strengthen the rural non-farm sector deserves to be at the top priority. It is imperative to adopt a comprehensive strategy for strengthening rural infrastructure, supporting local entrepreneurs, establishing agro-based and cottage industries, ensuring easy access to finance, focusing on education and skill development, and promoting sustainable natural resource management. Additionally, expanding digital literacy, encouraging community participation, facilitating financial inclusion, and improving access to markets are crucial. Success in this endeavour requires a collaborative effort involving government, NGOs, the private sector, and local communities. The ultimate objective extends beyond mere self-sufficiency in villages; it encompasses the creation of flourishing and enduring rural communities that make substantial contributions to the overall economic growth, thus achieving the goals of Aatmanirbhar Bharat Abhiyan. □

Lakhpati Didi

A Unique Initiative



To give impetus to economic empowerment of women, the ‘Lakhpati Didi’ initiative has been initiated by the Deendayal Antyodaya Yojana- National Rural Livelihoods Mission, wherein each SHG household is encouraged to take up multiple livelihood activities coupled with value chain interventions, resulting in a sustainable income of Rs. 1 lakh or more per year.

“**T** Sarla Meena

oday 10 crore rural women are part of the Self-Help Groups. When you go to a village, you will find 'bankwali didi', 'Anganwadi didi' and 'dawaiwali (medicine) didi'. It is my dream to make two crore lakhpati didis in the villages”- With these words from the ramparts of Red Fort in his Independence Day address, Prime Minister Shri Narendra Modi unveiled the significant initiative ‘Lakhpati Didi’ scheme aimed at empowering women’s Self-Help Groups (SHGs) across India.

The objective of the ‘Lakhpati Didi’ Scheme is to enable at least 2 crore Lakhpati Didis soon, from the

10 crore large family of SHG Didis of the Deendayal Antyodaya Yojana–National Rural Livelihoods Mission (DAY-NRLM). SHGs, or self-help groups, are community-based organisations formed by a group of individuals, primarily women, who come together to address their common economic, social, or developmental needs. Women SHGs play a significant role in empowering women, promoting socio-economic development, and contributing to grassroots governance, and a ‘Lakhpati Didi’ is the one who earns a sustainable income of at least Rs. 1 lakh per annum per household. Lakhpati Didis are going to be driving the rural economy and landscape in Amrit Kaal. Under this scheme, women will

undergo training in a range of practical skills that align with emerging industry demands. These skills include plumbing, LED bulb manufacturing, and the operation and repair of drones, among others. The 'Lakhpati Didi' Scheme is also empowering women in STEM (Science, Technology, Engineering, and Mathematics). The Prime Minister has underlined the importance of women-led development and how it is essential to take the country forward. Today, in India, girls outnumber boys in the pursuit of STEM and the world today is looking at this capacity of India. This above-mentioned diversified training approach ensures that women can tap into various sectors and explore entrepreneurial opportunities.

The Ministry of Rural Development is inspired and geared to realise the Prime Minister's dream in reality with hard work and a multi-pronged approach in a time-bound manner. The Ministry has successfully enabled more than 1.5 crore Lakhpati Didis so far and is determined to complete the 2 crore target by this year instead of March 2024. In order to do this, the Ministry of Rural Development is taking multiple steps and involving various government departments and agencies, to maximise the impact of the 'Lakhpati Didi' Initiative. This approach includes convergence efforts to transform the rural economy and enable the success of the initiative. The Ministry of Rural Development recently signed a Memorandum of Understanding with the Ministry of Ayush to collaborate in developing skilled personnel by imparting training to rural poor youth and women's for the Ayush healthcare system under the Deen Dayal Upadhyaya-Grameen Kaushalya Yojana (DDU-GKY).

The execution of the 'Lakhpati Didi' initiative falls under the purview of the Deendayal Antyodaya Yojana–National Rural Livelihoods Mission (DAY-NRLM). DAY-NRLM is a flagship rural poverty alleviation programme of the Government of India, and today it is the world's largest initiative to improve the livelihoods of the rural poor. Addressing multiple dimensions of poverty, the programme aims to reach out to 10 crore rural poor households and organise one woman member from each rural household into affinity-based women SHGs. These SHGs provide close, long-term handholding support to their members, enabling them to access financial services from banks, diversify and stabilise their livelihoods, and effectively access their entitlements with ease. The core objective of the

programme is to ensure that each family, once it is in SHG for 6–8 years, is able to achieve household food security and have more than one stabilised livelihood source.

The mission, in its endeavour to empower the SHG women, has made concerted efforts in the collectivisation of women, strengthening their federations, and capacitating them with knowledge and skills for livelihood intervention, financing, and credit support, etc. for the livelihood augmentation of the SHG women. The mission seeks to achieve its objective through investing in four core components: (a) social mobilisation and promotion and strengthening of self-managed and financially sustainable community institutions of the rural poor; (b) financial inclusion of the rural poor; (c) sustainable livelihoods; and (d) social inclusion, social development, and convergence. The progress made by the mission is as follows:

