

SPECIAL ISSUE

Mask-Up
INDIA



Kurukshetra

A JOURNAL ON RURAL DEVELOPMENT

Vol. 69 No. 01 Pages 76 November 2020

Entrepreneurship & Start ups



Textiles Sector will Help in Building an AatmaNirbhar Bharat: PM

Prime Minister Shri Narendra Modi has said that the textile sector is a key sector that will help in building an AatmaNirbhar Bharat or self-reliant India. Addressing an international webinar on textile traditions on October 3, 2020, the Prime Minister said that the Government was particularly focussing on Skills upgradation, financial assistance and integrating the sector with latest technology.

Speaking on the occasion, the Prime Minister lauded the Indian Council for Cultural Relations and the Uttar Pradesh Institute of Design for their efforts in bringing people from different countries to participate in the webinar on the theme "Weaving Relations: Textile Traditions." He said that in the textile sector one can see our history, diversity and immense opportunity. The diversity in our textiles shows the richness of our culture. He said that there is something unique about the textile traditions in every community, every village and every state. He said in all of India's textile traditions there is colour, vibrancy and eye for detail. He also highlighted the rich textile traditions of our tribals.



Textile Sector will Help in Building a Self-Reliant India

PM Modi Addresses International Webinar on Textile Traditions



- ◆ Exchange of ideas & sharing of best practices will create new avenues for collaboration
- ◆ Naturally coloured cotton & silk has a long and glorious history in India
- ◆ The diversity in our textiles shows the richness of our culture
- ◆ Domestically, textile sector is among the highest job providers. Internationally, it helped us build trade & cultural relations with the world

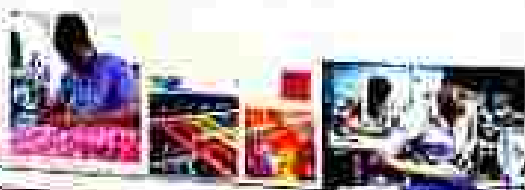


Textile Sector will Help in Building a Self-Reliant India

PM Modi Addresses International Webinar on Textile Traditions



- ◆ Indian textiles are highly valued globally & have also got enriched with customs, crafts, products & techniques of other cultures
- ◆ Govt is focussing on skills upgradation, financial assistance & integrating the sector with latest technology
- ◆ A vibrant textile sector will add strength to efforts of social employment
- ◆ Textile traditions have showcased powerful ideas & principles like diversity and adaptability, self-reliance, skill & innovation



The Prime Minister said that the Textile sector has always brought opportunities. Domestically, the textiles sector is among the highest job provider in India. Internationally, textiles has helped to build trade and cultural relations with the World. He also said that Indian textiles are highly valued globally and have also got enriched with customs, crafts, products and techniques of other cultures.

The Prime Minister said that this programme was being organised in the context of Mahatma Gandhi's 150th Birth Anniversary celebrations. Mahatma Gandhi saw a close link between the textile sector and social empowerment and converted the simple Charkha into a key symbol of India's Independence movement.

The Prime Minister said that world over, the textile sector employs many women. Thus, a vibrant textile sector will add strength to efforts for women's empowerment. He said that we need to prepare for our future in challenging times. He also added that our textile traditions have showcased powerful ideas and principles like diversity and adaptability, self-reliance, skill and innovation. These principles have become even more relevant now.

(Source: Press Information Bureau)



The Monthly Journal
Kurukshetra

MINISTRY OF RURAL DEVELOPMENT
Vol. 69 No. 1 Pages 76
November 2020

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Subscription*:
India
1 Year : ₹ 220
3 Years : ₹ 435
1 Year : ₹ 615
Abroad (Air Mail)
One Year
£33 (NAAR Countries)
£110 (Other Countries)
* Revised from April 2019
Price Overseas



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Editorial



Creating a nation of job-creators and not just job-seekers is extremely important for sustainable growth. However, adequate and appropriate skills are a pre-requisite for self-employment and self-reliance. Although Prime Minister Shri Narendra Modi gave the clarion call for a self-reliant India during the current Corona virus pandemic crisis, the foundation-laying of an *AatmaNirbhar Bharat* started more than six years ago, which was visible from time to time in the policies, programmes, and campaigns of the central government. Under the leadership of Shri Narendra Modi, the present government framed the National Skill Development and Entrepreneurship Policy in 2015. Along with this, the National Skill Development Corporation aims to provide skill related training to 500 million individuals by 2022.

Given that 70 percent of the workforce resides in rural India, skilling of rural youth becomes imperative to achieve this lofty goal. In recent years programmes such as Deendayal Upadhyay Gramin Kaushalya Yojana (DDU-SKY), Pradhan Mantri Yuva Udyamta Vikas Abhiyan (PMUYA) and Pradhan Mantri Kaushal Vikas Yojana (PMKVY) help equip rural youth with the necessary skills to not just find employment, but also the confidence to set up their own enterprises.

Promoting entrepreneurship and startups will ensure an unprecedented wave of long-deserved growth, prosperity and well-being that can serve the interests of the rest of the world as well as the spirit of New India. The startup movement has gained momentum under the Prime Minister's call for "Digital India" and "Startup India". The Startup India initiative envisions building a strong ecosystem for nurturing innovation and entrepreneurship in the country. In this issue, we look at how the rural start-up ecosystem is being strengthened in an to encourage setting up of more rural startups. The success of the Start-up Village Entrepreneurship Programme (SVEP) in helping rural youth get access to new markets for their products and how it has particularly helped in instilling the spirit of entrepreneurship among rural youth has been examined in detail in this issue.

This special issue also discusses how the agriculture sector has tremendous scope towards rural entrepreneurship and global business. As a major domain of the entrepreneurial ecosystem, agri-incubation centres in rural areas can play a significant role in this. India's new farm bills carry within them the promise of self-reliant prosperity, and they are also likely to trigger a digital revolution in Indian agriculture. We also look at how Rural Self Employment Training Institutes (RSETIs) have facilitated youth to start their own business by providing them skill upgradation programmes and training them in latest technologies. The RSETIs have played a singular role in providing financial and institutional support to rural entrepreneurs.

An interesting concept put forward by one of our writers in this issue is that of Smart Villages. Smart Villages could be drivers of inclusive growth in rural areas, creating a strong, sustainable and self-reliant rural economy, harnessing the unique strengths of every village. It is important to draw up a strategy for preparing a holistic framework of a self-sustainable and viable model of smart village and also develop a measurable and monitorable set of indicators to grade our villages or panchayats and an executable plan within the existing rural institutional framework. The Pradhan Mantri Adarsh Gram Yojana (PMAGY) could be a starting point for this exercise.

Skilling rural India isn't the responsibility of only the government. Corporate India can play an important role by ensuring better training curricula, industry-institute linkages and relevant apprentice programmes. The Corporate Social Responsibility (CSR) programmes of individual companies can be a game-changer here, directing necessary expertise and resources towards skilling of rural youth.

The present government has made commendable efforts in skilling the rural workforce and supporting them in their entrepreneurial activities. It now needs to ensure that the COVID-19 pandemic does not derail the rural growth story. The need of the hour is to provide adequate skill training to this rural workforce so that they can surmount this challenge and become a significant contributor to the economy.

Nation Marching from Enterprise to Self-reliance

Narendra Singh Tomar

There is no doubt that skill and knowledge are the driving force of socio-economic development for any nation. If skilled youth are available in the country, there will be no shortage of human labour resources for industries, and they will boost productivity. Presently, in our country, the working people in the age group of 15 to 59 years are more than the dependent population. The average of the working population is steadily increasing. There is no doubt that with demographic dividend favouring India and greater emphasis on skill development and entrepreneurship, we will become the largest resource base of skilled workers in various fields in the entire world in the next two to three decades. There will be an unprecedented increase in world-class demand for skilled workers in our country.

Welfare of nation with skill is the mantra given by the Prime Minister Shri Narendra Modi. Based on positive efforts being made with the world's largest young population, labour force, and abundant resources, we can say that India is poised to become the world's skill capital. Even after seven decades of independence, there was a lack of appropriate grassroots and practical strategy to meet the nation's needs for entrepreneurship and skill development. Under the leadership of Prime Minister Shri Narendra Modi, the present government framed the National Skill Development and Entrepreneurship Policy in 2015. It laid the foundation for major changes in this direction. Today nation is taking rapid strides towards self-reliance, with start-ups, entrepreneurship, and skill development playing a crucial role. Although the Prime Minister announced the launch of Self-reliant India during the Coronavirus pandemic crisis, its foundation-laying started six and a quarter years ago, which was visible from time to time in the policies, programmes, and campaigns of the central government. In this context, it is encouraging to note that India has a large working population of young people and the workforce, which shows that the demographic dividend is in India's favour. Presently, in our country, the working people in the age group of 15 to 59 years are more than the dependent population. The average of the working population is steadily increasing. The Economic Survey 2018-19 also points out that India's demographic dividend will be at its peak around the year 2041 when the share of working people in the age group of 20 to 59 is expected to reach 58 percent of the total population. If the demographic dividend favours a country, then the country's economy gets a boost, the growth rate picks up, and per capita income also increases. Under the Prime Minister's leadership,



The Union Minister for Agriculture & Farmers Welfare, Rural Development and Panchayati Raj, Shri Narendra Singh Tomar speaking at an event.

the government has taken several measures to reap the benefits of demographic dividend. The focus of these measures is on the skill development of the country's working population. The government has set up the National Skill Development Corporation to provide skill-related training to 500 million individuals by 2022. It is promoting the private sector in skill training programs besides providing funds for them. There is no doubt that with demographic dividend favouring India and greater emphasis on skill development and entrepreneurship, we will become the largest resource base of skilled workers in various fields in the entire world in the next two to three decades. There will be an unprecedented increase in world-class demand for skilled workers in our country.

There is no doubt that skill and knowledge are the driving force of socio-economic development for any nation. If skilled youth are available in the country, there will be no shortage of human labour resources for industries, and they will boost productivity. Several important initiatives are being taken by the Ministry of Skill Development and Entrepreneurship to bridge the gap between demand and supply of skilled workers. Pradhan

Mantri Kaushal Vikas Yojana (MKVY) has proved to be a milestone in this direction. Through this scheme, the youth are provided with short-term training in industry-relevant skills. According to the local market's requirement, vocational training is also imparted to illiterate, neo-literates and school dropout youths through 233 public education institutes operating in the country. About 34.34 lakh youth have been trained through short term training conducted under Pradhan Mantri Kaushal Vikas Yojana (PMKVY). Out of this, 28.36 lakh youth have got employment. Similarly, under the Recognition of Prior Learning program, the skills of 33.20 lakh youth have been certified, out of which around 27.36 lakh youth have got jobs.

Prime Minister Shri Narendra Modi has, from the beginning, a perceptive outlook on start-ups. On the occasion of the launch of the 'Startup India Campaign,' he said that he wanted India's youth to be the job creators rather than the job seekers. If a start-up employs only five persons, it will also be a great service to the nation. The Prime Minister launched the Start up India campaign in 2016 to promote start-ups in the country. Due to our policy of encouraging start-ups and protecting them in infancy, start-ups in the country have started rapidly in the past years, and they have also created new dimensions of success. To promote start-ups, the government, in 2019, has changed its definition. According to it, now a start-up will be treated as a start-up for ten years after its establishment and continue to get benefits. According to data from the Department for Promotion of Industry and Internal Trade, 26804 start-ups were registered in the country as of 31 December 2019. More than 3 lakh 6 thousand youth have got employment in them. There are more than 24 thousand 8 hundred registered start-ups who have employed 12 people on average. To provide financial assistance to start-ups, the government has created a 'Fund of Funds for Start-ups' with a corpus of Rs. 10,000-crore in the Small Industries Development Bank of India. Small Industries

Development Bank of India has committed over Rs. 3123 crore in 47 SEBI Registered Alternative Investment Funds (AIFs) till 22 December 2019. A general fund of Rs. 25,728 crore has been raised through these funds.

The Ministry of Skill Development and Entrepreneurship has also launched an Aatmanirbhar Skilled Employee-Employer Mapping (ASEEM) portal under the 'Self-reliant India Campaign' (Aatmanirbhar Bharat Abhiyan). This portal provides real-time data of skilled workforce based on demand and supply.

Digital skills will certainly play an important role in the post-COVID-19 era. In such a situation, the Directorate General of Training, Ministry of Skill Development, and Entrepreneurship started long term training related to the latest technology. The Directorate General of Training has launched a free digital learning platform (Skills Build Reignite) in June 2020 through a MoU with IBM. In the time of Artificial Intelligence and Cloud Computing, the National Skill Development Institute is also offering

TransformingIndia
AatmanirbharBharat



More Livelihood Opportunities with PM Garib Kalyan Rojgar Abhiyaan



- 
32 Crore Mandays
created @ ₹1200 crore spent
- 
21,595 Work
related to solid and liquid waste management undertakes
- 
2,123 Gram Panchayat
provided internet connectivity
- 
62,824 Candidates
provided skill training through Pradhan Mantri Kaushal Vikas Yojana

Structures created under the Scheme:

 1,32,146 <small>water conservation structures</small>	 4.12 lakh <small>habitations</small>	 35,529 <small>work shops</small>
 25,689 <small>firm banks</small>	 16,253 <small>Community Sanitary Complexes</small>	 7,340 <small>workshops through Central Mineral Funds</small>

all-round training of digital skills. In the field of entrepreneurship and skills, Indian genre like yoga has also been added. So far, more than 98 thousand people have been trained to get employment as yoga instructors.

The Pradhan Mantri Yuva Udyamita Vikas Abhiyan (PMYUA) is under implementation by the Ministry of Skill Development and Entrepreneurship to promote young entrepreneurs. Through this, training, mentoring and other support for setting up enterprises is provided to young entrepreneurs. It is being implemented on a pilot basis in select districts of 10 states and two union territories. This campaign was launched keeping in mind the trainees and alumni of IITs, Polytechnic Colleges, Prime Minister Skill Development Centres and Public Educational Institutions to utilise their technical training in setting up the enterprise. The National Entrepreneurship Award (NEA) has also been instituted in 2016 to promote entrepreneurship. The award aims to encourage the spirit of entrepreneurship and inspire the youth. The award is given to honour young first-generation entrepreneurs and ecosystem builders who create a constructive environment for entrepreneurship and women entrepreneurs.

The government has also taken several measures to encourage women entrepreneurs to begin start-ups. Together with GIZ, a German institution, the government has launched a pilot project for the economic empowerment of women entrepreneurs and women start-ups. It is being

implemented in Rajasthan and Telangana and the north-eastern states Assam, Meghalaya, and Manipur. The government has been providing loan facilities to entrepreneurs for setting up and promoting business through various schemes. It also includes the Stand Up India scheme along with the Mudra scheme.

Agriculture, horticulture and animal husbandry, have immense potentials of entrepreneurship and start-ups. Recently under the Prime Minister's leadership, the government has passed three laws related to agricultural reforms in Parliament. With these agrarian reforms, farmers have access to many facilities and the freedom to sell their products to anyone, anywhere. They have also paved the way for

Recently, under the Prime Minister's leadership, the government has passed three laws related to agricultural reforms in Parliament. With these agrarian reforms, farmers have access to many facilities and the freedom to sell their products to anyone, anywhere. They have also paved the way for setting up new start-ups and enterprises in the field of agriculture. Freedom to sell agri-products anywhere besides the mandi, e-platforms for agricultural marketing will provide opportunities to young entrepreneurs to thrive in agriculture sector. The warehousing, cold storage, and processing units are set to expand in the private sector due to abolishing the storage limit of produce like cereals, potatoes, and onions through the Essential Commodities Amendment Act. It will open up new dimensions of entrepreneurship development in this field.



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Under 'AtmaNirbhar Bharat Abhiyan,' the Prime Minister has made the provision of an agricultural infrastructure fund with a corpus of Rs. 1 lakh crore, which aims to transform the condition and direction of this field. Infrastructure facilities such as warehouses, cold storages, and food processing units will be set up in rural areas with this fund. Till now, private investment in agriculture is either very low or not balanced. Agricultural enterprises of private investors are located in urban areas instead of villages due to which farmers and rural youth are deprived of their full benefits. The agricultural infrastructure fund will certainly put an end to this imbalance. It has created a huge opportunity for entrepreneurship development in the agriculture sector. In the coming years, it will produce satisfying results.

Due to self-reliance in agricultural production and improved agriculture in India, new opportunities are also being created in the food processing industry. The Prime Minister has made a provision of Rs. 10 thousand crores in the 'AtmaNirbhar Bharat Abhiyan' to formalize micro food enterprises. With this amount, two lakh micro-food enterprises are supported with the global reach and commitment to the resolution of 'Vocal for Local.' This fund will benefit entrepreneurs who want to make their enterprises conform to the standards of the Food Safety and Standards Authority of India or they want to establish their own brands. Along with the existing food entrepreneurs, farmer producer organisations, self-help groups and cooperative societies have also been assisted in this scheme. In the field of food processing, our strategy is to establish cluster based enterprises. For instance, industries related to mangoes in Uttar Pradesh, tomatoes in Karnataka, chillies in Andhra Pradesh and oranges in Maharashtra need to be established. A provision of Rs. 500 crore has been made for Operation Greens under the 'AtmaNirbhar Bharat Abhiyan' package to help in cold storage,

transportation and processing of vegetables like potato, onion, and tomato.

In the area of organic agriculture, there is immense potential for start-ups and entrepreneurship. Given the increasing demand for organic products worldwide, youngsters can make a career in this field through start-ups. The National Medicinal Plants Board (NMPB) has assisted in the cultivation of medicinal plants in an area of 2.25 lakh hectares to promote herbal and medicinal plants' cultivation under the 'AtmaNirbhar Bharat Abhiyan' Package. In the next two years, herbal farming will cover 10 lakh hectares with an outlay of Rs. 4000 crore. It will result in an income of Rs. 5000 crore to the farmers. The National Medicinal Plants Board will develop a corridor in an area of 800 hectares on the Ganga banks for cultivating medicinal plants. It is also a golden opportunity for setting up own enterprises. In the same way, there is a lot of potential in areas such as bee-keeping and floriculture.

Urban areas have been ahead of rural areas in terms of entrepreneurship development and start-ups. It is mainly because of the related mechanisms being strong in urban areas, easy availability of financial assistance and better awareness among the youth. Despite this, our efforts have continued in this direction. More and more people are engaged in self-employment through entrepreneurship and skills in rural areas having a large population. Under the guidance of the Prime Minister, the Ministry of Rural Development, along with other ministries and institutions, has taken several initiatives in this direction.

Deendayal Upadhyaya Gramin Kaushalya Yojana (DDU-GKY) has taken path-breaking steps in this area. In the last six years, 10.51 lakh youth have received training in the country from DDU-GKY, while 6.65 lakh trained youth have got the employment. Till only a generation ago, the youth considered government jobs as the only permanent employment option. But this mindset has changed with a campaign like DDU-GKY. Now the courage to transform the future on the strength of their skill is noticed in the youth. Under Deendayal Upadhyaya Gramin Kaushalya Yojana, the Ministry of Rural Development released about Rs.1215 crore for skill development and training in rural areas in 2018-19

and more than Rs.1418 crores were spent on it in 2019-20.

Start-up Village Entrepreneurship Programme (SVEP) was launched in 2016 by the Ministry of Rural Development under the Deendayal Antyodaya Yojana-National Rural Livelihood Mission (DAY-NRLM). It can be called an effective effort to empower women entrepreneurs in the villages and develop entrepreneurship spirit. Eliminating poverty from villages is the goal of Prime Minister Shri Narendra Modi. In this direction, the scheme has yielded significant results.

Setting up of Entrepreneurship and start-ups in rural areas has been confronting three major problems. The people living in rural areas are not financially strong, initial protection and guidance are not available to start-ups and lack appropriate resources and environment for developing skills. It is a matter of immense satisfaction that these problems and issues are being resolved through SVEP. The Start-up Village Entrepreneurship Programme (SVEP) has made significant progress over the years. It has so far provided business support services and necessary capital raising in 153 blocks across 23 states.

This scheme has also yielded excellent results in social inclusion. According to a mid-term review of SVEP conducted by the Quality Council of India in September 2019, 82 percent of this scheme's entrepreneurs belong to scheduled castes, scheduled tribes and backward classes. I would also like to clarify here that the Start-up Village Entrepreneurship Program functions as the foundation pillar of Deendayal Antyodaya Yojana-National Rural Livelihood Mission (DAY-NRLM). Under this program, 75 percent of the enterprises are owned and managed by women. The study has also revealed that about 57 percent of entrepreneurs' total family income is obtained through SVEP enterprises.

In view of the COVID-19 pandemic, the Prime Minister had given a far-sighted call to turn crisis into opportunity. Inspired by this clarion call, the neo-entrepreneurs and self-help groups of our rural areas have worked in line with 'Vocal for Local' by mass production/manufacturing of goods used in dealing with the infection. Women's self-help groups have also played an important role in rural areas during the COVID-19 crisis. In rural areas, DAY-NRLM women self-help groups not only played a significant role in checking infection by producing masks, sanitisers and hand wash etc.,

but these women entrepreneurs also proved their entrepreneurial skills by earning extra income. Over 3 lakh 18 thousand 500 women members in the country produced about 23.07 crore face masks, 1.02 lakh litres of hand wash and more than 4.79 lakh litres of sanitisers in 29 states. Thus, they contributed to the trade of these items estimated at Rs. 903 crore. It was also the time when the big industries of the country were shut down. Still, these women managed to bear the expenses of the families with their enterprise and not let the shortage of these essential items occur in the country.

The Ministry of Skill Development and Entrepreneurship, Ministry of Rural Development, and its Rural Self-Employment and Training Institutes (RSETI) conduct a wide range of skill development training programmes in the villages. Under this, there is also a provision for providing bank loans to trainees acquiring skills to set up their enterprises. Through this scheme, commendable efforts have been made in self-employment and entrepreneurship for rural youth. The programme is being conducted by 23 lead banks in 566 districts of 33 states/UTs through 585 rural self-employment training institutes.

Entrepreneurship, skill and start-up are at the core of the resolve of 'self-reliance' under the 'Atmanirbhar Bharat Abhiyan'. It is true, this is not a time to seek government job, but to provide others employment by setting up one's own enterprise. The government has opened the door to help entrepreneurship in every field. In such a situation, I appeal to the younger generation of the country, especially the youth of rural areas, that you have an unlimited source of energy. The future of the nation is in your hands. The greatest responsibility of the country's prosperity, welfare, and dignity rests with you. All that is needed is a strong will, commitment, and determination. I call upon all of you to pledge yourself to step forward with full zeal, become active participants in the government's skill development and training programmes, and take advantage of the government's facilities to setup a start-up of your interest. Become self-reliant as a skilled entrepreneur, provide employment to others and contribute more and more to open avenues of opportunities for the nation's prosperity with your skills and entrepreneurship.

(The author is Minister of Agriculture and Farmers Welfare, Panchayati Raj, Rural Development and Food Processing Industries, Government of India. Email: mord.kb@gmail.com)

Innovation and Entrepreneurship for Sustainable Growth

R. Ramanan, Naman Agrawal and Nimaashu Agrawal

Promoting Entrepreneurship and Startups will ensure an unprecedented wave of long-desired growth, prosperity and well-being that can serve the interests of the rest of the world as well as the spirit of New India. Creating a nation of job-creators and not just job-seekers is important for a sustainable growth. And central to this, is the need for an extensive collaboration between corporate industry, academia, and governments at the village, district, state and central levels.

India, over the centuries, has never had a dearth of great thinkers, scientists, engineers, doctors, Innovators, philosophers, artists. Indian intellectual, engineering, artistic capabilities are second to none with some of the greatest scientists, mathematicians and engineers in the world like former President Abdul Kalam, S. Ramanujan, Sir C.V. Raman and Dr. Vikram Sarabhai coming from various regions of India. Our philosophy, culture, fine arts, temples and sculptures also bear testimony of the same.

However, what has been lacking is a holistic innovation and entrepreneurial ecosystem that stimulates, enables and supports Inspiration, Imagination and Innovation in our schools, universities, industries across the length and breadth of the nation. Whenever Indians go abroad they excel and reach the highest levels of eminence and achievements, be it in technology, business, academia, and even governments. Many Indians

are leading innovations in some of the largest and most innovative tech, medical, financial companies of the world including Google, Microsoft, IBM, Adobe. Access to an innovative ecosystem in these developed countries has allowed many Indians to realise their aspirations, convert their dreams into realities, and helped them blossom to their full creative potential.

With over 1.4 million schools, approximately 10500 engineering and related institutions, approximately 19000 colleges, a demographic dividend that is the envy of many a country and a fast growing economy, the imperative in India is therefore to ensure that an estimated 150 million youth of India entering the workforce over the next few years can realise their true potential through access to a world class innovation and entrepreneurial ecosystem, leveraging rapidly advancing, accessible, affordable technologies transforming the world we live in and enabling an incredible set of opportunities for innovation and new job creation.



Revolutionary technological advancements are indeed transforming the world giving rise to new technology and business innovations at a dizzying pace. Electronics miniaturisation has enabled a computer the size of a room to fit our pockets aided by the convergence of computing, storage and communications at incredibly lower costs. Robotics and Artificial intelligence are driving next generation productivity and automation. 3D printers are making real time conceptualisation, design, prototyping and manufacturing at an SME level a reality. IOT or the Internet of things are connecting sensor technologies to mobile and satellite Technologies in every industry- from enabling precision agriculture, healthcare, water cleansing and conservation, climate change controls, disaster prediction and management, driverless cars and space shuttles. Big Data and analytics and Artificial Intelligence are enabling complex decision making through advanced easy to use tools. India is a country of a billion people with thousands of challenges, which are also thousands of opportunities for innovative entrepreneurial startups to succeed with possible global impact.

Indian Entrepreneurs and Startups at forefront during COVID-19 crisis

The global COVID-19 crisis has descended with a speed and intensity that has stirred and shaken nations worldwide. Its infectious spread is afflicting people in all walks of life in over 140 countries, accelerated by an intricately interconnected world we all live in, where people mobility is key to almost every country's economy. The COVID-19 crisis has left countries gasping for immediate solutions even as the world's finest scientists, healthcare and biotech researchers fervently race towards finding a curative solution or vaccine to bring this crisis to an end.

A crisis of this magnitude and speed of spread needs urgent preventive, curative, treatment-related solutions in various categories. These range from high quality and reliable masks, personal preventive equipment, ventilators, sanitizers, and contact-tracing, among others. This demands not only great innovative ability, but also incredible agility and nimbleness by companies and government institutions to effectively arrest and end the COVID-19 menace.

With the challenging task of keeping over 1.3 billion people safe from the clutches of the coronavirus, the Government of India is exercising

many initiatives in parallel to ensure that this global pandemic does not wreak havoc in a country with as diverse a set of challenges as one could imagine having. Among them is to leverage its innovation and startup ecosystem with over 250 incubators and 30,000 active startups.

The challenges in India are many. These include controlling the spread of COVID-19 in its cities with their share of very dense areas of population, its vast network of villages with lack of adequate hospitals, healthcare equipment or doctors, and a highly migrant workforce who are daily-wage earners. The solutions needed therefore are myriad in nature that also need to be customised to the local needs. Affordability combined with high quality and accessibility to the same are the major challenges and requirements in a country like India.

Challenging times and a crisis of this nature need great government support. It also demands great synergies between academia, government and industry. While no one could have visualised a crisis of such epic proportions to arise so unexpectedly, the government of India's unstinting backing of its Startup and Incubator ecosystem over the past several years is one of the brightest shining lights on the horizon to dispel the darkness of despair that seems to be enveloping in many parts of the world.

Atal Innovation Mission: Powering AatmaNirbhar Bharat through Innovation and Entrepreneurship

An ongoing pandemic of unprecedented proportions, COVID-19 has impacted lives and livelihoods across the globe. Even as the best minds in the world race towards finding preventive and curative solutions to combat and curb the spread of the novel coronavirus, the current crisis has been an eye-opener to several opportunities that have presented themselves during this time.

Creating a nation of job-creators and not just job-seekers is the key. And central to this, is the need for an extensive collaboration between corporate industry, academia, and governments at the village, district, state and central levels. Such synergies have indeed gained momentum with the COVID-19 crisis and need to be further capitalized on.

Let's examine the five pillars through the lens of innovation and entrepreneurship.

We begin with the pillar of demographic dividend. With over 65 percent of our country under 35 years of age, more than 1.4 million schools and 10,500 engineering and related institutions, a whopping 39,000 colleges and universities, India enjoys a demographic dividend like no other in the world. It is imperative that we enable the channellisation of this youthful energy towards nation-building activities by focusing on developing vocational, technical and managerial skills, while fostering a culture of innovation and entrepreneurship at the school, university and industry levels.

Innovative ways of leveraging emerging digital technologies can create and promote such ecosystems. This presents a huge opportunity for hundreds of edtech startups to build and leverage wireless, 5G communication, mobile AR/VR, and AI technologies to power the same. Existing government initiatives—such as Atal Tinkering Labs and AI curricula at school levels, incubators and innovation cells at university levels, and fostering startups and vocational training in emerging new areas—must also be accelerated to strengthen this pillar.

Second is the pillar of infrastructure. India has over 715 districts, more than 4000 cities and 6,00,000 villages. Undisputedly, innovation and entrepreneurship will be key to ensuring the development of both physical as well as digital infrastructure across all these regions in the

country. The nation needs smart villages and several hundred smart cities to become active hubs of livelihood enablement, innovation, and job creation. Smart water management, transportation, energy management, and housing present tremendous opportunities for innovations and startups.

This is vital to prevent a lopsided development of our economy and an unsustainable urban migration to a handful of tier-1 cities. The pillar of infrastructure would also require construction of digital highways, which would ensure that innovations reach every common citizen be it in education, healthcare, housing, or job enablement. This presents a glorious opportunity for young creative entrepreneurs to tap into and create growing organisations with global impact.

For the third pillar, Demand, India has the perfect environment. It has over 1.3 billion people, a youthful population, a growing middle class, one of the fastest growing economies of the world, and affordable, available advanced technology to reimagine new solutions to existing and emerging consumer needs. An ideal situation for thousands of startups and companies to capitalise on and fulfil pent-up demand for new solutions and consumer or citizen-centric services in every vertical—agriculture, healthcare, education, water management, clean and renewable energy, affordable housing, defence, space, transportation, or retail.

The pillar of demand presents an unprecedented opportunity for Make in India in every industry. There has been an increasing



number of challenges launched by various ministries—MeitY, AIM (Atal New India Challenges), DST (Kavach), DBT, BIRAC (biotech challenges)—as well as COVID-19 challenges for preventive assistive solutions, spurring a remarkable slew of innovative solutions.

The recent announcements of private sector participation for innovations in the space and defence sectors opened up a flood of new opportunities for the MSME industry. Any solution developed for 1.3 billion people can also be a possible solution for the approximately 7 billion people on the planet. The recently launched Bharat App Innovation Challenge by MeitY, MyGov, and Atal Innovation Mission is a welcome step to identify and create world-class apps that can be used by the rest of the world too.

Next, we come to the pillar of technology. The remarkable growth of the fast-growing 180 billion USD IT/ITES and biotech industry in India over the past decade has showed the world India's scientific, engineering and technological prowess and capabilities. The best multinationals of the world are leveraging Indian talent and rushing to set up large R&D hubs in India. *Atma Nirbhar Bharat* has now turned the gaze of this world-class innovative talent inwards, to create products and services for the Indian market at par with other countries. Catalysing this stupendous potential are affordable, accessible, advanced IT

4.0 technologies, including 3D printing, IOT, AR/VR, biotech, cognitive computing, AI/Blockchain, to name a few. With one of the fastest-growing startup ecosystems—over 20,000 startups and 250 incubators—India can surely position itself as one of the leading innovative nations of the world.

Final, is the pillar of socio-economic growth. With 22 percent of its population still below the poverty line, 44 percent of its economy still agrifocused, many districts still combating unacceptable percentages of infant mortality and maternal mortality, and only a mere 13 percent of women entrepreneurs, India needs to ensure that rapid economic progress encompasses societal progress.

Atal Innovation Mission (AIM)

To address the above challenges, Government of India's flagship initiative Atal Innovation Mission (AIM), NITI Aayog is leading from the front to promote a culture of innovation and entrepreneurship in the country. Towards this end, AIM has taken a holistic approach to ensure creation of a problem-solving innovative mindset in schools and creating an ecosystem of entrepreneurship in universities, research institutions, private and MSME sector.

1) Atal Tinkering Labs - At School Level

Over the last 3 years, AIM has launched the establishment of thousands of Atal Tinkering



Labs enabling students from grade 6 to grade 12 to have access to and tinker with innovative tools and technologies like 3D printers, robotics, miniaturised electronics do it yourself kits thus stimulating a problem solving innovative mindset to solve problems in around the community they are in. Atal Tinkering Labs are being established in schools nationwide with 5000+ operational in 650+ districts and over 2 million students having access to ATLs.

2] Atal Incubators – At Universities, Institutions, Industry Level

To promote creation of a supporting ecosystem for start-ups and entrepreneurs, AIM has been establishing world class incubators called Atal Incubation Centres (AICs) in universities, institutions, corporate, etc that would foster world class innovative start-ups and become scalable and sustainable enterprises.

To date AIM has selected 102 universities / institutions / private players to establish world class incubators, each of which will foster creation and nurturing of 40-50 world class startups every four years. 68 of them are already operational with more than 1250 operational startups and the remaining will be operationalised during this year.

3] Atal Community Innovation Centers - serving Unserved and Under-Served regions of India

To promote the benefits of technology led innovation to the unserved/underserved regions of India including Tier 2, Tier 3 cities, aspirational districts, tribal, hilly and coastal areas, AIM is setting up Atal Community Innovation Centres with a unique partnership driven model wherein AIM would grant upto Rs 2.5 crores to an ACIC subject to a partner providing equal or greater matching funding.

Over 300 applications have been received across the country and around 50 ACICs will be established during the next two years.

4) Atal New India Challenges - Product and Service Innovations with National Impact

To create product and service innovations having national socio-economic impact, AIM has launched over 24 Atal New India Challenges in partnership with five different ministries and departments of central government.

52 winners have been selected for grant aid and hand holding by incubators / mentors of AIM, out of 950 applications received for the same.

5) Applied Research and Innovation for Small Enterprises (ARISE)-to stimulate MSME Industry Innovation

To promote innovation in a phased manner in the MSME/Startup sector, AIM will be launching ARISE (Applied Research and Innovation for Small Enterprises) along with partner Ministries so that great research ideas are converted to viable innovative prototypes followed by product development and commercial deployment.

6) Mentor of Change (Mentorship and Partnerships-with Public, Private sector, NGOs, Academia, Institutions)

To enable all the initiatives to succeed, AIM has launched one of the largest mentor engagement and management program "Mentor India - the mentors of Change". To date AIM has over 10000-registrations nationwide on the AIM INNDNET portal with 4000+ of them allocated to ATLs and AICs.

The time is ripe for micro-finance and rural-financing schemes to spur great innovations and entrepreneurial initiatives on the socio-economic front. It is crucial to ensure gender equality, address economic disparity and equal opportunities for differently abled communities. Fast-growing economies such as ours also need to be extremely wary of climate change-related issues. Therefore, it is important that the Sustainable Development Goals remain the overarching objective of every organisation.

Promoting Entrepreneurship and Startups for Sustainable Growth truly will help India to ignite the innovative entrepreneurial spirit of New India by focusing on strengthening the above pillars which will ensure an unprecedented wave of long-deserved growth, prosperity and well-being that can serve the interests of the rest of the world as well.

(The authors are Sh. R. Ramanan, Additional Secretary and Mission Director (AIM), NITI Aayog, Sh. Naman Agrawal, Senior Associate, NITI Aayog and Sh. Himanshu Agrawal, Young Professional, NITI Aayog. Email: naman.agrawal@nic.in. Views expressed are personal)

Financial and Institutional Support for Rural Startups

Rajesh Ranjan

There is a need to strengthen the rural start-up ecosystem as well as to encourage setting up of more rural start-ups by rural youth. Rural startups should be included in rural development programmes. The startup movement has gained momentum under the Prime Minister's vision call for "Digital India" and "Startup India". The Startup India initiative emphasises building a strong ecosystem for nurturing innovation and entrepreneurship in the country. In India, Central and State governments are playing an active role in startup ecosystem development.

"The future of rural India is intertwined with its ability to integrate science and technology."

Dr. S. Radhakrishnan



Agriculture and allied activities are the mainstay of rural India and around 67 percent of Indian population resides in rural areas. While the contribution of the agricultural sector to GDP has continued to decline over the last 2 decades – from 29 percent in 1990 to 16 percent in FY 2018-19 – it remains a major source of employment, accounting for about 47 percent of the total national workforce.

With 65 percent of population under the age of 35 years, India is a youthful country.

Rural Challenges

Unemployment is the major challenge faced by rural youth and more so by female rural youth.

A large numbers of rural youth lack the skills required for job opportunities in the ever-evolving manufacturing and services sector.

In order to fulfil its aspirations fuelled by rising rural incomes and increased exposure to media, today's rural youth needs better education, jobs, better lifestyle and economic independence. In addition, for agriculture to continue to remain the mainstay, it needs to modernise itself in order to attract more or at least retain rural youth.

The Government and various financial institutions continue to provide a lot of financial support to the core agriculture sector. Developments in the agricultural arena have always been upgrades on existing practices: better

machinery, better-yield seeds, and better irrigation systems.

Developmental efforts have been low on usage of innovative tech i.e. the deeptech encompassing artificial intelligence, machine learning, computer vision, blockchain etc. These technologies are the key to transform agriculture and other rural businesses. Technology led interventions hold the promise of not only increasing agricultural productivity and growth but also reducing poverty.

Rise of the Startups

Starting with the onset of the dotcom era in 1995 when Indians got access to internet, the startup ecosystem started to develop with the Technology Development and Information Company of India's creation in 1988. Over the last one & half decades lot of product startups and now increasingly services startups have come up. As of July 2020, more than 34,000 startups are registered with Department for Promotion of Industry and Internal Trade. Currently, only about 6,400 startups are funded (IVCA 2020).

A Startup ecosystem is formed by people, startups in their various stages and various types of organisations in a location (physical or virtual), interacting as a system to create and scale new startup companies. These organisations can be further divided into categories such as universities, funding organizations, support organizations (like incubators, accelerators, co-working spaces etc.), research organizations, service provider organizations (legal, financial services etc.) and large corporations.

Rural Startups

There are 52 crore mobile phone users in rural areas as on March 31, 2020. Of the estimated 56.6 crore active internet users in India in November 2019, around 23 crore reside in rural India, NARVENTURES estimates that by 2020, more than 27 crore people in rural India will be active internet users. These rural internet users are driving the growth of rural startups.

It is estimated that there are close to 1,100 agri startups and another 800+ food and beverage startups in India. Some of the emerging business models followed by rural startups include:

A. Agriculture

- i. Agri/rural biotech leaders
- ii. Tech enabled market linkage for agri produce (as/intermediation reduces the number of middlemen by directly reaching the large buyers)
- iii. Digital commodity trading platform (currently adhathyas use these platforms but over the medium term FPOs are expected to dominate the trading on these platforms)
- iv. Digital platform/marketplace for sale of agri inputs (reduce the dependence of farmers on local retailers)
- v. Digital platform/marketplace for equipment rentals (reduce the need to buy agri equipment including tractors)
- vi. Digital quality assessments for agri produce/food products (assure food safety)
- vii. Rapid soil health testing (reduce the usage of fertilizers and other soil nutrients)
- viii. Satellite data based insights in near real time (reduce water stress by providing real time water maps, help banks/insurance companies to design rural loans/insurance products)
- ix. Farming as a service (use data based insights for precise application of inputs, harvesting etc.)
- x. Agri information dissemination

B. Non-agriculture

- i. Digital platform/marketplace for sale of handicrafts
- ii. Tech enabled rural healthcare
- iii. Tech enabled classrooms/online classes

C. Rural ecommerce

- i. Digital marketplace (helps in pushing urban goods to rural areas and rural goods to urban areas)

D. Digital services

- i. Digital rural job portals
- ii. Social networking for rural

Upsurge in internet usage, increase in smartphone penetration, emergence of startups and various government initiatives in rural areas are facilitating technology adoption in the farm

sector. It must be noted that many of the pressing needs of the rural population are still waiting to be solved by startups. Such startups need nurturing, support and access to sandboxes to experiment and perfect their products and solutions.

Further, many rural areas have patchy internet/broadband coverage, low levels of e-literacy and digital skills, limited access to digital services and these areas run the risk of being left behind in the digitalisation process.

The rural startup ecosystem suffers from the following challenges:

1. Lack of incubation centres
2. Lack of venture capital funds
3. Lack of bankable entrepreneurs
4. Scale up challenges

Karnataka and Maharashtra together account for almost 50 percent of the total agritech startups launched in the past 5 years. We need to strengthen the rural start-up ecosystem as well to encourage setting up of more rural start-ups by rural youth. Rural startups should be included in rural development programmes.

Government Support to Startups

The startup movement has gained momentum under Hon'ble Prime Minister's

clarion call for "Digital India" and "Startup India". The Startup India initiative envisions building a strong ecosystem for nurturing innovation and entrepreneurship in the country. In India, Central and State governments are playing an active role in startup ecosystem development. The key objectives of the Government are as follows:

- Spur entrepreneurial activity to accelerate job creation
- Create enabling environment by reducing regulatory burden and introducing new policies

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- Create enabling environment by reducing regulatory burden and introducing new policies
- Build capacity through infrastructure creation and training
- Provide funding support and fiscal incentives
- Facilitate all members of the Startup ecosystem to connect and collaborate.



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Institutional and Financial Support for Rural Startups

As per Startup Genome, Bangalore and Delhi are among the top 40 startup ecosystems in the world.

- **Incubation Centres:** There are more than 400 incubators and accelerators in India. Through the Atal Innovation Mission (AIM), around 47 incubation centres have been funded so far. While many of these incubation centres are in Tier 2-3 cities, only a few are in rural areas. Among other sectors, agriculture is one of the focus areas of AIM. The agricultural universities (e.g. TNAU) and NABARD have taken the lead in setting up agri incubation centres. ICAR has one agri-focused incubation centre as well.
- **Fund of Funds:** Right from IFCI's first venture capital fund in 1976 to the SIDBI Startup Fund of Funds of Rs. 10,000 crore, a large chunk of the beneficiaries have been urban startups. As on February 18, 2020, the SIDBI Fund of Funds has invested Rs. 913 crore in 47 Alternative Investment Funds (AIFs).
- **Venture Capital Funds:** The first set of venture capital funds that invested in a few rural

startups space included impact funds like Avishkar (set up in 2001), Acumen and Rural Innovations Network. Later, access to external capital increased significantly as some of the global foundations, impact investors and philanthropies started investing in agri/rural startups.

SIDBI had a rural oriented VC fund with a corpus of Rs. 60 crore and has made a few investments in agri SMEs from Samridhi fund. NABARD has been very supportive of agri/rural VC funds as it started contributing to VC funds which had agriculture/rural as one of their core focus areas. So far, NABARD has supported 19 such funds. These funds have delivered mixed performance so far with lot of unrealised exits.

In 2019, NABARD started its own venture growth equity fund, NABVENTURES Fund I with a target corpus of Rs. 500 crore and a green slice of additional Rs. 200 crore. During the pandemic, NABVENTURES has made three agritech and one agri/rural fintech investments in startups.

- **Seed Fund:** A National Seed Fund was announced in Budget 2020-21 to support ideation and development of early stage

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startups. Recently, RBI has allowed lending to startups as part of priority sector lending. NABARD and SIDBI are setting up credit guarantee schemes, which may inter alia enable startups to raise loans for their business purposes.

Presently, the agritech startups touch only 10 percent of the farmers. Beyond funding, the startups, need guidance, direction and exposure. It is important that the key people managing the ecosystem components are entrepreneurs/startup investors themselves with first hand exposure of running businesses. This is even true for incubators/accelerators as without high quality people, only wasteful infrastructure is created.

Elements that feed the Rural Startup Ecosystem

As the number of active rural internet subscribers increases further, rural e-commerce is expected to take off in rural India (especially in areas closer to cities/semi-urban areas) in a big way.

- **Education:** Education and vocational skilling need to be integrated, a practice followed by many countries. We need to train rural youth in basic English language skills. Many of the rural youth lack the “soft skills” such as ability to experiment with new ideas, ability to spot business opportunities, sales & marketing ability etc. that could make them more productive and employable in corporates. These skills help in entrepreneurship as well.
- **Job creation through encouragement of tech-enabled businesses in rural areas:** Mobile internet based digital services can be the engine of employment growth for educated rural youth. New opportunities are emerging in agritech, agri based e-commerce, IT-linked agri-extension, seed technology, biotechnology, farm monitoring, agri/rural fintech etc. enabling the educated rural youth to explore new ideas, undertake research and set-up start-ups.