1. Geographical Coverage: The mission has covered 7091 blocks spread over 742 districts across all States and UTs (except Delhi and Chandigarh) under the intensive strategy.
2. Social Mobilisation/Institution Building: 9.54 crore women have been mobilised into 87.39 lakh Self-Help Groups (SHGs).
3. Social Capital: Community driven approach is the central to the mission's implementation strategy. Nearly 4 lakh Community Resource Persons have been trained in multiple interventions.
4. Capitalisation Support: Cumulatively, about Rs. 33,497.62 crore has been provided as community investment support under the mission.
5. SHG-Bank Linkage: Nearly Rs. 6.96 lakh crore of bank credit has been accessed by the SHGs since 2013-14. The NPA at 1.88% is a result of the efforts undertaken at various levels of the mission.
6. SHG members as Business Correspondent Agents (BCAs): In order to provide last mile delivery of financial services, more than 1,00,000 SHG members have been identified and trained as Business Correspondent Agents/ Digipay points. At present, 1.07 lakh Banking Correspondents Sakhi/Digipay Sakhi have been deployed.
7. Livelihoods: DAY-NRLM promotes sustainable agriculture, livestock, and NTFPs in intensive

blocks under the Farm interventions. The focus of the interventions is on training and capacity building, and promotion of agro-ecological practices as well as livestock practices to enhance crop and animal productivity. As of August 23, 3.02 crore women farmers have been covered under this interventions. Under the Non-Farm strategy, DAY-NRLM works on Startup Village Entrepreneurship Programme (SVEP) that aims to support entrepreneurs in rural areas to set up local enterprises. Implemented since 2016-17, nearly 2.45 lakh enterprises have been supported under SVEP thus far.

8. Custom Hiring Centres / Tool Banks: About 28623 Custom Hiring Centre/ Community Managed Tool Bank have been set up across multiple States. These CHCs enable small and marginal famers provided access to farm equipment and other services at a nominal rate.

Under the mission, about 9.54 crore women are part of 87.39 lakh Self Help Groups (SHGs). A great deal of head way has been made in financial inclusion, e.g. Financial literacy, opening of Bank accounts, Credit, insurance etc. Around Rs. 33,497 crore of capitalisation support has been provided to the SHGs. This has enabled credit linkage of Rs. 6.95 lakh crore from the banks to the SHGs and their federations since the year 2013-14.

The mission has adopted a whole-of-society approach where collaboration and partnership have been strengthened with the Government, private sector, multilateral agencies, CSOs, and technical institutions to provide all necessary support in enhancing the income of the SHG Households. The mission has nurtured a large number of Community Resource Persons (CRPs), who are NRLM's feet on the ground and are instrumental in facilitating the interventions taken up by the Mission. At present, more than 5 lakh CRPs (including Samuh Sakhi, Krishi Sakhi, Pashu Sakhi, Madhu Sakhi, Matshya Sakhi, Bank Sakhi, Banking Correspondent Sakhi, etc.) are deployed by the mission. These CRPs are well trained in the technical know-how of livelihood interventions, various extension services, etc. In addition, the mission has also deployed professionals (National Resource Persons and State Resource Persons) to handhold and train stakeholders at the State, District, and sub-district level.



Similarly, to give impetus to economic empowerment of women, the Lakhpati Didi initiative has been initiated by the Deendayal Antyodaya Yojana- National Rural Livelihoods Mission, wherein each SHG household is encouraged to take up multiple livelihood activities coupled with value chain interventions, resulting in a sustainable income of Rs. 1 lakh or more per year. The Lakhpati Didi Initiative and DAY-NRLM reflect the government's commitment to empowering rural women and alleviating poverty.

The 'Lakhpati Didi' Initiative aims to provide self-employment and skilled-wage employment opportunities to women from poor households. The scheme is designed to empower women by equipping them with essential skills that pave the way for the establishment of microenterprises. It focuses on social mobilisation, financial inclusion, sustainable livelihoods, and social development to empower rural women and enhance their access to entitlements. Through these efforts, the government aims to create sustainable and diversified livelihood options for rural women, thereby contributing to poverty reduction and economic empowerment at the grassroots level.

It is well said that when women prosper, the world prospers. Their economic empowerment fuels growth, and their access to education drives global progress. Their leadership fosters inclusivity, and their voices inspire positive change. The most effective way to empower women is through a women-led development approach, and India is making huge strides in this direction. □

Handloom Weavers Expanding their Wings through Handloom Haats



India is a country of cultural and traditional diversity. The traditional crafts provide a strong foundation to Indian culture. Our indigenous weavers and artisans are preserving India's age-old traditional and cultural heritage through handlooms and handicrafts. The traditional crafts of India not only give India a distinct identity on the world stage but our crafts also attract the tourists.

These rural crafts are cottage industry in themselves and showcase excellent skills and entrepreneurship. For centuries, women have been doing this ancestral work shoulder to shoulder with men and thus rural handicrafts and their associated skills are also becoming synonymous with women empowerment.

National Handloom Development Corporation (NHDC) is doing a great job by providing these artisans a platform to exhibit and sell their products at their outlets. NHDC also give away awards to selected artists annually.

Recently, an exhibition of rural entrepreneurs was organised at Handloom Haat, Janpath, New

Delhi. Entrepreneur from different hook and corner of the country came to participate in the event.

Surbala is a successful woman entrepreneur. Around 30 people work in her enterprise. Surbala started her business in 2017 by taking a loan of Rs. 2-2 lakh each under Mudra Yojana and Startup Scheme. She sells traditional Manipur dresses and home decor items made by artisans. She has taken training in designing from 'SMART'. She earns at least Rs. 30 thousand per month.

Rekha Sattogopal has established her own enterprise by the name of 'Jute Craft'. Rekha, a resident of Delhi, makes jute items herself and also gets them prepared from artisans from villages around Delhi. Her 'Jute Craft' business is doing well and she earns a good amount of money even after paying the artisans.

Most of the participants were satisfied with the government initiatives to enhance their skills. They accepted that they easily got loan from govt schemes like Mudra scheme at low interest rate to grow their work. They accepted that such exhibition spaces at prominent places provide them opportunity to reach out to elite customers too. And hence it helps them to grow their business.