Way Forward

The author is of the firm belief that given the nascent stage of rural startups in India, we may be better off by providing funding and infrastructure support using public resources. The social payoffs are huge in the long run.

- A. **Incubation/acceleration of rural startups:** In the near term, there is scope for more accelerators and incubators in rural India focused largely on agritech, foodtech, affordable housing tech, rural healthtech/edutech, fintech, payments etc. These need to be housed in a few large clusters alongside other universities, mandis, processing facilities, agri parks etc.

Some of the incubators may specialise in internet services, hardware, futuristic technology, technology based agriculture, rural technologies to have focused attention on future technologies.

In order to conserve capital for creation of new infrastructure, the existing infrastructure of colleges and universities may be leveraged for running incubation/acceleration centers.

- B. **Creation of a National Rural Seed-cum-Impact fund to invest in startups benefiting large number of farmers/rural population:** A government backed National Rural Impact Fund with a corpus of Rs 1,000 crore (in the form of an AIF with GOI contribution of 40 percent) may be set up for investments in rural start-ups providing frugal innovations which is affordable even by a small and marginal farmer and start-ups whose solution are aimed at supporting FPOs at the seed stage. This will create maximum social impact and large agribusiness corporates (both domestic and foreign), foundations and family offices should come forward to participate in the fund. The Government of India may provide a catalytic first loss guarantee to the extent of 10-20 percent in order to attract other contributors in the Fund.
- C. **Creation of a National Agri/Rural Startups Fund:** The GOI may consider setting up National Rural Startups Fund, an AIF, with a large corpus of Rs. 2,500 crore. This fund would make direct investments in agri/food/rural startups at all stages (early, mid and late). Like the National Investment and Infrastructure Fund (NIIF) fund, the Government of India may restrict its contribution to 49 percent and the balance amounts could be raised from both domestic and global investors. With the creation of this fund, there may not be a need for large startups to dilute stakes to foreign investors. Agriculture is an area of national importance and ownership of systemically important rural startups should be kept in domestic hands.

D. Creation of a National Rural Fund of Funds:

The Government of India may consider setting up a National Rural Fund of Funds, an AIF, with an initial corpus of Rs. 2,000 crore. This fund would make indirect investments in third party AIFs that would in turn invest in agri/food/rural startups at the seed (post incubation/acceleration) to early stages. The Fund would take equity stakes in supported funds' asset management companies and would co-invest as well.

E. Creation of a National Venture Debt Fund:

Practically, no bank lends to startups including agri startups. Many of the agri produce market linkage startups actually need working capital debt and not equity. The creation of a National Venture Debt Fund, an AIF, with an initial corpus of Rs. 1,500 crore (40 percent contribution from Government of India) would solve this problem. The Fund should invest in financially sound startups, which have matured to reach revenues of Rs. 200 crore, or more and which have already raised sizeable amount of venture capital money.

The insurance companies, FIs and banks in the public sector may provide partial credit guarantee for the venture debt provided to startups.

Conclusion

Rural areas have lot of untapped entrepreneurial potential. Agriculture and rural businesses are the areas of maximum social impact but remain underinvested in India from an equity/start-up investment standpoint. There are only a few specialist funds (not more than 2-3) focused on the agri-food-rural ecosystem.

Further, rural areas remain underinvested in terms of healthcare, education, infrastructure etc. and are ripe for launch of tech-based innovative businesses.

Internet penetration in rural area will result in rise of super apps/constellation of apps, which will change the face of rural banking, shopping, trading, ecommerce etc.

The government recognises the importance of entrepreneurship and acts on many levels to

build a sustainable ecosystem. The policy making stance for startups needs to shift from indirect investing through government funds to direct investments through a government owned VC fund(s) with ability to invest through multiple equity and equity linked instruments (including venture debt). Further, the direct investments need to be managed on commercial terms and not social terms in order to generate returns and make the overall program sustainable for future rounds of investments.

The march of the newly minted Indian tech unicorns is a sure sign of the possibilities that lie ahead of us. Now, we must devote our efforts towards creating rural unicorns with the active involvement and engagement of our millennial rural youth. This is the most opportune time for India to emerge as a 'land of rural start-up entrepreneurs' because as Mahatma Gandhi put it so evocatively, 'India lives in her villages'.

Rural areas have lot of untapped entrepreneurial potential. Agriculture and rural businesses are the areas of maximum social impact but remain underinvested in India from an equity/start-up investment standpoint.

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Optimising CSR for skilling Rural India

Himanshu Sekhar Panigrahi

Skilling rural India can be a game changer for the socio-economic situation of the country as well as for the companies engaged in skilling activities. Every year a huge energetic workforce is emerging from villages of India. Potential of this workforce remains untapped when it is kept unskilled. Corporate India should make the best use of this potential and opportunity by putting the rural youths into the skill net.



As an emerging economy, India is of late experiencing a huge demand for skilled manpower. The country is well placed to harness the opportunities emerging out of globalisation by engaging its young workforce for economic growth. Around 55 percent of India's population is below 25 years of age, and the average age is 29 which is lesser in comparison to many developed countries. About 62 percent of its population is in the working age-group (15-59 years), and it is in increasing trend. On the other hand, developed countries will increasingly face a shortage of working population in the coming years. These facts lay emphasis on the opportunity to leverage the "demographic dividend".

However, a paradox, pertaining to utilisation of manpower, which exists for decades, is viewed as an impediment. As to the paradox, being one of the youngest countries in terms of its massive

population below the age of 25 years, India has been reeling under the dearth of skilled workforce, which leads to the problems of unemployment, under employment and disguised unemployment.

Today, India is sitting on a goldmine of talent which needs to be turned productive by equipping them with knowledge and skills, strategically needed for socio-economic development. The best utilisation of its human capital may propel the country to the league of superpowers as its advantage as a knowledge-based economy gets realised.

Need for Skill

Coming to the context of rural India, more than 70 percent of India's population belongs to its rural parts. Hence, the "demographic dividend" can be fructified only when the enormous segment of rural youth possesses appropriate skill to create

robust livelihood support systems. However, due to 'low skill' or 'mismatched skill' levels, the rate of unemployment in rural areas is higher than the rate in urban areas. And, those having some amount of skill prefer to migrate to urban areas in search of livelihood, thus causing further a deep paucity of skill in villages.

Rural economy is primarily based on agriculture. Though agriculture sector contributes 16 percent to the country's GDP, it has been observed that it is not being taken up as a desired profession by rural youth. Farming sector is gradually being perceived by rural youth as non-lucrative due to several factors. Divergence of farming and non-farming sectors is missing. Traditional and ancestral livelihood activities, arts and crafts in rural areas are getting extinct. Earlier the education system had inadequate focus on vocational training, rendering the young population academically qualified but unskilled. All these factors contributed to a lack of skill sets which are required to work across sectors. Due to such reasons, youths from villages end up as unskilled migrant workers in urban areas.

As a concrete solution to bridge this gap, numerous initiatives and reforms have been taken up vigorously and afresh post 2015 by the Government of India in harmony with State Governments towards skill development. A new Ministry for Skill Development and Entrepreneurship (MSDE) has been established in order to realise the vision of a skilled India. The "Skill India" mission, launched in 2015, aims to empower youth by imparting skill and make them employable and productive. Under this mission, a flagship scheme - Pradhan Mantri Kaushal Vikas Yojana (PMKVY) is promoting skill development by providing industry-designed training and certification to youth. Short-term training in compliance with National Skill Qualification Framework (NSQF) is provided to unemployed youths. Also, youths with prior experience and knowledge are certified after assessment under the Scheme's Recognition of Prior Learning (RPL) part. Model training centres in the name of "Pradhan Mantri Kaushal Kendra (PMKK)" are being operated across the country to conduct skill courses.

Ministry of Rural Development is also executing a skilling programme "Deen Dayal Upadhyaya Gramin Kaushal Yojana (DDUGKY)" especially for rural youth as a part of its National Rural Livelihood Mission (NRLM). Apart from these, several other skill building activities under different schemes of Government are being implemented to strengthen the skilling ecosystem. The New



Education Policy (NEP 2020) is also a welcome step to integrate Vocational Education and skill-based learning in school and college curriculum. As a bulk of population resides in rural India, such skilling and re-skilling measures will develop and create a competent and trained manpower.

Notwithstanding the impetus of government on the national skilling drive, this grand mission can be successfully realised with the active involvement of industry players as well. The skill development efforts require an integrated, synchronised and holistic approach. There is a greater scope for the private players from various sectors to act in unison towards the skilling goal. Role of corporate sector as well as NGO sector happens to be crucial in this context. National Skill Development Corporation (NSDC), the apex body established in PPP mode to promote skill development in the country under the guidance of Ministry of Skill Development and Entrepreneurship, strives for forging partnerships with corporate houses and NGOs for scaling up the skilling efforts.

Scope of CSR

Strategic engagement of corporate sector in skill development makes the job of the Government easy. Companies with their Corporate Social Responsibility (CSR) agenda can complement and supplement the action of Government towards it. Industry sector has ample scope for contributing to the purpose of developing a robust skill network in rural India. Further, investing in skill building of youths makes a strong business sense for both Public Sector Enterprises as well as private companies. In the long run, this investment shall yield sustainable dividends and create a workforce that is future-ready. It is certainly a win-win situation for companies as they meet their own requirement for skilled workforce and at the same time get

the opportunity to engage in socially responsible behaviour. By creating pools of trained manpower and enabling them for better livelihood options, companies can contribute to local and national economy in a sustainable way. In this way they can enhance their brand image and reputation. By helping in creation of a vibrant labour market, they also improve their access to the market. Companies get a continuous supply of trained manpower through regular skilling and up-skilling. Social capital of such companies, which develop human capital, is improved because of enhanced relationship with larger communities. Also, the relationship of companies with government is boosted by aligning with the national agenda of skill development.

From the ethical perspective, there is social expectation from companies that they should build the skill of local human resources as they use them in their operations and management. Further, as per Section 135 of the Companies Act 2013, profitable companies are mandated to spend 2 percent of their profit in CSR activities. And, Schedule VII of the Act prescribes areas like skill development, livelihood generation and rural development among many to be taken up under CSR initiative. Many of the areas listed under the Schedule are directly or indirectly related to skill development. Further, the global Sustainable Development Goals (SDGs), 2016-2030 have created scope for engagement of corporate sector in all its 17 goals. Skill development has direct and indirect bearing on all these goals, and that is why is seen as a major factor in their realisation. Specifically, SDG-4, Target 4.3 aims for equal accessibility to affordable and quality technical and vocational education. SDG-4, Target 4.4 stresses on increasing the number of youth who have relevant technical and vocational skills for employment and entrepreneurship. Therefore, companies can contribute to the SDGs through their involvement in skill building of human resources.

Corporate sector is always connected with the skilling ecosystem. Companies possess an inherent understanding of the skilling needs and trends of a region, be it local or global. They can easily gauge the skill gap and requirement of any definite skill for the industries because they understand the market better. Industries create and affect the demand for different skill sets as skill sector is market driven. Corporate houses have resources (expertise, experience, infrastructure and machinery) to contribute towards expansion of the skill capital. They have the onus of ensuring transfer of their skill to the next generation. Corporate connection can make the skilling endeavour much more effective

and impactful. Hence, involvement of companies in development and up-gradation of skills is highly called for.

Skilling rural India can be a game changer for the socio-economic situation of the country as well as for the companies engaged in skilling activities. Every year a huge energetic workforce is emerging from villages of India. Potential of this workforce remains untapped when it is kept unskilled. Corporate bodies should make the best use of this potential and opportunity by putting the rural youths into the skill net.

Enhancing the Skill Ecosystem

CSR sector has immense potential and promise to strategically support the national skill mission. Since the mandatory CSR Rules came into force in 2014, a good number of public sector and private companies are doing exemplary job in the area of skill development. As per a CSR reporting survey, education and skill development sector has been receiving the highest CSR fund for years. Though several strides have been achieved by the corporate sector in this front, there is still a long way to go. Companies through their CSR initiative may consider several strategies in contributing to skill development.

- a) Understanding the existing skill profile of local youth and identifying the gap is critical before chalking out the plan for skill building exercise. Roadmap for skill enhancement should be initiated by mapping the capacity and interest of out-of-school rural youth, and providing suitable interventions for their training. Training Need Assessment (TNA) of youths should be conducted through counseling intervention. Further, baseline studies of the respective operational areas are required to be conducted under CSR programme of companies for this purpose.
- b) Industrial houses can develop institutional framework for augmenting skill development efforts. Establishment of new training centres and advancement of existing ones in rural centres should be taken up by companies to support government's initiative. It helps rural youth in getting improved accessibility to skilling opportunities. Infrastructure support to rural skill centres may be provided under CSR.
- c) Companies through their CSR initiative should upgrade the knowledge base and expertise of skill trainers from time to time. Centres of Excellence (CoEs), in the areas of expertise of the company, can be set up for conducting

Training of Trainers (ToT) programmes. Persons having industrial experience and expertise can be roped in as subject experts in the CoEs.

- d) Synchronisation of "Skill India" Mission with several other programmes of Government like "Make in India", "Digital India", "Start up India", "Stand-up India", "Smart Cities" etc should be promoted. Convergence will help in leveraging of resources, and matching of jobs with skill sets for better outcome from all programmes. Without engagement of corporate sector it may not be possible.
- e) Companies must upgrade skill of employees engaged in the line of their supply chains. Ultimately, enhanced capacity of human resources in the supply chain network benefits the principal company in obtaining quality goods and services.
- f) Industries must identify futuristic skill areas by regularly assessing the challenges and opportunities the society is facing. Several modern-day challenges like pollution, climate change, water crisis, etc. needs innovative solutions and fresh expertise. At the same time, new opportunities in all the walks of life require new skills to be utilised. Training courses on such skill areas should be designed jointly by government agencies, academic institutions, research bodies and industrial houses.
- g) Companies should provide training to rural youths on new-age skills. It will help in reducing the skill divide that exists between rural and urban youth.
- h) Under CSR initiative, traditional and dying professions can be revived by preserving and promoting such skills. Age-old rural craftsmanship and artistry must be encouraged by funding, value-addition supports and market linkage.
- i) Aside from hard skills, rural youth must be endowed with competence in fields of communication, reporting, computer literacy, financial literacy, team work and how to face interviews.
- ii) Rural youth must be offered with a bouquet of choices for training on advanced farming as well as non-farming activities. Knowledge and skill of small farmers, marginal farmers and agriculture labourers on agriculture and allied areas must be updated from time to time. Non-farm diversification should be promoted by imparting skill to take up various jobs in services, construction, transport, etc.

- k) Big companies can upgrade skill level of workmen engaged in Micro, Small and Medium Enterprises (MSMEs) and the growing number of start-ups. MSME sector provides good number of jobs and contributes to national economy.
- l) In order to make skill sector more inclusive, CSR initiative should focus for skill development of marginalised sections, women and people with disabilities.
- m) CSR should encourage rural entrepreneurship as it is complementary to skilling. Abundance of small enterprises in tribal and rural hinterlands boosts and sustains the skilling ecosystem by developing local economy. Entrepreneurship development programmes should be conducted alongside skill training.

Conclusion

The objectives of Skill India mission can be successfully accomplished only if rural skilling is given right and proper importance. In order to make the villages smart in all respects, its young manpower is to be trained and empowered. And, for this involvement of the corporate sector, through its CSR, needs to be more strategic and effective. With a growing and vibrant CSR sector in the country now-a-days, matching contribution from companies to the efforts of the Government in skilling rural youth is exceedingly desired. CSR support, in terms of funding, expertise, experience and infrastructure, will add momentum and sustainability to the skilling drive. Hence, enabling and proactive environment should be created for eliciting optimum input from corporate houses for skilling rural India.

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Rural Women Entrepreneurs: Empowering a New India

Pankhuri Datt

Over the years, the Government has taken active steps towards improving the literacy rates among women in the rural India. NITI Aayog's Women Entrepreneurship Platform (WEP) is one such digital initiative that aims to reduce the information asymmetry for women entrepreneurs. Launched in 2018, this online platform collaborates with public and private sector organisations and brings information on all women focused schemes, initiatives and programmes in one portal.

According to the Periodic Labour Force Survey, 2018-19, 59.7 percent of women in rural India are self-employed, 11 percent are regular wage or salary earners while 29.3 percent are casual workers. In comparison, 57.4 percent men in rural India are self-employed, 14.2 percent are regular wage or salary earners and 28.3 percent are casual workers. While the share of nature of work among men and women in rural areas is not different, there is a huge difference in the type of self-employment between men and women. 84 percent of self-employed men in rural India are own account workers or employers while only 37 percent of women fall in this category. Most self-employed women in rural India (63 percent) work as helpers in household enterprises.

Among states, according to the PLFS survey, Jammu and Kashmir, Mizoram, Himachal Pradesh,

Rajasthan and Arunachal Pradesh had the highest share of self-employed female workers in rural India. In comparison, Chandigarh, Kerala, Bihar and Assam were some states with the lowest share of rural women who were self-employed. While Bihar and Chandigarh had a higher share of rural women who worked as casual labour, Assam and Kerala had more women who had regular wages and salary. States that had a higher share of agriculture gross state value add as a share of the state's GDP, were also associated with a higher share of self-employment that was indicated through a correlation coefficient of 0.30. While the nature of association was intuitive, the small magnitude of the correlation coefficient indicates that this association is not strong. The correlation between a state's per capita income with its share of self-employed women in rural area was found to be -0.25 percent. This means that states that had a



higher share of self-employed women are likely to have a lower per capita income relatively. While the direction of the association is expected given the informality and vulnerability associated with such jobs in the rural areas, the small magnitude of the correlation coefficient implies that this association is not strong. The negative association between the income per capita and self-employed women can also be noticed in the 30-day average wage of self-employed men and women in rural areas.

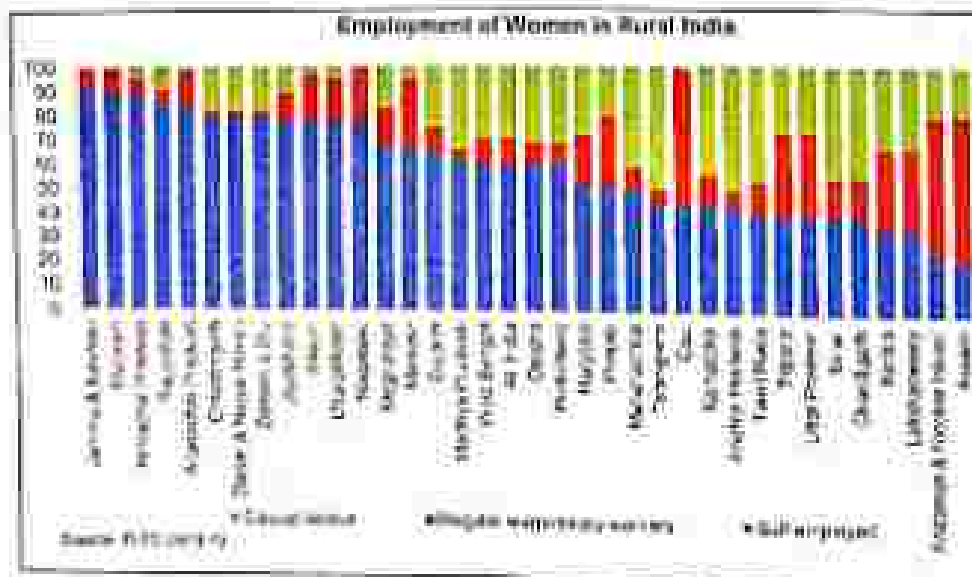
According to the numbers reported in the PLFS 2017-18 survey, self-employed women in rural areas earned the lowest wage among men and women from rural and urban areas. On an average, wages earned by self-employed urban men were 4 times that of self-employed rural women, those of self-employed men in rural areas was 2.5 times that of self-employed women in rural areas, while self-employed women in urban areas earned 1.7 the wages earned by self-employed women in rural areas. Moreover, between July 2017 and June 2018, while the wages earned by men in both rural and urban areas and females in urban areas increased, wages earned by self-employed females in rural area decreased. While men reported gross earnings of approximately Rs. 16,300 in a month in urban areas, women in rural areas reported gross earnings of approximately Rs. 3,900. The inequality in income could be because women, especially in rural areas, are expected to be the primary caregivers for children and older household members. Household chores like cooking, cleaning, and fetching water are also usually the primary responsibility of the women in rural areas.

This is reflected in the number of hours worked in a week by self-employed women in rural areas which is almost 19-21 hours less than urban self-employed males and 10-12 hours less than self-employed rural males. Self-employed women in urban areas worked on a couple of hours more than those in rural areas, indicating that like their rural counterparts, they are also expected to do the larger share of domestic chores.

In addition to the social conditioning where women are expected to be the primary caregivers and do majority of the household chores, what are some impediments that limit a woman's participation and efficiency as an entrepreneur? These impediments range from poor education levels to lack of financial support to information asymmetry. Over the years, the government has taken active steps towards improving the literacy rates among women in rural India. Yet, there is a gender gap in the literacy rates of men and women in both urban and rural areas. As per the PLFS report, compared to the India's average literacy rate of 78.1 percent, only 65.7 percent women in rural areas above the age of seven were literate as of 2019. Moreover, improvement in literacy rates of women in rural areas, has not translated into a higher share of participation in the labour force.

Financial inclusion can help improve the economic prospects of female entrepreneurs in rural areas. Research suggests that improving access to banks has a positive impact on the poor and disadvantaged groups, can increase economic activity, and also savings. While conventional banking channels improved access to financial services in rural areas, lack of a universal, government

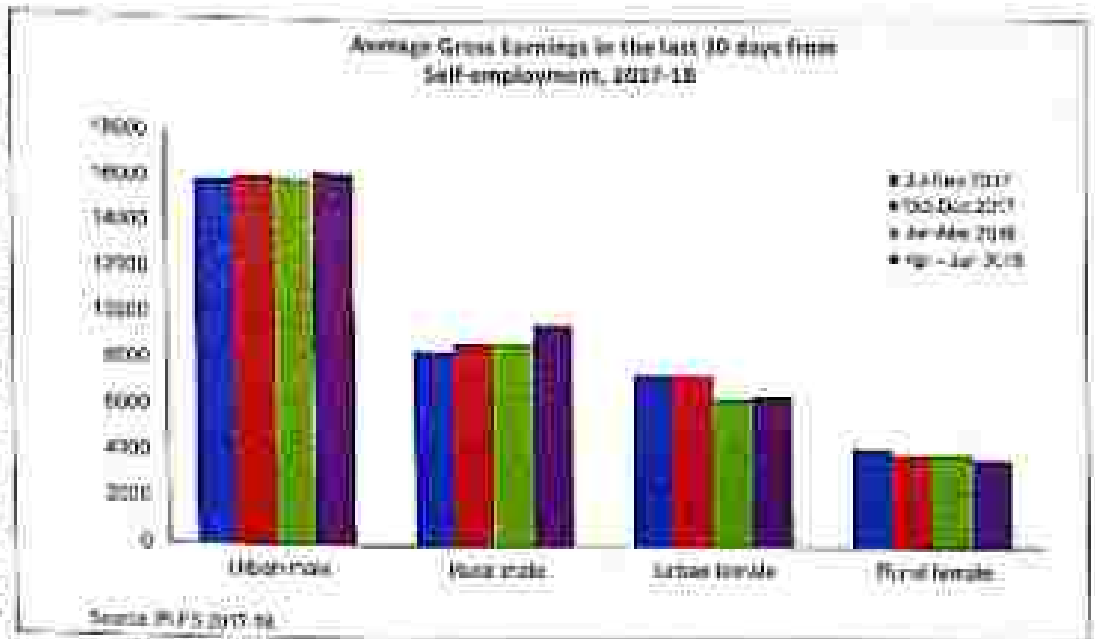
issued identity card and limited financial literacy limited financial inclusion of women. The government of India addressed these issues through a three-pronged approach, popularly known as the IAM Trinity - Jan Dhan Yojana, Aadhar Card and Mobile phones. While Aadhar gave every Indian a unique, 12-digit biometric, government authorised identification number, the Jan Dhan Yojana laid emphasis on the importance of women having their own individual bank



accounts. As on date, there are around 20 crore women who opened bank accounts under the Jan Dhan Yojana who also benefited from the Direct Benefit Transfer scheme of the government during the national lockdown. This not only helped women who wanted the privacy to operate their accounts but also greater autonomy over their finances and savings. This was especially necessary for women with their own

business, as evidence suggests that often microloans intended for women are often used up for their husband's business¹. These two were supplemented by the mobile network connectivity wherein India became a market known for some of the cheapest data rates in the world along with low-cost mobile phones and customised financial applications that could be used on both feature and smart phones. Women could now access bank accounts and conduct financial transactions from the safety of their homes and as per their convenience. Due to persistent efforts by the government and enabling market conditions, between 2014 and 2017, the gender gap in bank account ownership fell from 20 percentage points to 6 percentage points.

While the JAM trinity was instrumental in the proliferation of formal financial services, the government also supported women in rural areas with schemes that encouraged them to start independent ventures. A recent joint-publication from the World Bank, Better Than Cash Alliance, and Women World Bank cites the example of Romita Heirum from Manipur², who was a loan beneficiary under the Prime Minister's Employment Generation Programme (PMEGP) and bought a powerloom with it to start her own business from her house. She needed the money to run her household along with the flexibility to work from home, and her own venture provided her the means to achieve these two goals. Under the scheme, she received a loan and a subsidy to buy a power loom. She now weaves fabric to sell in local markets and hopes to start a showroom someday. Along with business



skills, she learnt to use the ATM, save money in her bank account, and picked up prudent financial management skills to meet the fixed installment payments. The PMEGP scheme is implemented by the Khadi and Village Industries Commission (KVIC) as the nodal agency at the national level, state Khadi and Village Industries Board at state level, and District Industries Centers (DICs) and banks. The beneficiary gets the subsidy under the scheme through her bank into her account which in turn gets the subsidy from the KVIC. Women in rural fall under the special category of beneficiaries where they are expected to contribute only 5 percent of the project cost and get a subsidy at the rate of 35 percent. The balance amount of the total cost is given to the beneficiary as a loan from her bank.

To address the social issues regarding the financial dependence of the women, especially those in rural areas, the government launched the Sukanya Samridhi Account (Girl Child Prosperity Account) in 2015, which is a savings scheme to encourage parents to build a fund for the education and marriage expenses of their daughters. The scheme has the highest tax exemption, comes with sovereign guarantee, and can be opened at the nearest post office. This was done keeping in mind the reach of the postal services in rural areas. Earlier this year, the finance Minister had announced provision of collateral free loans up to Rs. 20 lakh for women self-help groups to tackle hardships due to the lockdown. Another government scheme to support female entrepreneurs is Stand-Up India, launched in 2016. The scheme offers loans between Rs.10 lakh to Rs. 1

score to women for setting up businesses outside the non-farm sector. To strengthen financial literacy, the Reserve Bank of India has also released the National Strategy for Financial Education (NSFE 2020-25) that acknowledges the need to improve financial literacy among women. According to their survey in 2019, they found that only 21 percent of women crossed the minimum threshold score on financial literacy as compared to 29 percent men.

Information asymmetry is another weak link in value chain of women entrepreneurs from rural areas. NITI Aayog's Women Entrepreneurship Platform (WEP) is one such digital initiative that aims to reduce the information asymmetry for women entrepreneurs. This online platform was launched on March 8, 2018. It collaborates with public and private sector organisations and brings information on all women focused schemes, initiatives and programmes in one portal. This scheme uses three pillars—*Ichha Shakti* to motivate inspiring women entrepreneurs to start new business; *Gyan Shakti* to provide knowledge and ecosystem support to foster budding entrepreneurs; and *Karma Shakti* to provide hands-on support in setting up and scaling businesses. In a nutshell, the platform provides information on funding and financial assistance, incubation and acceleration support, entrepreneurship mentorship, community networking and compliance and tax assistance among others. Data from 7000 users of WEP indicates that 90 percent of their registered users are in the age group between 20 and 49 while almost 40 percent of its registered users are in their 30s. During the COVID-19 lockdown, WEP connected home based women workers with both raw material suppliers and potential buyers to produce and sell more than 1,00,000 masks that ensured a minimum income of Rs. 4,500 for each such worker during the lockdown period¹. Currently, the platform is more popular with urban female entrepreneurs than rural ones and is adapting to the needs of rural entrepreneurs. A smaller sample of their data indicates that female entrepreneurs from Tier 3 cities are mostly engaged in agriculture-related businesses. In contrast, most woman entrepreneurs from Tier 1 and Tier 2 cities were running education sector enterprises. *Mahila e-haat* is another government initiative for women entrepreneurs and self-help groups for showcasing their products that are made or manufactured by them on an online platform. This is a unique way

to improve the access of rural entrepreneurs to market, increase digital financial inclusion and empower women.

In addition to the several government initiatives discussed above, there are many cooperatives, not-for-profit and for-profit organisations that are trying to connect with rural women entrepreneurs to reduce information asymmetry, increase their market reach and improve their productivity. While government initiatives like *Mahila e-haat* are essential and important, its reach is not as expansive as those of digital online e-commerce companies. The next step should be to educate and support rural women entrepreneurs to start selling their products directly on channels like Flipkart and Amazon that have a lot of traffic. This not only will support the rural entrepreneurs by giving them access to a much larger market but will also strengthen the call for *AatmaNirbhar India*. Schemes that incentivise businesses (like tax credits or exemption) that source their inputs or products from rural women entrepreneurs will help increase private sector participation that will in turn benefit women entrepreneurs. Research also suggests that women entrepreneurs feel more confident conducting business with female bankers. Currently, women make up only 22 percent of bank employees and 12 percent of microfinance institution employees. Numbers from the PLFS survey indicate clearly that female rural self-employed workers are among the most vulnerable among all entrepreneurs in terms of wages and nature of work. The need of the hour is now to channelise market forces so that they can leverage their true potential.

Footnote

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India's New Farm Bills: Ushering in Agriculture 2.0

Ankita Sharma and Hindol Sengupta

India's new farm bills carry within them the promise of self-reliant prosperity, and they are also likely to trigger a digital revolution in Indian agriculture. Swift implementation of the new farm bills will lead to four significant changes: An increase in farmer's income, the rise of agri-entrepreneurs, massive private investments in agriculture, and a jump in farm product exports. Put together, this package of legislations seeks to open up the farming at both ends — production (through contract farming) and sale (through complete deregulation). But most importantly these bills will diffuse technology and innovation into the most traditional sector of the Indian economy.



From better aggregation of farm produce to facilitating smoother innovation in farm-to-fork models, and accelerating the spread of agriculture start-ups, India's new farm regulations are designed to have an impact in the country's agriculture sector in many ways. The long-awaited unshackling of the agrarian sector should be studied in conjunction with numerous other steps taken by the Narendra Modi government to kickstart an entrepreneurial ecosystem in Indian agriculture. Key among these is the creation earlier this year, of a seminal Agriculture Infrastructure Fund which is a "medium-long term debt financing facility for investment in viable projects for post-harvest management infrastructure and community farming assets through interest subvention and credit guarantee".

This is a decade-long scheme between FY 2020 to FY 2030, and under this, a sum of one lakh crore rupees will be provided by the banks and the financial institutions as loans with interest subvention of 3 percent per annum and credit guarantee coverage under CGTMSE scheme for loans up to two crore rupees. The key beneficiaries of this scheme will be farmers, PACS, Marketing Cooperative Societies, FPOs, SHGs, Joint Liability Groups (JLG), Multipurpose Cooperative Societies, Agri-entrepreneurs, Startups, and Central/State agency or Local Body-sponsored Public-Private Partnership Projects.²

As Prime Minister Shri Narendra Modi has noted, "the scheme shall provide a financial boost to the farmers and agriculture sector and increase India's ability to compete on the global stage and

that India has a huge opportunity to invest in post-harvest management solutions like warehousing, cold chain and food processing, and build a global presence in areas such as organic and fortified foods. He also mentioned that this scheme provides a good opportunity for start-ups in agriculture to avail the benefits and scale their operations, thereby creating an ecosystem that reaches farmers in every corner of the country¹⁷. Barely a month after Cabinet formally approved the scheme, the first sanction of more than one thousand crore rupees was made to over 2,280 farmer societies.

Providing this money was one key part of the reformation of the agriculture sector, and the other has been unaddressed by setting the farmer free, as the new farm bills do, to sell their product anywhere (and untied to the Agricultural Produce Market Committees or APMCs). By empowering the farmer both with necessary monetary support and then liberating their transactional preference is likely to be a transformative moment in the history of agriculture in the country. By doing this the Central Government has not only made farmers *Astmafirbhar* (self-reliant) but also *Saksham* (empowered), two attributes that go hand-in-hand. An average Indian farmer has remained at the periphery of the economy for decades. Orthodox farming methods, little to no focused government policies on agricultural innovation and a large monopoly of middlemen has created a situation where a large part of the economy has been pushed to stagnancy. Under this backdrop, the new farm bills come as a long-awaited relief for a sector that provides livelihood to more than half of our population.

The *Farmers' Produce Trade and Commerce (Promotion and Facilitation) Bill* seeks to completely open-up the sale of produce outside the APMCs. It not only creates an e-highway for trading and transactions, but also creates a structure for e-trading of agriculture produce. Farmers are allowed to sell their produce outside of the APMCs, and that creates a possibility for more competition and better pricing for farmers. The *Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Bill* creates a framework for contract farming. It provides a template at the national level of farming agreements, with regard to agribusiness, processing, and the entire range of services including wholesalers, exporters and large

Landmark Bills Passed by Parliament during Monsoon Session 2020

Historic Agricultural Reforms

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The Farmers' Produce Trade and Commerce (Promotion and Facilitation) Bill, 2020
 Provides efficient, transparent and fairer markets & completely freeing farmers for freedom of choice, selling to sell & purchase
- 
The Farmers (Empowerment & Protection) Agreement on Price Assurance and Farm Services Bill, 2020
 Provides assured price for produce, price benchmark, the produce safety through with assured price, processing & quality, market
- 
The Essential Commodities (Amendment) Bill, 2020
 To ease immediate investment, reduce investment & attract farmers invest



retailers for sale of farming produce at a mutually pre-agreed price. Following the passage of the bills through Parliament, the President of India Shri Ram Nath Kovind gave his assent to them.

Smart implementation of the new farm bills will lead to four significant changes: An increase in farmer's income, the rise of agri-entrepreneurs, massive private investments in agriculture, and a jump in farm product exports. Put together, this package of legislations seeks to open up the farming at both ends – production (through contract farming) and sale (through complete deregulation). But most importantly these bills will diffuse technology and innovation into the most traditional sector of the Indian economy. The bills create a channel for interaction of agriculture with the booming science and technology sector of the country. Government of India, along with Microsoft, has begun empowering small-holder farmers in India to increase income through higher crop yield and greater price control using AI sensors. Microsoft, being the technological partner, is working with farmers, state governments, the Ministry of Electronics and Information Technology (MeitY) and the Ministry of Agriculture and Farmers Welfare to create an ecosystem for AI into farming. Working with the engineering conglomerate Escorts for its cloud



and AI technology. Microsoft is enabling precision agriculture capabilities and thus, helping farmers to make informed decisions. These government efforts are expected to be supplemented by domestic startups looking to exploit the innovation potential of the agricultural industry. The India government specifically supports AgriTech startups under the Startup India Scheme. Furthermore, it has initiated several schemes to prepare farmers to exploit the opportunities privatisation has to offer. For instance, it has launched Soil Health Card Scheme in 2015, to provide information to farmers on nutrient status of their soil along with recommendation on appropriate dosage of nutrients to be applied for improving soil health and its fertility. Paramparagat Krishi Vikas Yojana is implemented with a view to promote organic farming in the country. Under this scheme, an area of 5 lakh acre is targeted to be covered through 10,000 clusters of 50 acre each, from the year 2015-16 to 2017-18. National Agriculture Market (e-NAM) was started to bring the benefits of the digital age to Indian agricultural by providing e-marketing platform at national level and supporting creation of infrastructure to enable e-marketing. A dedicated MIF created with

NABARD has been approved with an initial corpus of Rs. 5000 crore (Rs. 2000 crore for 2018-19 and Rs. 3000 crore for 2019-20) for encouraging public and private investments in Micro Irrigation. The main objective of the fund is to facilitate the States in mobilising the resources for expanding coverage of Micro Irrigation. Alongside, Central Research Institute for Dryland Agriculture (CRIDA), ICAR has prepared district level Agriculture Contingency Plans in collaboration with state agricultural universities using a standard template to tackle aberrant monsoon situations leading to drought and floods, extreme events (heat waves, cold waves, frost, hailstorms, cyclone) adversely affecting crops, livestock and fisheries (including horticulture). Total 614 district agriculture contingency plans are placed in the 'farmer portal' of the Ministry of Agriculture and Farmers Welfare, Government of India and also in the ICAR / CRIDA website for downloading the full plan by stakeholders for operational use.

The fundamental thing to understand about aggregation of farm produce before sale is that it allows for a much better-quality data analysis and interpretation. The more fragmented and disjointed the farmlands are, the tougher they are

to cohesively map the data and come to any useful conclusions. The use of data will be as important to the farming today as, say, the use of seeds, as seminal as that. Data would be needed in every aspect – from analysing climatic transitions to the impact of new kinds of pests. Data would also be important in determining the volume and quality of organic produce which is fast becoming a key area of growth in Indian agriculture. By unshackling farms and allowing for greater possible integration, the new farm regulations have created the path towards more data integrated farming in India which will make the country and its food security systems better prepared for climate change transitions. The possible grouping could also garner better negotiating power for farmers which allow them to set the price bar at the level of their choice, with greater flexibility of moving up or down the price chain. Such aggregation would also fuel deeper interests and investments in building cold chains and other storage and processing mechanisms. A very small percentage of farm produce in India is, at the moment, processed, and the encouragement of more widespread processing is one of the key factors in helping Indian farm produce get better market value.

Indian food produce is getting more specialised in many ways. New companies and experiments – like Araku coffee from the Eastern Ghats which has

now made its mark in Paris – are coming up deliver Indian farm produce not just as a commodity but as an experience. More and more customers, at home and abroad, want to understand not only details about the product but its origin and unique features. With its wide range of different climates and geographies within one country, India is moving towards marketing its food products according to their geographical location and uniqueness. This is boosted by other government programmes like Geographical Indication (GI) which situates a product as being a unique item of its geography, and One District One Product (ODOP) which seeks to promote unique items from every district of the country. This propelling of unique agricultural products needs both investments and marketing, both of which is more easily possible when farmers are unrestricted about the sale point of their produce. Already many of the GI products of India and the ODOP products are farm-related produce, seen in collaboration of the new farm bills, they provide new pathways to unlock deeper value from India's agricultural produce.

The third key point which is worth understanding about the importance of the farm bills is that they further the process of connecting Indian farms to largescale buyers by allowing a merger of produce from fragmented land holdings and ensuring that a standardised quality can be





maintained which could get long-term premium value. The entry of suitably organised large buyers would, in turn, help further organise the Indian agricultural market which would boost sales, volumes, and importantly, farm productivity. It has long been clear that India has scope to further improve its farm productivity and this may well be the tipping point when this starts to happen. The boosting of Indian farm productivity – and the betterment of the quality of Indian agrarian produce – would be critical in meeting the future food demands of the world's growing population.

In essence, the importance of India's new farm bills needs to be studied in conjunction not only with other important government policies in the sector, but also in the light of developments in the sector, whether it is with the use of technology or in bringing in greater private investment and marketing prowess into the sector.

The new farm bills have therefore opened the gateway for a reimagining of Indian agriculture as an area of innovation and growth. This reimagining is vital for the sector as it will no longer be perceived as a laggard in the Indian growth story and take its rightful position in the world agricultural market as the world's premier food hub. India is already a world leader in the production in a range of fruits and vegetables and among the biggest in staples. All that is needed now is for India to restructure

its agriculture sector so that its productivity – and farmer incomes – rise exponentially. This can be done by moving steadily towards streamlining operations, more data-driven production, and a focus on processing and branding its farm products, not just for the domestic market but also for the world.

The new farm bills in India therefore mark an important pivot in the conceptualisation of Indian agriculture and should be considered a new beginning in the sector. They will go a long way in fulfilling the country's ambition in bringing about a doubling in farmer income and help India's position itself as a cutting-edge innovator in the world agriculture.

Footnote

1. <https://pib.gov.in/PressReleasePage.aspx?PRID=1644579>
2. *Ibid.*
3. *Ibid.*

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Smart Villages: Drivers of Inclusive Growth

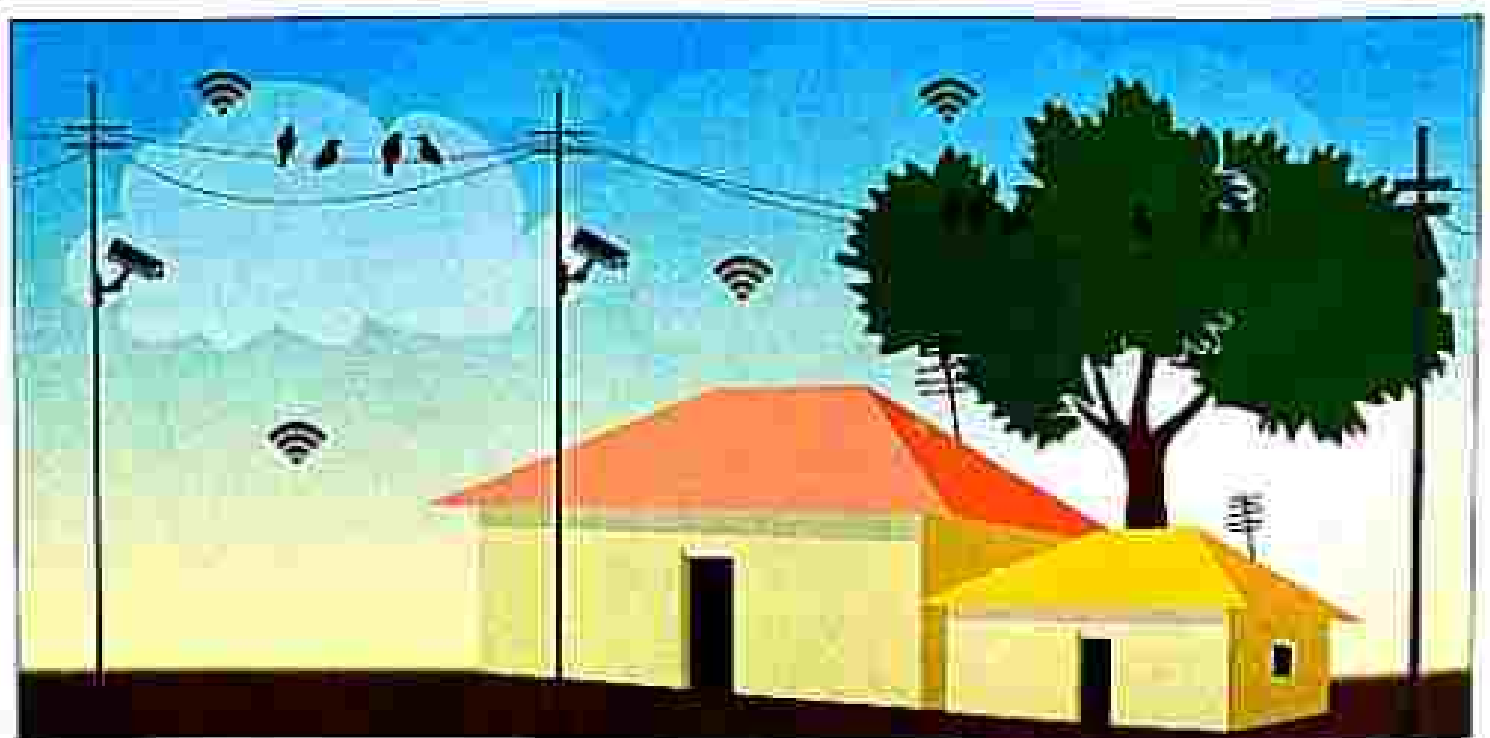
Partha Pratim Sahu

Smart village could be an effective strategy for creating a strong, sustainable and self-reliant rural economy. In simple terms, smart village initiatives envisage holistic and integrated development of villages or multiple areas, health, education, livelihood and community development and so on. It also envisages bundle of services delivered to its residents through community participatory approach in an effective and efficient manner.

The vision of New India 2022, an India free from poverty and corruption rests largely on the growth and development of rural India. Because, according to the 2011 census of India, 68.84 percent of Indians (around 833.1 million people) live in 640,857 villages. Rural economy contributes half of the manufacturing, one-third of the services sector and the complete agricultural sector. The villages contribute a great deal to the national economy, however, it appears they get less, in return, than the contribution they make. Further, Indian villages are not homogenous and are deeply rooted with varied socio-cultural diversifications. Each village has a different story and history and follow a unique path of development and growth trajectory. But, it is a right time to prepare our villages to innovate and empower to accelerate social and economic changes to serve the under-served communities. COVID-19 pandemic and the subsequent intense and prolonged lockdown not only created a livelihood crisis but also lead to public health, education and

humanitarian crises. The local institutions have played a very vibrant role in responding to this crisis with various adaptability and coping measures. At this critical juncture, Smart village could be an effective strategy for creating a strong, sustainable and self-reliant rural economy. It matches well the underlying thinking of the Central Government's *AatmaNirbhar* campaign and 'Vocal for Local'.

Of late, in the wake of national and global enthusiasm, the term 'smart village' as an idea and a practice has gained importance in rural development planning and policy. An attempt has been made by various stakeholders, including central and state governments, NGO, and corporate sector to formulate different policies and schemes envisaging smart villages to address issues of rural transformations, inclusion and democracy. There are many central government schemes implemented by various ministries such as Unnat Bharat Abhiyan (UBA), Pradhan Mantri Adarsh Gram Yojana, Shyama Prasad Mukherji Rural Mission (SPMRM) and the



Sansad Adarsh Gram Yojana (SAGY) with an aim to bring transformative changes in our villages. Since 2015, many state governments, including Andhra Pradesh, Telangana, Gujarat, Uttarakhand, Maharashtra, Jharkhand also announced Chief Minister Smart Village (or Adarsh Gram) Yojana. In addition, many NGOs, corporate sector, under their Corporate Sector Responsibility (CSR) and Non-Resident Indians (NRIs) are also working closely in many Indian villages to create model villages. However, under each of these efforts, the concept of smart village has been visualised differently with varying set of indicators and goals. Recognising the importance of evidence-based policy making, a serious effort is also undergoing in collecting village or panchayat level statistics. The Socio Economic Caste Census (SECC), Mission Antyodaya and the ongoing Ease of Living (EoL) surveys are important efforts towards evidence-based objective criteria for selection of households for targeted delivery of important flagship schemes for developing the rural areas.

The expressions such as 'Smart village', Model village, or 'Adarsh Gram' have often been used as synonymously, despite the great ambiguity in India, regarding their contents. There is no universally accepted definition of a Smart village. The conceptualisation varies from scheme to scheme. In the scheme, Pradhan Mantri Adarsh Gram Yojana (PMAGY), an 'Adarsh Gram' is defined as one wherein people have access to various basic services so that the minimum needs of all the sections of the society are fully met and disparities are reduced to a minimum. These villages would have all such infrastructure and its residents will have access to all such basic services that are necessary for a dignified living, creating thereby an environment in which everyone is enabled to utilise her/his potential to the fullest. In simple terms, smart village initiatives envisage holistic and integrated development of villages on multiple areas, health, education, livelihood and community development and so on. It also envisages, bundle of services delivered to its residents through community participatory approach in an effective and efficient manner.

The amount of funds required and possible sources for such funds to carry out Smart village initiatives is also a crucial aspect. In recent past, a substantial amount of funds are being allocated for the well-being of the rural people by various



ministries, under national flagship schemes. In addition, transfer of funds under 15th Finance Commission, State Finance Commission (SFC) and own source revenues provide opportunities to carry out various initiatives to convert villages into model

Good Cases of Smart Village

There are many Indian model villages known across the globe for their unique and exemplary achievement in specific areas. To name a few: Mawlynnong (Meghalaya-Asia's cleanest village); Ralegaon Siddhi and Hiware Bazar (Maharashtra-environmental conservation and irrigation system and water conservation program); Chhotker village in Angul district (Odisha-micro grid, solar power); Mori Village in East Godavari district (Andhra Pradesh-fully digital with internet and wifi); Handigram in Itanagar administrative block in Uttar Dinajpur district (West Bengal-ICT equipped schools); Purnari Gram Panchayat (Gujarat-Wi-fi facility in the village, installation of CCTV in several places of the villages); Anandwadi, (Maharashtra-gender equality, the nameplates outside the houses proudly display the name of the woman in ownership of the house); Hazipalli Gram Panchayat (Telangana-ODF, Solid Waste Management, underground drainages and zero mosquitos). It is important to study and document these good cases and draw lessons and use those to leverage and replicate in other parts of country with necessary customisation and tweaking, if any.

or Smart villages. However, there is a need to have a close assessment of the existing smart village models with a focus on infrastructure creation, introduction of Internet of things (IoT) and use of ICT and IT-enabled services. There is a need to deal firmly with the digital divide in the rural areas of the country as low penetration of internet and ICT usage can be noticed in the rural India. The use of technology should be kept limited to a facilitating or enabling factor in developing the village through holistic intervention for improvement of infrastructure and basic facilities therein, involving the Panchayat Village Self Government in development programmes and to create environment for participatory efforts. It is necessary to promote development of rural areas in tune with Gandhian vision of self-sufficient, 'village republics', based on local resources and using decentralised, eco-friendly technologies so that the basic needs of food, clothing, shelter, sanitation, health care, energy, livelihood, transportation, and education are locally met and the goal of faster and inclusive growth is realised.

Framework and Analysis of Smart Village

It is important to draw a strategy for preparing a holistic framework of a self-sustainable and

viable model of smart village and also develop a measurable and monitorable set of indicators to grade our villages or panchayats and an executable plan within the existing rural institutional framework (see box-1). Any smart village initiatives must visualise a framework based on the existing strengths of the village and harnessing those strengths for improving efficiency and efficacy in governance, service delivery and make our villages and villagers smart and happy. The framework must take into account various factors including socio-economic and infrastructure development, conservation of natural resources, environment, preservation of socio-cultural fabrics of the villages and the technology that can enable holistic development of villages. The Sustainable Development Goals (SDGs) must be placed in the heart of social and economic transformation of villages.

Each village has varying needs and requirements at various context. Given the limited resource endowments and competing needs of the villages, it is important to prioritise, while making any investment decision on any specific areas. In the current rural economic scenario, the smart village

Box-1

An illustrative list of intervention areas and monitorable indicators to grade village or panchayat

Intervention area(s)	Possible Indicator(s)
Food, health, nutrition and sanitation	Indicators relating to access to safe drinking water, electricity, toilet facilities and other basic items which will be mandatory; birth and death registration, access to primary and secondary healthcare facilities, incidence of under-mal-nourishment, anaemia, use of sanitary napkin, open defecation etc. and online service delivery.
Education, skill and training	School (higher education) enrolment, coverage under RTE, access to computer and IT education, access to vocational training, AWC with minimum infrastructures (building and play school items), availability of school playground.
Livelihood avenues and economic development	Access to food availability, working of FDS, families under the ambit of SHG, families under the ambit of formal financial institutions, innovative methods of cultivation such as organic farming, rain water harvesting, alternative cropping patterns, innovations to improve agricultural productivity, non-farm employment opportunities, preservation of traditional crafts, rural tourism/homestay etc.
Environment, climate change and common property resources	Conservation of rain water, recycling of used water, recycling of plastics, use of energy-saving electric appliances, use of renewable energy, plantation of trees, innovation to reduce carbon foot print, solid & liquid waste management etc.
Infrastructure, governance and social progress	Access to good roads, availability of regular transport facilities, participation of people and community mobilisation, number of gram sabhas, women's participation in gram sabhas, absence of untouchability, child marriage, domestic violence, litigation and conflicts, abolition of caste system and related mal practices, celebration of festivals, cultural participation, artistic skills, community relationship, safety, spirituality and life satisfaction.

thinking must insure empowerment of villagers on three counts, i.e. economic, digital and institutional. Towards economic empowerment, efforts must be made to create multiple remunerative livelihood and entrepreneurial avenues for rural people. Skilling of the youth and women could play a decisive role in the current situation. The skill mapping exercises of the reverse migrants initiated in many states including Uttar Pradesh, Jharkhand, Odisha, and Chhattisgarh is a welcome move. Access to shared services, Common Facility Centres, Cluster Development Programmes, Farmer Producers Organisation (FPO), Producers Companies are going to make perceptible impacts on micro and small enterprises and SHGs operating in rural areas to scale up and generate employment for the local people. Strengthening market linkages by rebuilding supply chain, connecting rural entrepreneurs with e-commerce and providing long term and continuous handholding and mentoring are the need of the hour. The contemporary situation demands for a transformation of subsistence agriculture into a diversified farming business and this process of transformation can be driven by youth. To attract youth into agriculture, it has to be transformed into a vibrant and tech-savvy sector by introducing robotics, ICT and nanotechnology. Agro-entrepreneurship, food processing and value

chain development will also encourage youth into agriculture. Customised training and capacity development programme on rural innovation, technology and entrepreneurship on various sectors such as agriculture, food processing, handicrafts, organic home products, sustainable housing, energy, water and sanitation and so on are to be promoted. It should also be the occasion to revive the rural handicrafts and cottage industries so that high value products can be manufactured through labour intensive methods and sold both in national and global markets.

Digital enablement is a crucial ingredient of smart village. It comprises of technology based innovative solutions, data-driven decision making and development, skills to use smart technologies and make smart decisions, greater connectivity to access various services to achieve high standard of living and inclusive development of all sections of the society. Although penetration of ICT in rural areas has to be increased, the smart village initiative to succeed, digital interventions in all spheres of their life will be very crucial. Adequate funding along with training and capacity development of rural population to navigate smoothly to a digital ecosystem is required. During the COVID-19 there is urgent need for subsidised digital connections, mobile handsets and other electronic gadgets



for the underprivileged sections of the society in remote locations of the country, Technological changes under smart village initiatives should also focus on improving the governance, transparency and accountability.

The economic and digital empowerment should be based on existing set of institutions operating in rural landscape. There is an elaborate set of rural institutions i.e. Gram Panchayat, Health Sub-centre, Anganwadi, Post office, Primary School, PDS Shop, Library and Sanitary complex and village communities such as co-operatives, village committees, FPOs, residence associations, SHGs and youth clubs. It is important to mainstream these village communities and rural institutions in designing a smart village. The whole approach of smart village should be based on an institutional pedestal, which is Gram Panchayat (GP) and we need to increasingly engage with GP and enable them to be self-sustainable. The concept of smart village needs to be mainstreamed in the Gram Panchayat Development Plan (GPDP) and the whole process needs to be captured in it. Empowering Gram Sabha and GPDP could be truly effective tool to mainstream smart village initiatives in the rural development strategies and economic policies. Several challenges associated with governance deficit, transparency in implementation of programmes, poor education levels to use the IT tools and platforms, and poor participation levels by village communities and individuals in collective decision making need to be addressed. Providing continuous training and capacity development for each rural development and panchayat/raja functionaries in the village institutions through a) leadership and self-development b) continuous self-learning and skilling up in their core roles and c) awareness of policies, procedures to make them enabled to do their jobs better and so on will be crucial to address the above challenges. Investment, finance and resource allocation to carry out various activities under smart village initiatives must be organised from multiple sources such Government, NGOs and corporate sectors. Efforts should also be explored to leverage public-private partnership and volunteerism. But convergence of and synergy of all Government initiatives and their successful implementation will be crucial to convert are village in to smart villages.

As new employment generation is constrained of slump in demand, under smart village initiative, more efforts should now be made towards self-employment ventures, entrepreneurship and rural start-ups. Customised schemes should be designed for women, youth and underserved communities such as Scheduled Castes (SCs) and Scheduled Tribes (STs). The scope and reach of MUDRA loans, Start-up Village Entrepreneurship Programme (SVEP), etc., must be leveraged. The Self-Help Groups (SHGs) are to be graduated as an economically-viable and productive enterprise through cluster development, value chain development, collectives, enterprise development, skills training and access to larger value loans through digital finance. An effort should also be made to sensitize rural entrepreneurs about the Central Government's MSME Package and help them getting benefit from it. In such crisis time, provisioning of counselling, mentoring and handholding for the youth and women will also be very important, both for skill and entrepreneurship development. Panchayat secretariat should play a role of 'point of contact' and enable rural entrepreneurs to connect with various schemes and programmes.

Smart village needs to be understood from the perspective of the most vulnerable in the rural areas. Various organisation and stakeholders working in rural ecosystem must unite and work in partnership in designing and implementing initiatives to make substantial progress in our journey towards smart villages, which will ensure a more inclusive society and economy. Needless to say, a strong commitment to improving local institutional capacity is not a guarantee for a more inclusive smart village trajectory, but is one of its necessary conditions. Smart village should focus less on technology alone, and more on people, processes and institutions.

To revive, rebuild and reconstruct the rural economy especially after the outbreak of COVID-19 pandemic, smart village initiatives could be an effective strategy. It is time to reach out to each and every village and start a fresh conversation on smart village for realising an inclusive, sustainable and self-reliant India.

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Start-up Ecosystem in Rural India

Artif Lone

In India, the Start-up ecosystem has evolved to a great extent in the last decade. It started from a few metropolitan cities such as that of Bangalore, which many a times has been referred to as the Silicon Valley of India and then spilling to Mumbai, Delhi, and Hyderabad. Start-ups have also become drivers of growth and prosperity, delivering jobs, and bringing socio-economic development to the countries both developed and developing.

Innovation holds the future. In today's world, no nation can survive without making innovation and creativity pivotal to its ideas and actions. The new business models are based on the out of box ideas and hence have come to be known as Start-ups. The potentially scalable innovations, when launched through Start-ups can create impactful solutions to the problems faced locally as well as at the global front and end up improving the quality of human life.

Start-ups have also become drivers of growth and prosperity, delivering jobs, and bringing socio-economic development to the countries both developed and developing. The brilliance of these Start-ups lies in the idea, that even a teenager, without a penny in his pocket but with an idea and the will to execute, can set-up and run a billion-

dollar company. Therefore, it brings some parity in the field. However, how long these ideals will run the show is something to be seen.

In the recent times, unicorn term has been used for the start-ups with a valuation of over \$1 billion and defines the monetary success for the start-ups. India has also seen its share of success in the Start-up world. InMobi became India's first Unicorn to get the recognition in 2011, and since then we have grown many folds and today India is 4th across the world in producing unicorns. Even in the pandemic, India has added 6 new unicorns to the list, with RazorPay being the latest addition. These examples not only inspire people, but also make us believe that ideas know no boundaries.

India with a population of nearly 1.3 billion, has become a significant market for the products and other business offerings produced within and



Indian



outside the country. The country has one of the fastest growing economies and the changing socio-economic scenario, which has further strengthened the purchasing power of the middle and lower-middle class having the capacity to support plenty of Startups in the country. This coupled with the need for innovative solutions to improve the living conditions as well as alleviate poverty, and the need of technological interventions across the sectors provides access to the large customer base.

The technological intervention has further reduced the costs to setup the companies as the need for physical spaces has reduced and customer acquisition has become cheaper as well, therefore providing an opportunity for the technology startups for scalability and exponential growth. Internet has been one of the most powerful tools of the modern world, it has brought the world closer than we could have ever thought of. It pushes new ideas to penetrate the society swiftly. When, the public use of internet started in India in 1995, nobody would have thought, where it would take us. Today, around 55 percent of our population uses internet and has become a readily available market to sell products. Therefore, made it easier and accessible to reach the customer base virtually from anywhere with internet giving boost to the Start-up eco-system. On the other hand, it has also made it accessible and convenient for the customers as well.

Therefore, to strengthen the eco-system in order to derive futuristic benefits, a major boost to the Start-up eco-system after we had our share of success in the field, came from the government in 2015 when the Prime Minister launched the Start-up India programme. This initiative has been a game changer and has brought us to become third largest Start-up ecosystem in the world, with the year on year growth of almost 10 percent. Every day, with the advent of new technology-based start-ups, the faith that the nation is moving ahead with tremendous grit and determination in solving the problems faced locally as well as globally, is strengthened.

In India, the Start-up eco-system has evolved to a great extent in the last decade. It started from a few metropolitans such as that of Bangalore, which many a times has been referred to as the Silicon Valley of India and then spilling to Mumbai, Delhi, and Hyderabad. However, it is important to understand that the eco-system has many stakeholders, first among them of course being the government which provides various

In India, the Start-up eco-system has evolved to a great extent in the last decade. It started from a few metropolitans such as that of Bangalore, which many a times has been referred to as the Silicon Valley of India and then spilling to Mumbai, Delhi, and Hyderabad.

enablers for creating an aspirational eco-system, Universities whose research work is being taken up, Incubators and accelerators which help in commercialising the business idea and then scaling them up and of course the financial institutions and investors who play a major role in promoting the culture of entrepreneurship. It is when all these stakeholders come together that a healthy eco-system is formed.

Financial institutions have played an important role in boosting entrepreneurship across the globe; however, it is angel investors and venture capital firms

which have been instrumental for creating Start-up eco-system. These funds started to arrive in India around 2008, and thereafter many investors working internationally started to make rounds to make investment in India based Start-ups. This scenario has since been emerging and more and more investors have flown to India, while many companies have been established in India as well. The investor companies as well have seen an exponential growth, however the demand for the same has also increased manifold with more and more start-ups being established in the country.

It is with the support of Start-up India, that more than 30 States and Union Territories in India have come up with Start-up policies focusing on providing physical infrastructure and seed money to the start-ups besides various capacity building and exposure initiatives.

This eco-system has now started to extend to the smaller cities and towns as well. The flagship programme of the government, Start-up India has been instrumental in this, by connecting these small networks together and bringing them to the common platform has been one of the success of the team running the Start-up India campaign. Not only this, but they have also been creating a pool of mentors, to even out the mentorship for startups working out of tier-2 and tier-3 cities besides various challenges and hackathons they host, to find affordable solutions.

It is with the support of Start-up India, that more than 30 States and Union Territories in India have come up with Start-up policies focusing on providing physical infrastructure and seed money to the start-ups besides various capacity building and exposure initiatives. Besides this, they have also come up with a ranking framework for States and Union territories, in which Gujarat emerged as the top performing State this year, while as Andaman and Nicobar was judged as the best performing Union Territory.

In addition to this, different ministries of the government have unfolded various schemes and



programs to support incubator and accelerator programs. The government policies have laid much focus on the innovation across private as well as government sector, being aware that the technological interventions will help improve the living conditions of the people as well as create socio-economic change.

However, the government doesn't directly incubate the Start-ups, but they fund setting up of incubators through various ministries and departments, such as that of Department of Science and Technology, Ministry of Electronics and Information Technology, Department for Promotion of Industry and Internal Trade through Start-up India and NITI Aayog through Atal Innovation Mission. Under various schemes of these ministries not only are the funds provided to set-up incubation centers, but incentives to start-ups are also provided in the shape of stipend, seed money, patent filing costs etc.

The incubation programmes supported by the government has today played an important role in bridging the gaps and the eco-system has started to develop in tier 2 and tier 3 cities. The Start-ups from these cities have started to get some visibility and support from organisations in the field working pan India. These opportunities have now opened possibilities for founders of the Start-ups to interact with and learn from each other, some of the founders from these smaller cities get their co-founders from cities where the start-up culture has matured.

The support has come a long way in spreading the wings of innovation and incubation to the remotest of the cities across India. One of the most prominent of all these programs has been Atal Innovation Mission, which works under the aegis of NITI Aayog. They have successfully established more than 100 world-class incubation center in different sectors across the country, with in-house seed funding and mentorship available in these incubators. Another, flagship program that they run is Atal Tinkering Labs for schools, to provide a platform for the young minds to express their creativity at a young age, the achievement of which will start unfolding in next decade when these students will establish their start-ups.

Most of these incubators are sponsored by the government and are run in the academic

institutions, which gives leverage to students to participate in enterprise creation while still in college or university. These incubators as per the requirements of the funding agency have to be registered as not for profit organisation, at least in the government sector. Incubation centers have become vehicles of change, bringing the change and becoming pivotal to the building of start-up eco-system in the rural areas. They not only provide necessary assistance with the physical infrastructure to establish an enterprise but provide the hand holding in the converting the dreams into realities, an idea into a prototype, validation and launch of product.

Seed fund becomes one of the most important investment a Start-up receives, as this comes at an early stage while the start-up is boot strapping. It provides the required impetus to the startup for continuing with either the research and development needed in the product development or having the pilot run of the project. This is covered by the various programs run by the government under Biotechnology Industry Research Assistance Council (BIRAC) with a major focus on promotion of Biotechnology through Research & Development with funding schemes available to supports all stages of product development right from proof-of-concept demonstration to product commercialisation. MIDHI-PRAYAS, Promoting and Accelerating Young and Aspiring technology entrepreneurs is one of the many programs, to support the innovators from across the country to prototype their inventions and innovations with support from government, giving them enough space to test their ideas, allowing them to reach a stage where they have a ready product and are willing to approach incubators for commercialisation and other MSME schemes for creating prototypes.

Daskdan Innovations, a Srinagar, J&K based Start-up is one such example of start-up struggles and glory. In modern agricultural practices, often ignored is the risk of health hazards associated with the use of medically important drugs. This ignorance can lead to major public health problems, that include Antimicrobial Resistance (AMR). Daskdan Innovations has focused to limit the dependency on in-feed drugs used in the animal industry. The long-term objective being to intercept the

"AMR evolution in livestock" before it impedes all "preventive measures".

The Start-up was recently awarded the Biotechnology Ignition Grant (BIG) from Biotechnology Industry Research Assistance Council (BIRAC), Dept. of Biotechnology, Government of India for a proof-of-concept (POC) that is focused on enhancement of animal health.

However, before getting this grant, they had been looking for opportunities that help budding entrepreneurs/start-ups to validate their idea during which they applied for National Bio-Entrepreneurship Challenge, where they were given an opportunity to present their idea, before a jury. The experience was extremely helpful as the failure to proceed further in this challenge bought them back to the drawing board and helped them to come up with a better idea. With the new refined idea, they were selected for Academia Industry Training 2020 and were ranked among India's top 10 start-ups, supported by Society of Innovations and Entrepreneurship (SINE), IIT Bombay and Department of Science and Technology for global potential and hence invited to Switzerland by VentureLab in Feb'20. During AIT fellowship, they were offered National Initiative for Developing and Harnessing Innovations (NIDHI) Entrepreneur-In-Residence (EIR) fellowship by SINE. They refined their idea during the period in EIR fellowship and were able to work on the business model with mentors. These sessions helped them finally to bag the Biotechnology Innovation Grant (BIG). The Centre for Cellular and Molecular Platforms, or C-CAMP is their BIG partner. At present they are virtually incubated at C-CAMP and physically incubated at Jammu and Kashmir Entrepreneurship Development Institute (JKEDI) and have initiated the process to avail offering made by the institute and J&K government to promote Start-ups.

Looking at the start-up scene it can be said, without any doubt that Indian market is going to be one of the most vibrant eco-system for Startups, with the increased support from all corners including that of the government as well as the private sector investors and other centers of excellence. The overall situations instills the country with confidence that India as a start-up ecosystem shall continue to mature, with an increased focus on mentoring,

networking and availability of investments across sectors including Agri-tech businesses, which can be a game-changer in bringing the significant change to the overall development of the nation.

Start-ups do not work in isolation and hence, are a part of the larger economic scene of the country and depends on the factors, such as that of ease of doing business, the easy exit option, time bound registration, government documentation and standard operating procedure for government procurements keeping in mind the start-ups. The flow of investments has picked up, however more players to invest in early stage start-ups would have to come up and not only focus on the metropolitan cities, but create an accessibility for start-ups pan India to apply and get funded. Incentivising the larger companies for setting up incubation center and running acceleration programs in rural areas under the corporate social responsibility for focusing on low-cost and high impact solutions can help speed up the process to further strengthening the start-up eco-system.

Therefore, while there are tremendous opportunities, we have our set of challenges as well. However, history stands witness to the fact that homo-sapiens by their very nature have been enterprising from the very beginning. From the times, when we were foodgatherers, to the times when food delivery apps deliver our meals at our doorsteps, we have come a long way. The challenges have been tremendous and so have been our responses. And that is where we learnt our first Start-up lesson, "Every problem is an opportunity in making". As it may be, the challenges to integrate the rural India with that of the urban centers may be many as in the fields of healthcare, education, skill development, banking, electricity, water and waste management as well as that of improving agricultural production, improving employability and accessibility to the remotest areas. There are so many opportunities for start-ups to bridge these gaps. If we continue to work with speed and hold on to our year on year growth, we are not far from becoming the world's best eco-system for start-ups.

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Rural Self-Employment Training Institutes

K. Bagthavarao

Rural Self Employment Training Institutes or RSETIs are a cost-effective medium for creating employment. They have the ability to drive the local economy. The RSETIs are required to provide training to the rural youth under entrepreneurship activity with a common objective of promoting the creation of sustainable rural enterprises.

India today has the advantage of having nearly 34 percent of youth population. As per available data, the unemployment rate in India was 7.20 percent in December 2019. The unemployment rate in urban areas was recorded nearly 6 percent while in rural areas it was nearly 10 percent. According to the latest data, there may be 18.9 million unemployed people in India by December 2019. Due to COVID-19, this number may increase further. To tackle the issue of unemployment, self-employment is the best alternative. To fulfill this cause, Ministry of Rural Development (MoRD) has opted the concept of Rural Self Employment Training Institutes (RSETIs). The role played by RSETIs in India is to facilitate youth to start their own business by providing them skill upgradation programmes and training them in latest technologies. The RSETIs are extending their support to the youth who are willing to take up self-employment activities. The entrepreneurship development in rural youth has

to take place by stimulating their mind followed by bringing in the appropriate technology training and credit within their reach.

Objectives and Scope of the RSETIs:

- Rural youth belonging to poor families are identified and trained for Self-employment.
- The training programs conducted will be demand driven.
- The trainees will be provided intensive short-term residential training programmes free of cost, with food and accommodation.
- To develop confidence in unemployed youth.
- To promote rural entrepreneurship.
- Handholding support for credit linkage with banks.

Rural Self Employment Training Institutes (RSETIs) are unique skill development organisations operating in districts across the country. They are engaged in developing skill among the



Transformation of the youth into productive assets for short duration interventions.

Vision



Enhancing rural youth livelihoods creation through entrepreneurship and skill-based youth as a core business strategy.

Mission



The entrepreneurship development and take-up of a new business intervention, if properly designed, consistently the youth would have gained more exposure in their local areas and this serves as the best way for accelerated learning during training. It is therefore, possible to turn the youth into a short period of 1 to 3 months to bring a positive attitude, self-confidence, resources, understanding, knowledge, skill, and higher self-motivation.

Philosophy



unskilled/semi-skilled persons and facilitate the trained persons to establish rural enterprises and secure sustainable livelihoods. Though RSETIs are sponsored and managed by different banks, they have a common objective of promoting the creation of sustainable rural enterprises. The Union Ministry of Rural Development, the Banks and the State Governments are the partners in the RSETI concept.

The important feature of RSETI scheme is its free residential training of 6 to 45 days duration and long-term hand-holding support for two years. The RSETIs are required to provide training to the rural youth under entrepreneurship activity. This initial residential training gives an opportunity for the trainees to live in a different environment with extended hours of learning which also facilitates to change the mindset of trainees towards a positive attitude in their life.

To start the initiative, the Ministry of Rural Development (MoRD), Government of India, advised the banks in 2009 to set up one RSETI in each district by the concerned Lead Bank with the support of the State Government.

Salient features:

- i) Every RSETI should conduct 30-40 different Skill Development Training Programmes in a financial year. All programmes should be of short

duration, ranging from 1 to 6 weeks. Each RSETI should provide training to a minimum of 750 rural youth belonging to the Below Poverty Line (BPL) category. The programmes can be related to agriculture and non-farm sector, ranging from Agriculture-dairy, poultry, fisheries, etc., repair of irrigation pump sets, tractors, mushroom farming, vermin-compost, manufacturing of agarbatti/soaps, Desktop publishing (DTP), tailoring, beauty parlor, etc.

- ii) To establish RSETIs and to remove bottlenecks in the smooth functioning of RSETIs, a National Level Steering Committee consisting of members from RBI, NABARD, banks etc. has been set up under the Chairmanship of Secretary, MoRD. National Institute of Rural Development (NIRD), Hyderabad is the nodal agency for implementation of RSETI project.
- iii) Certain minimum basic standards for the RSETIs to be set up by the sponsored banks have been proposed in the guidelines. As per guidelines, two to three classrooms with separate toilet facilities for women and men, two workshops, office room for Director and rooms for administration, maintenance, reception, etc. are to be established. Hostel facility for trainees should include two dormitories with bath and toilet facilities, one kitchen, and a dining hall. Residential quarters for Director and supporting staff are also to be created in the setup.
- iv) RSETI is an independent body and separate from the bank. Its functioning and management is to be looked after by a Director on deputation from the sponsoring bank. Faculty for training and other supporting staff can be engaged on a contract basis or maybe deputed from the sponsoring bank. Salary of the Director is to be borne by the sponsoring bank. Recurring expenses incurred by the RSETIs like lodging and boarding of trainees are reimbursed by the DRDA (District Rural Development Agency) and expenses for capacity building like wages of trainers, logistics, etc. are reimbursed by the NABARD/SIDBI.

For overseeing the implementation of the scheme in SBI, which is the largest bank in the country, a Governing Council has been set up at Bank's Corporate Center, Mumbai under the FI&MM

department. The governing council is headed by the General Manager and Director, State Bank Institute of Rural Banking (SBIIRB) Hyderabad, a premier training institute in agriculture and rural banking. Central Management Committee of the Bank also reviews the performance of RSETIs at regular intervals.

Cumulative Performance of SBI RSETIs as on 31.03.2020

S. No.	Particulars	
1.	No. of RSETIs	152
2.	No. of Candidates Trained	8 lakhs (approx.)
3.	Out of total trainees, percentage of Women	70
4.	Percentage of candidate's credit linked	47
5.	Percentage of candidates settled (Bank finance + Self finance)	68

Source: www.sbi.co.in

There is an important set up to streamline and monitor the functioning of RSETIs at the local level. At each RSETI, a 'Local Advisory Committee' (LAC) has to be set up with representatives from sponsoring bank, NABARD, District Industries Center, DRDA, the Employment Exchange Office, vocational Institutes like Krishi Vigyan Kendra's (KVK) etc. and eminent persons engaged in rural development. The Committee is to be headed by a Regional manager of the sponsoring bank and Director of the RSETI as the Convener. The Steering Committee has to ensure that objectives and guidelines of the RSETIs are followed and implemented in true spirit. The committee should act as a forum for interacting with different interest groups and stakeholders to ensure the effective utilisation of RSETI for creation of employment opportunities.

- v) RSETIs are mandated to impart training to unemployed rural youth particularly from BPL families and develop skills and build up the confidence to take up the entrepreneurial

Performance Highlights (as on 31.03.2020)

Year	Trained	Settled	Wage Employed	Self Employed	Self-Finance	Bank Finance
2019-20	3,84,025	2,81,645	19,779	2,61,872	1,31,400	1,30,466
2018-19	4,03,672	2,96,857	24,823	2,72,029	1,32,558	1,38,491
2017-18	3,74,421	2,57,358	22,565	2,35,393	1,20,589	1,08,804
Cumulative since 2008	25,80,770	24,41,083	2,36,128	22,04,955	11,26,071	10,71,884

Source: HUDSETI website

Success Story

Anitha K. was an energetic and confident individual who always wanted to explore her calibre and efficiency. She and her husband used to work together in Kiteex Garments Company for the past 17 years. She was not at all satisfied with the nature of work and not interested to perform under the control of others. She always wanted to start her own enterprise. But due to lack of knowledge, financial support and motivation, she was not able to pursue this dream. When she came to know about the RSETI concept, she approached RSETI for acquiring necessary skills and resources for establishing her own setup. RSETI trained her and supported her for getting a loan under Prime Minister Employment Generation Program (PMEGP) for starting her project. Vijaya Bank, Bathery branch provided a loan of Rs. 8.00 lakhs for her new venture. Today, not only she has setup her own business, where she is earning around Rs. 30,000 per month; she is also able to give employment to four other individuals in her unit.



Bank-wise and State-wise Rural Self-Employment Training Institutes (RSETIs)

Bank-wise No. of RSETIs functional as on 31.03.2020			State-wise No. of RSETIs functional as on 31.03.2020		
S.No	Name of the Sponsor Bank	No. of RSETIs	S. No.	Name of the State/ UT	No. of RSETIs
1	Allahabad Bank	21	1	Andhra Pradesh	10
2	Andhra Bank	13	2	Arunachal Pradesh	1
3	Arunachal Pradesh Rural Bank	1	3	Assam	26
4	Assam Gramin Vikash Bank	5	4	Bihar	38
5	Bank of Baroda	49	5	Chhattisgarh	18
6	Bank of India	42	6	Gujarat	28
7	Bank of Maharashtra	7	7	Haryana	23
8	Canara Bank	24	8	Himachal Pradesh	10
9	Central Bank of India	46	9	Jammu & Kashmir	21
10	Corporation Bank	2	10	Jharkhand	25
11	DCC Bank, Bidar	1	11	Karnataka	33
12	Dena Bank	13	12	Kerala	14
13	ICICI Bank	2	13	Madhya Pradesh	50
14	IDBI Bank	1	14	Maharashtra	35
15	Indian Bank	12	15	Manipur	1
16	Indian Overseas Bank	13	16	Meghalaya	5
17	Jammu & Kashmir Bank	12	17	Mizoram	1
18	Kotak Mahindra Bank	1	18	Nagaland	1
19	Meghalaya Co-Op apex Bank	1	19	Odisha	30
20	Meghalaya Rural Bank	1	20	Punjab	18
21	Oriental Bank of commerce	5	21	Rajasthan	15
22	Punjab & Sind Bank	3	22	Sikkim	1
23	Punjab National Bank	56	23	Tamil Nadu	30
24	RUDSETI	27	24	Telangana	10
25	State Bank of India	152	25	Tripura	5
26	Syndicate Bank	16	26	UT Andaman & Nicobar Islands	1
27	Tripura Gramin Bank	1	27	UT Dadra & Nagar Haveli	1
28	UCO Bank	27	28	UT Lakshadweep	1
29	Union Bank of India	14	29	UT Ladakh	1
30	United Bank of India	16	30	Uttar Pradesh	75
31	Vijaya Bank	3	31	Uttarakhand	13
			32	West Bengal	19
	Bank-wise Total	585		State-wise Total	585

Source: nirdpr.org.in

activity. Training programmes can be designed/modified as per the requirements in the locality in consultation with the Local Advisory Committee. Support of NIRD can also be sought to make the programme more focused

and take into consideration the potential opportunities in the area. Depending on the changing needs, new programmes may be designed or old programmes can be modified suitably to incorporate the requirements.

Regular meetings as well as interaction with Industry Association, Vocational institutes like ITI/ Polytechnic colleges, District Industries Center (DIC), and other agencies/bodies involved for employment generation activity.

Identification and selection of trainees for various programmes conducted at RSETIs shall be done in consultation with DRDA. RSETI can be the resources center for the banks. Along with the banks, Government agencies like DIC, KVIC and Employment Exchange offices can form the core group to sponsor the candidates. Meetings of BLBC/DCC can be the platform to discuss modalities of sponsoring candidates. Director of the RSETIs shall invariably attend all these meetings. Regular interaction with the banks and DRDA/DIC will ensure the flow of needy and potential candidates for the programmes. As per the guidelines, minimum 70 percent of the trainees should belong to the BPL category from rural areas.

vi) Objective of the RSETI is creation of micro-enterprises or self-employment opportunities in rural areas. RSETI should endeavor to provide credit linkages to the trainees after completion of their training. Involvement of all the stakeholders in sponsoring candidates for training will also result in better credit linkage. Regular interaction with the bank branches, government agencies, and ex-trainees is necessary to overcome problems in credit linkages for undertaking the entrepreneurship activity. After training, constant follow up with the candidates for at least two years is necessary to help them to remove hurdles and instill confidence for the establishment of a successful vocation.

vii) There are 624 lead districts in the country where RSETIs are to be set up by the concerned Lead Banks in those districts. Out of these, as on 31.03.2020, 585 RSETIs are in the functional stage. Efforts are being made by the MoRD, National Academy of RUDSETI (NAR), and the concerned bank and NIRD to remove all the hurdles and ensure establishment of the RSETIs – the center of skill development to enable taking up business activity.

RSETI is a team effort and all players have to play their role to ensure that these institutes deliver on all fronts. The banks on their part have to show commitment by posting a suitable Director- a person with the right attitude, skill, and knowledge coupled with enthusiasm and commitment towards helping the rural youth. The director has to be supported by adequate staff. The banks should put in place a dedicated monitoring mechanism. States should allot land expeditiously and ensure that infrastructure is developed. They should also streamline the system of reimbursing the claim of RSETIs for training of 'Below Poverty Line' candidates as per guidelines issued by the Ministry of Rural Development.

Impact of RSETI Concept

It is understood that nearly 25 lakh unemployed youth have been settled with the help of RSETIs across the country. In addition to their own settlement, some of them have been providing employment to others as well, thereby transforming from the stage of unemployed to employer. RSETIs are a very cost-effective medium for creating employment. They have the ability to drive the local economy and for all stakeholders it is a win-win proposition. All the stakeholders need to implement the scheme in true spirit by taking active measures to increase the number of RSETIs and strengthen the existing RSETIs, in order to make the Prime Minister Shri Narendra Modi's dreams like Skill India, Startup India, Standup India, AatmaNirbhar Bharat a reality within a shorter period.

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Road to Self-Reliance: Skills for Rural Entrepreneurs

Bansree Purkayastha

The Government has made commendable efforts in skilling the rural workforce and supporting them in their entrepreneurial activities. It now needs to ensure that the COVID-19 pandemic does not derail the rural growth story. The need of the hour is to provide adequate skill training to the rural workforce so that they can surmount this challenge and become a significant contributor to the economy.

India is predominantly a rural country with 70 percent of the workforce residing in rural areas. The rural economy constitutes 46 percent of national income. Despite rapid urbanisation, more than half of India's population is projected to be in rural India by 2050. Contrary to the common perception about predominance of agriculture in the rural economy, about two-third of rural income is now generated from non-agricultural activities. Thus, quality skill training of the rural workforce and growth of viable employment opportunities in rural India are essential for overall economic growth and inclusive development of the country.

Initiatives for Skilling Rural Youth

a) Deen Dayal Upadhyay-Gramin Kaushalya Yojana (DDU-GKY)

Recognising the far-reaching impact of these trends on the rural economy, the Narendra Modi-led

government has been emphasising on rural livelihood enhancement programmes that have the potential to improve skill development and employment opportunities for rural youth. For development of rural areas through employment generation, strengthening of livelihood opportunities, promoting self-employment, skilling of rural youth, the Ministry of Rural Development has been implementing Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM) and Deen Dayal Upadhyay – Gramin Kaushalya Yojana (DDU-GKY). DDU-GKY has emerged as a demand driven placement-linked skilling initiative which seeks to enable rural poor youth to benefit from national and international employment opportunities. Its success can be gauged from the fact that 10.53 lakh rural youth have been trained and 6.65 lakh successfully placed so far under the scheme.



Chart 1: Year-wise IODU-GKY Progress

[IODU-GKY is working with 736 PIAs having 1602 Projects with 1738 training centers across the country]



*2020-21 Trained = No training all August month due to lockdown.

Source: <https://skillshetra.gov.in/Questions/Default15.aspx?url=17835&id=27>

b) Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

The Ministry of Skill Development and Entrepreneurship (MSDE) has been implementing its flagship scheme Pradhan Mantri Kaushal Vikas Yojana (PMKVY) through National Skill Development Corporation (NSDC), with the aim to provide skill training to 10 million youth by 2020. NSDC has facilitated creation of Sector Skill Councils (SSCs) which are industry-led bodies to adequately address skill requirements of various sectors. The scheme promotes skilling of manpower in various sectors including agriculture through the Agriculture Sector Skill Council, thus helping rural youth acquire necessary skills that can lead to sustainable employment. There are three kinds of training routes under the scheme: Short Term Training (STT) for fresh skilling of school / college drop outs and unemployed youth, Recognition of Prior Learning (RPL) to recognise the existing skills and Special Projects to address skilling requirements of the vulnerable groups and permit flexibility in conducting of Short Term Training. RPL under PMKVY has been able to undertake upskilling of farmers via bridge course training through some of the projects. The scheme is being implemented across the country spanning 37 sectors including agriculture sector.

The evaluation study of PMKVY 2016-20 by NSDC indicates that individuals trained and certified under Short Term Training are 1.8 times more likely to get employed and there is increase in employment and average monthly income of skilled youth. Under PMKVY 2016-20, a total of 16.62 lakh candidates across the country found placement in 2016-20. In the last three years till March 2020, 94.17 lakh candidates have been trained / oriented across the country. Of these, more than 5 lakh candidates have been trained in the agriculture sector. In the last three years, over 67 training courses in beekeeping and 60 training courses in animal husbandry have been completed by NSDC. Beneficiaries are being enrolled pan-India, including for job roles such as dairy farmer, organic grower, floriculturist, gardener, and pulses cultivator. While Industrial Training Institutes (ITIs) are typically seen as skilling the youth to take up jobs in the manufacturing sector, new trades like Internet of Things (Smart Agriculture) and Soil Testing and Crop Technician have been introduced to keep pace with technological innovations, which are of special interest to the rural youth and young farmers. The number of trainees enrolled in ITIs across the country has gone up from 12.18 lakh in 2017 to 14.24 lakh in 2019. Online training is being

Table 1: State-wise and year-wise number of candidates trained/oriented during last three years under PMKVY 2.0 (Short term training and Recognition of prior learning)

S. No	State/UT	2017-18	2018-19	2019-20
1.	Andaman and Nicobar Island	0	74	1,274
2.	Andhra Pradesh	58,168	64,421	98,740
3.	Arunachal Pradesh	1,032	4,598	15,951
4.	Assam	37,073	50,549	1,94,434
5.	Bihar	92,007	88,099	1,76,394
6.	Chandigarh	1,025	9,463	12,227
7.	Chhattisgarh	21,095	42,905	40,571
8.	Dadra and Nagar Haveli	186	1,746	1,168
9.	Daman and Diu	240	1,630	4,857
10.	Delhi	88,646	89,379	3,88,239
11.	Goa	868	1,764	4,119
12.	Gujarat	32,897	86,534	2,47,019
13.	Haryana	1,87,246	1,18,814	1,80,170
14.	Himachal Pradesh	16,935	32,409	43,097
15.	Jammu and Kashmir	44,873	36,588	1,20,499
16.	Jharkhand	31,352	37,317	71,583
17.	Karnataka	72,393	1,13,611	1,71,835
18.	Kerala	65,594	41,339	71,654
19.	Lakshadweep	0	0	60
20.	Madhya Pradesh	1,89,634	1,50,069	2,03,996
21.	Maharashtra	97,671	1,69,533	6,78,328
22.	Manipur	1,894	4,430	20,685
23.	Meghalaya	4,058	7,543	12,307
24.	Mizoram	0	2,855	11,326
25.	Nagaland	1,745	1,510	16,599
26.	Odisha	66,260	93,258	2,15,566
27.	Puducherry	3,431	6,328	7,324
28.	Punjab	1,03,130	69,260	1,07,677
29.	Rajasthan	2,14,911	1,42,535	4,60,214
30.	Sikkim	525	1,968	5,017
31.	Tamil Nadu	1,33,580	1,27,850	1,71,156
32.	Telangana	91,434	58,627	1,02,063
33.	Tripura	13,334	7,741	47,608
34.	Uttar Pradesh	3,56,765	3,10,144	5,67,274
35.	Uttarakhand	27,760	47,241	68,148
36.	West Bengal	91,142	81,565	1,84,356
	TOTAL	21,55,838	20,97,297	46,38,069

Source: <https://pqars.nic.in/annex/252/AU799.pdf>

conducted through Bharat Skills portal covering 29 popular courses, e-learning video content for 71 courses and Question Bank for all the 137 trades under Craftsmen Training Scheme (CTS) for ITIs benefiting 9.39 lakh trainees.

Promoting Rural Entrepreneurship

a) Start-Up Village Entrepreneurship Programme

Ensuring opportunities for income generation, through self-employment and rural entrepreneurship, has been the cornerstone of the government's rural development vision. In this regard, the government's Start-Up Village Entrepreneurship Programme (SVEP) implemented by the Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY-NRLM) of the Ministry of Rural Development has been playing a stellar role. Operational since 2016, with the objective to support the rural poor in setting up enterprises mainly in manufacturing, trading and service sectors and providing support till the enterprises stabilise, SVEP focuses on providing self-employment opportunities with financial assistance and training in business management and soft skills while creating local community cadres for promotion of enterprises. Till now, SVEP has extended business support services and capital infusion in 23 states.

Around 2,000 trained CRP-EPs (community resource persons - enterprise promotion) are providing services to rural entrepreneurs and till July, 2020, a total of 101,792 enterprises have been set up, generating employment for 2,10,709 persons. Out of this 100,708 enterprises are by individual and 1,084 are by groups.

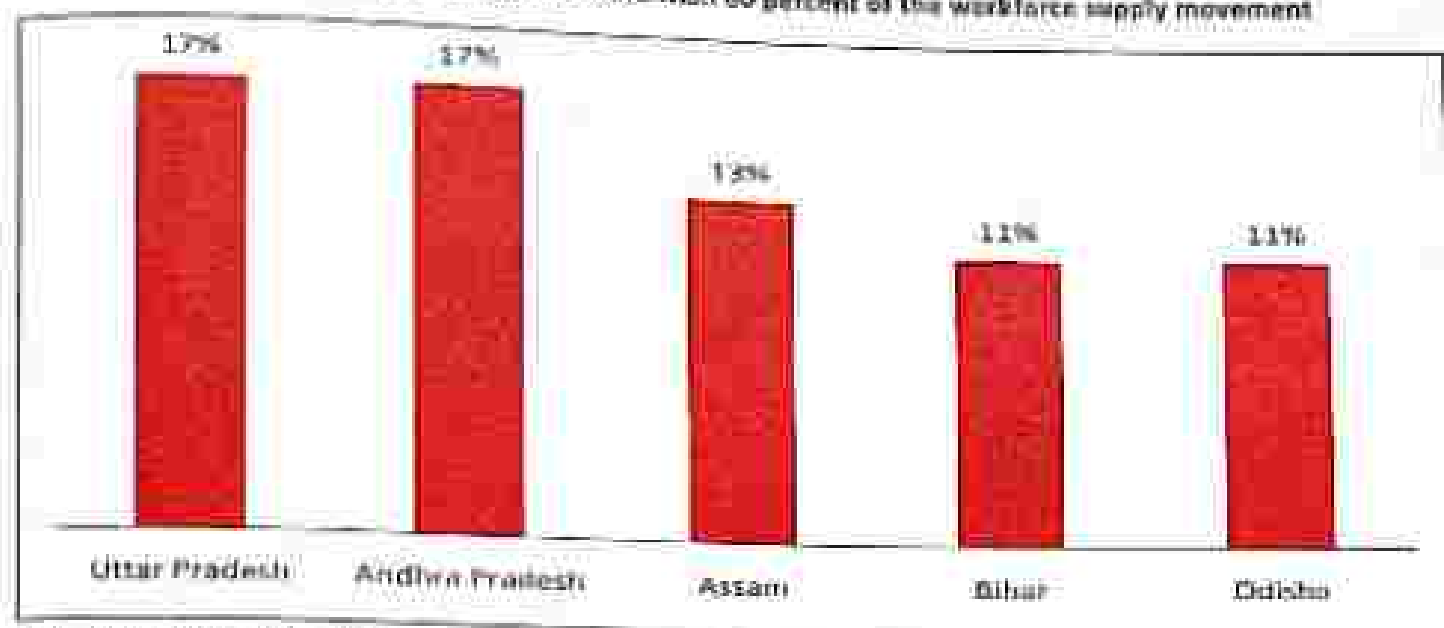
A mid-term review of SVEP, which was conducted in September 2019, by Quality Council of India shows, about 82 percent of the sampled entrepreneurs across the blocks reported being from SC, ST and OBC categories which signifies social inclusion—one of the pillars of NRLM. As many as 75 percent of the enterprises were owned and managed by women and average monthly revenue of enterprises was Rs. 39,000 - Rs. 47,800 in case of manufacturing, Rs. 41,700 in case of services and Rs. 36,000 in case of trading. The study also shows that about 57 percent of the total household income of the entrepreneurs is through SVEP enterprises.

b) Prime Minister's Employment Generation Programme (PMEGP)

The Prime Minister's Employment Generation Programme (PMEGP) implemented by the Khadi and Village Industries Commission (KVIC), which aims to generate self-employment opportunities



Chart 2: Five states contribute to more than 60 percent of the workforce supply movement



Source: <https://unis.nsd.gov.in/>

through establishment of micro enterprises for non-farm sector, has been a major enabler in helping rural youth find their feet. A major credit-linked subsidy programme of the government of India, any individual above 18 years of age is eligible to avail benefits for beneficiaries belonging to special categories such as women/scheduled caste/scheduled tribe/OBC/minorities, ex-serviceman, physically handicapped, North Eastern Region (NER), hill and border areas, etc., the margin money subsidy is 35 percent for enterprises set up in rural areas.

With increased number of applications, there has been a steep rise in the number of projects and the amount of subsidy disbursed by the KVIC in the last three years. The approval of projects during the first five months of this financial year, i.e., from April 1, 2020 to August 18, 2020, increased by a whopping 44 percent, with the number of approved projects going up to 1.03 lakh. During the April-August 2020 period, financing banks sanctioned 11,191 projects and Rs 345.43 crore of margin money was disbursed to applicants as compared to Rs 276.09 crore margin money disbursed for 9161 projects in the first five months of previous year, i.e., 2019. The number of sanctioned projects by banks thus has increased by 22 percent while the disbursement of margin money by KVIC increased by 24 percent as compared to previous year. The faster implementation of PMEGP projects this

year assumes greater significance as the entire country was under lockdown for most part of these five months. The number of projects under PMEGP had increased from 52,912 in 2016-17 to 73,427 projects in 2018-19. The total employment generated had increased from 4,07,140 persons in 2016-17 to 5,87,416 persons in 2018-19. Altogether, more than 54361 people have been assisted in establishing micro enterprises under PMEGP in 2019-20.

Meanwhile, Rozgar Yukt Gaon (RYG), a new component under Khadi Vikas Yojana, has been introduced to create an additional 12,500 direct employment opportunities in 50 villages, which are deprived of opportunities and sustainable livelihood support systems. In addition to spinning out secondary and ancillary opportunities of employment in a wider sense. This is expected to generate nearly 18,265 employment opportunities in which 12,500 will be direct and 5,765 will be indirect.

c) Rural Self Employment and Training Institutes (RSETIs)

Credit-linked subsidies, soft loans, access to working capital underpin the success of micro-enterprises located in small villages and towns. Skill development through Rural Self Employment and Training Institutes (RSETIs) under National Rural Livelihoods Mission is a bank-led initiative,



enabling a trainee to take bank credit and start his own micro-enterprise. RSETI programme is currently implemented through 585 RSETIs by 23 leading banks (public sector and private sector banks as well as a few Gramin Banks) in 33 States/UTs covering 568 districts in the country. As of now, training in RSETI is being imparted for 61 courses aligned with the National Skill Qualification Framework (NSQF). Out of 61 courses, as many as 38 courses are exclusively suitable for women candidates for taking up self-employment ventures after being trained in these courses. As per government data, 23 lakh people have been trained for self-employment under the RSETI programme. An amount of Rs 100.02 crore has been earmarked for implementing RSETI during the financial year 2019-20.

d) Pradhan Mantri Van Dhan Yojana (PMVDY)

Self-help Groups (SHGs) have played a major role in helping rural youth, especially tribal youth and women, become self-reliant and achieve economic independence. The Van Dhan startups, established under the Pradhan Mantri Van Dhan Yojana (PMVDY) scheme initiated by TRIFED, Ministry of Tribal Affairs, have emerged as a source of employment generation for tribal gatherers and forest dwellers and also the home-bound labour and artisans. A market linked entrepreneurship development programme for forming a cluster of tribal SHGs and strengthening them into Tribal Producer Companies, it has helped tribal labour

and artisans find a market for their handmade products. Started only in 2019, it has been a huge success story with 1205 tribal enterprises established to provide employment opportunities to 3.6 lakh tribal gatherers and 18000 SHGs in 22 states.

The slogan "Go Vocal for Local", has been adapted in these COVID times to include 'Go Vocal for Local Go Tribal – Mera Van Mera Dhan Mera Udyam'. The aim of the start-ups scheme is to enhance the coverage to 10 lakh tribal gatherers and 50,000 tribal SHGs through the COVID-19 relief plan of the ministry. More than 2000 products such as wild honey, broomsticks, donnapattal, Samidha sticks, coffee, bay leaf, bel pulp, among others, which have a ready market in urban India have been identified.

New Initiatives

The challenges and opportunities for employment and skill training vary across regions and time periods. The on-going pandemic has also impacted access to skilling programmes as well as employment opportunities in certain pockets. Solutions to these speed-breakers need to be worked out. What works for a youth in the semi-rural belt of Gaya or Mathura may not work for a tribal youth in Manipur or Ladakh. Re-structuring policies and programmes so as to meet these varied needs thus becomes essential. Pilot projects and online skilling via Bharat Skills portal can be a big help here.

For instance, the Ministry of Skill Development and Entrepreneurship (MSDE) is currently implementing a project on entrepreneurship promotion and mentoring of micro and small enterprises in six temple towns of Puri, Varanasi, Haridwar, Kottur, Pandharpur and Bodhi Gaya, to tap the entrepreneurial potential of first generation entrepreneurs, educated unemployed youth, school/college dropouts, women, youth from backward community, etc. MSDE is also implementing a pilot scheme, PM YUVA (PM Yunn Udyami Vikas Abhiyan), towards creating an enabling ecosystem through entrepreneurship education, training advocacy and easy access to the entrepreneurship network. It focuses on students/trainees and alumni coming out of the skilling ecosystem such as ITIs, Pradhan Mantri Kaushal Kendra, Jan Shiksha Sansthan, etc. The learnings from this pilot scheme are expected to help the government in fine-tuning its programmes further to meet the evolving needs of budding rural entrepreneurs.

Access to markets is critical for the viability of rural enterprises, more so in these times of COVID when going online is perhaps the only way out. In this context, the recent launch of "The Saras Collection" on the Government e-Marketplace (GeM) portal will be a great enabler. A unique initiative of GeM and the Deen Dayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM), the Saras Collection showcases daily utility products made by rural SHGs and provides them with market access to central and state government buyers. The on-boarding of the SHGs under the initiative has been initially piloted in the states of Bihar, Chhattisgarh, Jharkhand, Karnataka, Kerala, Himachal Pradesh, Maharashtra, Odisha, Rajasthan, Uttar Pradesh and West Bengal.

The COVID-19 induced reverse migration to the hinterlands has spurred the government to embark on a re-skilling plan for this distressed workforce. Based on the data of reverse migrants as compiled by Ministry of Rural Development, Ministry of Skill Development and Entrepreneurship (MSDE) has already formulated a plan for skill training of reverse migrant under PMKVY 2.0 (2016-20) for 116 districts of six states as identified under Garib Kalyan Rozgar Abhiyan (GKRA). Under this plan, target of training 3 lakh candidates (1.5 lakh each for Short Term Training and Recognition of Prior

Learning) has been allocated to 116 districts of Uttar Pradesh, Bihar, Odisha, Rajasthan, Madhya Pradesh and Jharkhand.

Another major initiative is the launch of MSDE's Atma Nirbhar Skilled Employee-Employer Mapping (ASEEM) portal to help skilled people find sustainable livelihood opportunities. Managed by the National Skill Development Corporation, this initiative will help accelerate India's journey towards recovery by mapping skilled workforce based on regions and local industry demands and connecting them with relevant livelihood opportunities in the post-COVID-19 era. With many of those who have lost their jobs in the COVID-19 period hailing from the smaller towns and cities, the ASEEM portal is expected to help them find new jobs closer home. The database of 1.75,000 persons trained by the ministry's skilling ecosystem in the health sector such as health workers, emergency medical technicians, general duty assistants, home health aid workers, etc., have been made available to the states for utilising their services during the pandemic.

Way Forward

As of today, the COVID-19 pandemic is the biggest challenge to India's economy and its workforce. The country cannot afford to allow it to derail the various programmes for skill development and rural entrepreneurship. It is the need of the hour to provide adequate skill training to this large workforce in rural India so that they can surmount this challenge and become a significant contributor to the economy. Only then will India be able to expand its talent pool and harness the potential of the rural youth.

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AGRO ENTREPRENEURSHIP

Aishwariya Chauhan and Navjeet Kumar

While the government is trying to accelerate growth in the agriculture sector, budding entrepreneurs of the country are relentlessly contributing to the sector by innovating and developing breakthrough technology. Modern techniques and methods will surely elevate agriculture to the next level and ease the burden on farmers. The innovations have received a surging demand from not only the private sector but also Government bodies. The agriculture startups should continue to work effectively towards the mission of self-reliance and self-sustainability like they have been in the past.



Agriculture plays a vital role in India's economy. India has the 10th largest

arable land resources in the world and with 20 agri-climatic regions, all 15 major climates in the world exist in India. The country also possesses 46 of the 50 soil types in the world.¹ Over 58 percent of the rural households depend on agriculture as their principal means of livelihood.² Growth in Gross Value Added (GVA) by agriculture and allied sectors stood at 4 percent in 2019-20³ and growing population, rising urban and rural incomes have added to the growth in demand for agriculture products. The Indian food and grocery market is the world's sixth-largest, with retail contributing 70 percent of the sales.⁴ The Indian food processing industry is one of the largest industries in India and is ranked fifth in terms of production, consumption, export, and expected growth.⁵ Additionally, there has been a FDI inflow of \$2.16 bn in the agriculture services and USD 574 Mn in the agriculture machinery from April 2000 to March 2020.⁶ India is also the largest producer of spices, pulses, milk, tea, cashew, and jute; and the second-largest producer of wheat, rice, fruits and vegetables, sugarcane, cotton, and oilseed. India is currently the world's fourth-largest producer of agrochemicals.⁷

As per the Union Budget of India 2020-21, allocation of approximately INR 2,94,921 crore (\$40.05 Bn) was made to the Ministry of Agriculture.⁸ The Government of India has allowed 100 percent FDI through automatic route in agriculture, animal husbandry, and plantation



sector⁹ and continuous efforts are being made to give this sector and its workers a much-needed boost. Very recently three reforms were passed by Parliament and received the President's assent formalising them into laws- The Farmers' Produce Trade and Commerce (Promotion and Facilitation), the Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services, and the Essential Commodities (Amendment) Act. The reforms aim to accelerate growth in the sector through private sector investment in building infrastructure and supply chains for farm produce in national and global markets. Additionally, the Acts are intended to help small farmers who do not have the means to either bargain for their produce to get a better price or invest in technology to improve the productivity of farms. It seeks to allow farmers to sell their produce outside APMC 'mandis' to whoever they want, and farmers will get better prices through competition and cost-cutting on transportation.¹⁰ The holistic success of the new agriculture laws to the sector will only be analysed over the due course of time.

Agro Entrepreneurship

While the government is trying to accelerate growth in the agriculture sector, budding entrepreneurs of the country are relentlessly contributing to the sector by innovating and developing breakthrough technology. Modern techniques and methods will surely elevate agriculture to the next level and ease the burden on farmers. This, therefore, creates a huge scope for Agriculture Startups in the country. Transformation of Agriculture to Agri-business is one of the important strategies where enterprising farmers practice profitable agriculture.

Every 9th Agritech startup in the world is from India.¹¹ Over the last decade, the sector is being channelised with the stream of educated youth, fired by the ideas, passion, and innovations to launch newer kinds of technology and business models to lift the face of agriculture from primitive to hi-tech ones. Startups are providing missing links in the Agri value chain and delivering efficient products, technologies, and services to the farmers. Additionally, across agriculture use cases such as farm automation, weather forecasting, drone use, online vegetable marketing, smart poultry and dairy ventures, smart agriculture, etc. innovations and technology-driven powerful startups set to revolutionise the agriculture sector.

The Indian Startup Ecosystem has agritech-startup on a rise; less than 5 global agritech companies ventured in India, as compared to more than 25 Indian agritech companies with a global presence.¹² More than 300 agritech startups are striving to address current anomalies in the agriculture supply chain management.¹³

Opportunity for Agro Entrepreneurship

The agriculture sector efficiency in the supply chain that controls farming resources such as finance, seeds, chemicals, etc. and improper access to the distribution networks. Additionally, post-harvest loss in India amounts to INR 95,706 crore (\$13bn).¹⁴ Demand-driven cold chains, warehouse monitoring solutions, and market linkage can resolve the existing bottlenecks resulting in streamlining of processes along with a significant increase in farmers' income.

While agriculture is a fragmented activity in India with most of the regions depending on rainfall

for water, penetration of advanced technology enables information dissemination that can assist in adequate irrigations as well as conservation of water.

Another problem that hampers the growth of the sector is that Indian farmlands are fragmented and small; 70 percent are less than 1 hectare, while the national average is less than 2 hectares¹⁵, resulting in significantly low farm yields. Solutions to increase productivity with respect to the farm size is the need of the hour.

Agriculture sector employs 50 percent of India's workforce but contributes only 18 percent of the GDP. Solutions that enable farm automation and aggregation will rationalise and gainfully redistribute the workforce.¹⁶

India ranks among the top countries in food processing. By 2024, the sector will employ 9 million individuals. The organised sector of food processing has only 60 percent share. For making the unorganised sector can streamline the sector and improve traceability and in turn benefit and improve the farmers' income and exports.

With the spread of digitalisation in all the sectors, this trend is yet to fully penetrate in the agriculture sector. Digitisation shall bring more transparency into transactions and create more sales channels for farmers. Further, digital data and market connect can empower each stakeholder in the agriculture sector. There is an acute lack of data and insights at the ground and farmer level. Along with laying the digital work, solutions that build a layer of data will transform schemes, insurance, and loan disbursement, and can create a manifold impact.

Startup India Recognition

Startup India, housed under Invest India, is a flagship initiative of the Department for Promotion of Industry and Internal Trade (DPIIT), Government

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Several programmes have been undertaken since the launch of the initiative on the 16th January 2016 by Hon'ble Prime Minister, to contribute to his vision of transforming India into a country of job creators instead of job seekers. These programs have catalyzed the startup culture by providing the ecosystem the much-needed support. Additionally, startups are recognised through the initiative, with many entrepreneurs availing the benefits of starting their own businesses in India.

Startups that meet the definition as prescribed under the G.S.R Notification 127 (E) are eligible to apply for recognition certificate under Startup India, DPIIT. As of 20th September 2020, 36,904 startups have received the DPIIT recognition. Out of the startups that have received recognition certificates, approximately 5 percent belong to the agriculture sector. The number of startups recognised in the agriculture sector has witnessed a Compound Annual Growth Rate (CAGR) of approximately 74 percent from 2017 to 2019. The top four states with DPIIT recognised agriculture startups are Maharashtra (19 percent), Karnataka (14 percent), Uttar Pradesh (8 percent), and Delhi (8 percent).

Apart from recognising startups, there have been various challenges and programs which have been launched by Startup India to support the agriculture startups such as Agriculture Grand Challenge and National Startup Awards.

Agriculture Grand Challenge

Startup India engages with various

Startup India engages with various Government bodies to conduct grand challenges to promote entrepreneurship and enhance collaboration among the ecosystem enablers and builders. The grand challenges channelise the Government to work with startups and build partnerships on the front of executing National endeavours.

Government bodies to conduct grand challenges to promote entrepreneurship and enhance collaboration among the ecosystem enablers and builders. The grand challenges channelise the Government to work with startups and build partnerships on the front of executing National endeavours. The Ministry of Agriculture in partnership with Startup India launched the Agriculture Grand Challenge in December 2017 wherein 12 pre-identified problem statements were noted for seeking solutions from the startups. Each problem statement had categorised startups into two-stage – Ideation and enterprise. Assaying & Grading, Farm to Fork, Last Mile Dissemination, Soil Testing, Sorting & Grading, Substitute for Pesticides, Testing Adulteration, Yield Estimation, Custom Hiring Centre and Price Forecast were the sector fields covered across the problem statements. The challenge received 1,000 applications from across the country. Several mentorship workshops with over 400 recognised agritech startups were conducted. Thereafter, multiple screenings, and interviews were conducted, 20 innovative ideas were finalised for up-scaling. The final 20 winners included 10 idea stage startups and 10 enterprise stage startups. The idea stage startups were incubated for 3 months to take their idea to the prototype development stage, whereas the enterprise stage startups underwent an acceleration for 3 months to make their products market-ready.

National Startup Awards 2020 – Agriculture

Startup India launched National Startup Awards 2020 in December 2019 with an aim to recognise and reward outstanding startups and ecosystem enablers that are building innovative products or solutions and scalable enterprises, with high potential of employment generation, wealth creation and demonstrating measurable social impact and 12 sectors in total were identified in which startups are thriving and were further divided into 35 categories and 3 special categories. Parameters on which applicants were evaluated included innovation, scalability, inclusiveness & diversity, economic impact, social impact, and environmental impact. Out of the 12 identified sectors, Agriculture was one of the priority sectors in which over 150 applications were received across the four categories—Farmer Engagement

and Education, Post-Harvest, Productivity, and Allied Areas (Fisheries, Poultry, Animal Husbandry, etc.).

Mandya Organic Foods Private Limited, Intello Labs Private Limited, Nava Design & Innovation Private Limited, Cornext Agri Products Private Limited were announced as winners across the four categories in the Agriculture sector in the felicitation ceremony held virtually on 6th October 2020. A cash prize of Rs. 5 lakhs was awarded to the winning startups under each category. The winners will also be provided access to Corporate and Government Connect programs along with the priority for participation in various National and International Startup events sponsored by DPIIT.

Central Schemes: RKVY RAFTAAR

The Government of India is rejuvenating the technology and business development into the agricultural ecosystem and is catering specifically to the need and modalities for agribusiness promotion and entrepreneurship. Rashtriya Krishi Vikas Yojana (RKVY) scheme was initiated in 2007 as an umbrella scheme for ensuring the holistic development of agriculture and allied sectors by allowing states to choose their agriculture and allied sector development activities as per the district or state agriculture plan.

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The Scheme provides States with the flexibility and autonomy for selection, planning approval, and execution of projects as per the need, priorities, and agro-climate requirements. This further incentivises states to increase public investment in Agriculture & allied sectors. As of 1st November 2017, the Cabinet approved the continuation of the ongoing Centrally Sponsored Scheme (State Plans) - Rashtriya Krishi Vikas Yojana (RKVY) as Rashtriya Krishi Vikas Yojana - Remunerative Approaches for Agriculture and Allied Sector Rejuvenation (RKVY-RAFTAAR) for three years i.e. 2017-18 to 2019-20 with a

financial allocation of Rs. 15,732 crores. The broad objectives aim at making farming a remunerative economic activity through strengthening the farmer's effort, risk mitigation, and promoting agri-business entrepreneurship.

The component of Innovation and Agri-entrepreneurship Development under the scheme promotes innovation and agripreneurship by providing financial support and nurturing the incubation ecosystem via supporting the startups in various categories such as agro-processing, artificial intelligence, digital agriculture, farm mechanisation, waste to wealth, dairy, fisheries, and others. Department of Agriculture, Cooperation and Farmers Welfare (DAC&FW) has selected five Knowledge Partners (KPs) as Centres of Excellence and 24 RKVY-RAFTAAR Agribusiness Incubators (R-ABIs) from across the country. The five KPs include - National Institute of Agricultural Extension Management (MANAGE, Hyderabad), National Institute of Agricultural Marketing (NIAM, Jaipur), Indian Agricultural Research Institute (IARI, Pusa, New Delhi), University of Agriculture Science (Dharwad, Karnataka) and Assam Agriculture University (Jorhat, Assam). The key components of the scheme include Seed Stage funding of R-ABI incubators up to Rs. 25 lakhs (85 percent grant and 15 percent contribution from incubatee) and Idea/Pre-Seed Stage Funding of Agripreneurs upto Rs. 5 lakhs (90 percent grant and 10 percent contribution from the incubatee). Another component is Agripreneurship Orientation programme, offered for a duration of 2 months with a monthly stipend of Rs. 10,000 per month including the mentorship regarding financial, technical, and IP issues.

Some of the startups¹⁷ that are currently being incubated are - Agsmartic Technologies, working towards improving crop yield by precise irrigation and disease management through a data-driven approach by using AI, IoT, and computer vision; A2P Energy Solution, uses AI to track waste bio-mass and then works with farmers to collect it; EF Polymer, developed an Eco-Friendly Water Retention Polymer to solve the water scarcity crisis for farmers; SNL Innovations (Inno Farms), provides fruit and vegetable pulp processed directly at the farm using an in-house developed monoblock fruit

processing platform (on-wheels) to convert fruits to a pulp with a shelf life of up to 1 year with complete traceability from farm to customer.

State Schemes

Various state governments have also been consistently making efforts to evolve the existing agricultural industry and ecosystem through a multitude of schemes. Maharashtra Government launched Maha Agri-Tech Scheme 2019²² for digitally tracking agriculture management which will enable efficient tracking of all the information related to farming ranging from seed sowing to cropping harvesting. The scheme will check the sowing area, atmosphere, various disease on crops, and will provide critical information to farmers. The K-Tech Centre of Excellence, a collaborative effort between Karnataka Innovation and Technology Society (KITS), Department of IT-BT and S&T, Department of Agriculture, Government of Karnataka, and C-CAMP supported by DBT, Government of India, promotes innovation by attracting various technologies for finding answers to the prevailing and looming problems in Agriculture.

Conclusion

The young and agile startup ecosystem has been adapting effectively during these unprecedented times. The agriculture startups are not only flourishing in the fast-paced and dynamic economy of today but are also developing innovative solutions and technologies and generating employment. The innovative solutions and technologies created by the startups are creating manifold impact in the society. The innovations have received a surging demand from not only the private sector but also Government bodies. The agriculture startups should continue to work effectively towards the mission of self-reliance and self-sustainability like they have been in the past. The vision of AatmaNirbhar Bharat is rooted deeply in the Startup Ecosystem and shall continue to prevail in the coming years.

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Start Local to Go Global

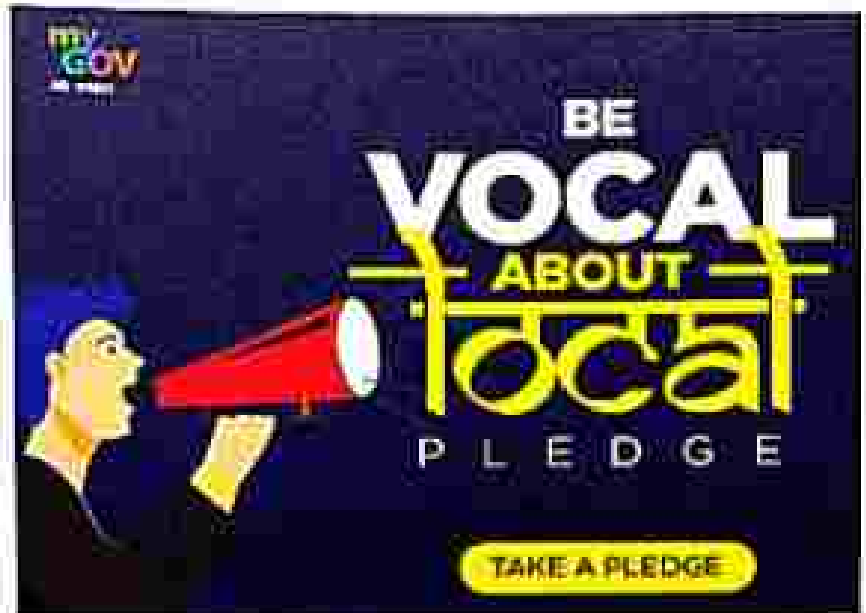
Dr. Ritaree Sarma and Dr. Jitendra Kumar

The agriculture sector plays a significant role in the sustainable growth and development of a country. In India, agriculture and the allied sectors have remained important segments of economy. It is the mainstay and backbone of Indian economy as it is responsible for providing employment to two-third of working population. It has direct or indirect linkages with other economic sectors and plays a major role as foreign exchange earner.

Agriculture and allied sectors have remained important segments of the Indian economy. It is the mainstay and backbone of Indian economy as it is responsible for providing employment to two-third of working population. It has direct or indirect linkages with other economic sectors and plays a major role as foreign exchange earner. Although its contribution has declined with the advent of industrialisation, its potential towards the national economy cannot be ignored. It stands as sole bright spot in the recent pandemic and can be looked at as a golden opportunity for sustainable growth and development of India. The recent government schemes have given an impetus to the 'vocal for local' programme. Further, reforms in the entrepreneurial ecosystem including infrastructure, skilled manpower, technology, and export will help India to reach from local to global and beyond. Although overlooked as business and marketing opportunity, agriculture sector has tremendous scope towards rural entrepreneurship and global business.

Indian Agriculture Sector: Problems and Prospects

Although agriculture has a significant contribution towards food security and eradicate poverty in developing nation like India, its share towards national economy has declined with industrialisation. The annual average growth rate in agriculture and its allied sectors has declined from 6.3 percent in 2016-17 to 2.8 percent in 2019-20 while its share towards Gross Value Added (GVA) has declined from 18.2 percent in 2014-15 to 16.5 percent in 2019-20. One of the obvious reason behind this downfall is rural-urban migration. As of 1990-91, more than half of the workforce was employed in the agriculture sector, but with the rapid migration of rural population to urban



cities, the percentage declined to 42.38 percent of workforce in the year 2019. Other challenges such as lack of innovation or technological intervention, rural infrastructural support, landless or land fragmentation, topography, input, market knowledge and other risk factors resulted in undergrowth of this sector.

Despite the falling contribution to the national economy, the agriculture sector cannot be ignored as food is the necessity for survival and it can never go out of business. In the backdrop of the ongoing pandemic, it stands as a bright spot with the projected growth rate of 3 percent in the year 2020-21. Further, this farm growth is expected to contribute at least 0.5 percent or a little more to India's overall GDP, helping to escape a potential recession of the economy. It is observed that along with other factors, Agri start-up's contribution is immense in this constructive growth. Starting from buying fresh produce from farmers to market linkage, Agri start-ups contribute in the overall agricultural ecosystem by helping farmers in recovering their investment and the customers by providing timely supply of food.

As agriculture takes the centre stage, it can be considered as a golden opportunity in this crisis. From the green revolution to the white revolution, from food sufficiency to the world's top ten agri exporter, India's agriculture sector has a lot of potential. The only need is to think to rethink the strength, plan to replace the policies, structure to restructure the infrastructure, innovate to reinnovate the technologies, model to remodel the investment and skill to reskill the manpower.

Recent Government Policies

i) Income

There is no doubt that government has initiated many reforms in this sector. The PM KISAN (Pradhan Mantri Kisan Samman Nidhi) is a great relief to small and marginal farmers as this scheme provides an income support of Rs. 6,000 per year in three equal installments. However, according to draft estimates by Institute of Economic Growth, the weighted cost of cultivation is more than the current assistance of Rs. 6,000 per year for many crops. Further, there is no provision for landless labourers who accounts 14.43 crore of agriculture workforce indicating. The government's price support alone cannot achieve the target of doubling farmer's income by 2022. Although increase in farm productivity, rise in real farm prices have a contribution towards farmer's income but post production reforms involving access to technology, innovation and management by farmers or rural youth as entrepreneur are needed not only to raise farmer's income but also to achieve robust agricultural growth.

ii) Infrastructure

The recent agricultural infrastructure funds worth Rs.1.0 lakh crores for aggregators, cooperative societies and farm entrepreneurs for setting up of community farming assets, storage structures and post-harvest management infrastructure is welcome step but as there is a focus on cluster based approach for farmers including entrepreneurs, a properly build roading for all, including entrepreneurs is the need of the hour. Further, as a part of 'vocal for local with global outreach' a scheme worth Rs. 10,000 crore fund was announced for the micro food enterprises (MFE).The branding, modernising, ramping up of the capacity and marketing are the part of the scheme. Although these are the major reform, but statistics shows that as high as 70-80 percent of the startups /Farmer Producer Organisation (FPO) succumb to market distortions during the first two years of their existence. This may be attributed to lack of technical support for developing their product, lack of infrastructure facilities, funding, legal support, and general training and skill development. This indicates that to make 'local to global' into reality, some substantive questions needs to be addressed: Who are the players? What is their capacity? Why they fail? How to keep them successful?

iii) Entrepreneurial Activity: Augmenting the Start-up Culture

As a part of rural bio-entrepreneurship, Department of Biotechnology's initiative for setting



up of Rural Bioresource Complex in aspirational district of India in biotechnology innovation or technology is appreciable. As biotic and abiotic stress is a major issue in agricultural field, implementation of biotechnological innovation in rural areas will definitely answer a major challenge. Further government's scheme of fund for regeneration of traditional industries including khadi, village and coil is a great step towards rural entrepreneurship. The establishment of mega food parks near farm with collection centers, processing centers, cold chains and fully developed plots for entrepreneurs to set up food processing units, is a tremendous effort towards value addition and engagement of rural youth. However, as rural ecosystem is unique with a huge potential, introduction of other relevant technologies including organic farming, manufacturing of farm machinery and equipment, post harvest management or digital technology in rural areas through other schemes, will further help not only in generating employment but also in developing the overall social-economic fabric of the community.

b) Skilling Programme

To be vocal for local, skilling, upskilling and reskilling should be a part of the rural bio-entrepreneurial scheme. There is existence of exclusive programme and schemes by Ministry of Skill Development and Entrepreneurship and Agriculture Skill Council of India (ASCI) which works towards capacity building by bridging gaps, and upgrading skills of farmers, wage workers, self-employed and extension workers engaged in organised/unorganised segments of agriculture and allied sectors.

v) Initiative for Migrant Labourer: Opportunities for Entrepreneurship

As per 2011 census, India has 139 million of migrants and most of them are involved in informal sector like construction, brick-kilns, stone quarries and mines, rickshaw pulling, security services etc. As unskilled, they are paid less wages and it does not provide any social security but still as a livelihood strategy or opportunity, more and more rural population is migrating to urban cities. However, the ongoing pandemic brought a tough time to them and as an economic or emotional factor, there is a high probability that very small percentage of reverse migration may happen. It indicates that there is an excess supply of labourers in rural areas and it is throwing up mega challenges for the gainful employment of these workers. Although, along with Garib Kalyan Rojgar Abhiyan, Government has initiated Kisan Mitra, a seven phase project with an aim to support farmers, migrants and agriculturist to become AatmaNirbhar by scientific research and technologies. Still, a proper entrepreneurial ecosystem in rural areas will help to understand local need and potential, and also develop an entrepreneurial culture among the rural youths.

Strategic Inputs

i) Agri-Innovation Centre: Support Domain for Agri Start-ups

As a major domain of the entrepreneurial ecosystem, agri-incubation centre in rural areas can play a significant role. Statistics data show that, India ranks third in terms of incubation centre and among them 19 percent are from agri sector. Although



primarily these centres are based in large and metro cities, extending them to rural areas will not only motivate young minds to be self-sustainable through agripreneurship but also help to understand the requirement of technologies according to the agr-climatic pattern, sustainability and adaptation at the village level. Further, by providing infrastructure, equipment, investment, legal, portfolio support, branding, certification, mentoring and advisory support, these centres can play a key role in achieving the goal of vocal for local and local to global.

ii) Innovation and Technology

As innovation or technology is a part of global outreach, along with traditional methods or practices, large scale smart technological interventions starting from weather prediction to input management, farm operation to logistics, supply chain management to market linkage via GIS, Block chain, data analytics, Artificial Intelligence, remote sensing, satellite technology, and various Internet of Thing (IoT) devices should be encouraged. According to a report by NASSCOM, agri tech sector has raised nearly US\$248 Million until June 2019, which indicates the growth potential of this sector. Recently, with digital access, the sector empowers rural India through direct supply and smoother distribution. Further, it also creates a faster access to traceability, which is beneficial while exporting to the overseas market.

iii) Export Potential: Opportunities for Agri Start-ups

Indian agriculture has the potential to be a global export superpower. Although the pandemic has caused a decrease of 27.7 percent, in the export of major agri produce of India, there are unseen opportunities as India is the second global producer. The recent European Union's decision, to ease the rules for import of fruits and vegetables from India, is encouraging. Further, recent APEDA reports states that, many countries like Iran, Russia, Afghanistan, Egypt, Philippines and Indonesia have placed fresh orders for export of commodities like Indian black tea, fruits and vegetables, rice, wheat etc. It shows the intensity and opportunities that lies for start-ups in agricultural export market. Further, the recent reforms in the APMC Act and amendment in Essential commodity act has helped agri-business to stay one step ahead in this direction. However, to ease the export process, still there is a need of robust infrastructural support, stringent quality control and other reforms including single-

window clearance, which would be helpful for global outreach.

Summary

The most important aspect emerging out of the recent government announcement is its increased emphasis on rural entrepreneurship opportunities through various direct or indirect incentives. Going forward, we need an integrated approach to understand the centrality of rural agrarian economy and long-term strategy to bridge the gap between policy planning and implementation, input objectives and project output, which will empower the local economy and help us to reach from local to global and beyond.

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Role of Soft Skills in Developing Rural Entrepreneurs

Shalender Sharma

The next growth wave in India will depend on the growth in the rural India for which there is a need to adapt to new normal and become creative and innovative. The Ministry of Rural Development and Ministry of Skill Development and Entrepreneurship, Government of India have various schemes, which target the upliftment of rural youth in an inclusive manner.

The entire world has been impacted by the COVID-19 pandemic and so as the employment and livelihood, particularly in rural India, has been hit disproportionately. While the pandemic is still not over, its repercussions will continue to have an impact on us for a much longer duration. Particularly, when various countries were gearing up and getting serious about the Sustainable Development Goal (SDG) 4 and 8, the pandemic has derailed various plans and strategies. Increase in unemployment, unavailability of essentials due to affected supply-chains, education/learning crisis due to long-term shut down of schools etc. are some of the outcomes of the pandemic.

Target for SDG-8 include achieving full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value by 2030. Another target under the same SDG is to substantially reduce the proportion of youth not in employment, education or training.

As per ILO estimates, almost 1.6 billion (approx. 80 percent) informal economy workers (representing the most vulnerable in the labour market), out of a worldwide total of 2 billion, have suffered massive damage to their capacity to earn a living. And India is not indifferent to such trends; rather, India's worry is that almost 93 percent of the total workforce is 'informal' (as per Economic Survey 2018-19). Well, having the workforce in the 'formal' or 'informal' sector is not a problem to be addressed right now – instead, the bigger ask is to plug unemployment.

Due to the circumstances emerging out of Corona pandemic, April 2020 onwards, many private companies have stopped new recruitments and have reduced number of employees. It is difficult to forecast what percentage of the workforce will remain without work for a long duration. As per ILO's recent report, sectors like hospitality, real estate, transport, manufacturing, marketing/advertising, beauty and wellness, tourism, etc. are worst hit in terms of economic output. These sectors do employ a sizeable portion of the workforce – and for most



people, these jobs may never come back the same way.

One of the big reasons for non-achievement of the job targets is "unemployability". With India's current growth potential, it is pertinent to mention that there will be jobs not only in industries but also in corporate sector. The challenges for both the sectors are different. However, there is one thing in common for success in both the sectors and that is "quality basic education".

The next growth wave in India will have to significantly depend on the growth in the rural India. In order to prove resilient, the rural India will have to take lead in adapting to new normal and become creative and innovative. The youth who lost jobs may not get on to similar jobs with similar salaries and therefore, they might look at becoming self-sustainable by going down the route of Entrepreneurship.

The rural youth must look at the essential services and come up with innovative ideas and creating new branches of businesses. Though the essential service sector is also affected by disrupted supply-chains and value-chains, they are reviving their supply-chains and also creating a new pipeline of opportunities for themselves. The rural youth will have to identify and become part of these supply-chains and value-chains.

It has been observed that that significant proportion of youth in the rural areas lack job-readiness and much-needed resilience. While it is agreed that the technology may eliminate many "low-skill" jobs, at the same time, technology is creating opportunities, paving the way for new and altered jobs. Several countries, besides giving industrial training, are now focusing on development of 21st century skills. Therefore, investing in human capital development is the priority to make the most of this evolving-economic opportunity. In this regard, natural strategy will be to align existing curriculum with 21st century skills right from the early stages of schooling.

India's fastest growing economy needs a workforce which is innovative and adaptable to emerging areas and quickly re-trainable, whether for white-collar or rust-collar, and linking them to suitable job opportunities and markets – and also make them not just job seekers but job-providers (by becoming entrepreneur). It is of utmost importance that schools and colleges educate children and youngsters about these attributes that are key to not just securing a well-paid job but also



sustainable quality life. Transformation of the youth from wage to self-employment would entail:

- Conduct robust aspiration mapping of the youth and select the deserving ones for development of entrepreneurial skills
- Transforming the unemployed workforce to gain self-employment through entrepreneurial skill trainings to become successful entrepreneurs.
- Arresting the migration of educated and potential entrepreneurs by incentivising them to start enterprises in their States, so that the enterprises so set up can provide opportunities for wage employment to local people.
- Gearing up for an economic progress in the State by focusing on the services sector and providing skilled manpower.
- Training to register and use e-commerce platform
- Create backward and forward linkages for the potential entrepreneurs.

Some of the important skillsets and attributes to become successful entrepreneur/ startup would include attributes like: good communication skills, collaboration, critical thinking, approach to lifelong learning, adaptability, agility, critical thinking, self-discipline and time management, self-direction, planning, reasoning, creativity, leadership, collaboration, financial literacy, sharing and teamwork, stress management and much more. Among these, most important skills are: Communication, negotiation, agility and discipline.

Good communication skills will help the entrepreneurs in enhancing their ability to communicate a compelling story, engage an audience and drive them to a desired action. This is a powerful and new strategy for positioning a

product or service in a highly competitive market. Successful leaders and managers are often good storytellers, using this skill to communicate their vision and inspire their teams. Similarly, negotiations can be complicated when they take place virtually and involve groups of people. Young entrepreneurs must be able to understand the different signals from their networks and focus their style of influencing accordingly. Another very important soft-skill in today's time is agility. Agility is the ability to quickly change a course of action while maintaining control. Young entrepreneurs must be able to re-engineer themselves and their businesses as needed, while maintaining focus, passion, and value alignment – particularly in the situations like COVID-19.

Besides these soft skills, with increasing digitalisation and the automation of traditional business practices, technology and data related skills are important for everyone –including young entrepreneurs. Digital skills range from basic to more advanced. They can be viewed as encompassing a combination of behaviors, expertise, know-how, work habits, character traits, dispositions and critical understandings. This highlights the interconnectedness of digital and soft skills. Current trends demand a move from digital literacy to fluency. This requires not just understanding how to use digital tools but being able to create something new with them. The International Telecommunication Union defines three levels of digital skills: basic such as email and navigating apps; intermediate such as simple coding and graphic design; and advanced such as artificial intelligence and big data. The level of understanding young entrepreneurs need will depend on their sector, market and region. However, young entrepreneurs with advanced digital skills are well-positioned to leverage new digital technologies to improve business operations, develop new business models, gather business intelligence and/or engage with customers and stakeholders.

Having said this, the most important task is to focus at the school level. The phrase "unemployable" used by several employers is due to the fact that the candidates even after graduating from senior secondary school have very low learning levels and lack 21st century skills. It is important to note that, the composition of labour force is rapidly changing with increasing diversity in students completing education. Major diversity is noted in terms of increasing participation of

students from socially disadvantaged background. The changing demographic composition of school attainment is producing new population pyramid with high number of 'unemployable' at the base and very limited number characterised as employable at the top of the pyramid. The government is taking several steps to improve the quality of education. To ensure youths who are likely to be part of labour force are equipped with skills that are valued in the labour market, Government may emphasise on improving quality and linking secondary and senior secondary schools with vocational education various levels of learning through a credible certification system.

In order for youth from rural India to participate in the labour force, particularly as entrepreneurs, continuous learning and certain specialised courses would be of immense use. Current educational practices or platforms maybe customised to address these issues. Learning Artificial Intelligence (AI), Agtech, Environmental Studies, Health and Hygiene, and many other aspects should be made more rigorous to face and prevent challenges. Though we gave importance to these aspects in the pre-COVID situation, the spread of virus catalysed and emphasised the need. We have to step out of the traditional practices and adopt tools like AI, Augmented reality (AR), distance learning for process enhancement, and customise the existing courses/add new courses to address the challenges discussed previously.

Artificial intelligence (AI) is a central tenet for the 4th industrial revolution. AI can be applied to every sector to enable new possibilities and efficiencies. The applications of AI in our daily lives, business operations, education, health, entertainment, and society as a whole are expanding at a very faster rate. Many existing gaps require great investment in training human resources to find solutions. Since AI presents profound new possibilities, from autonomous vehicles to automated diagnosis, teaching AI is very much useful. Currently, AI has been thought of as a main course or specialisation in some countries, more opportunities for learning AI has to be given for appropriate learners in the rural areas. This will result in innovations in the field of health, food, education, business, etc. to make our lives much easier.

Increasing population enhances the demand for nutritive food. With the traditional practices and the decreasing cultivatable landmass, the

production of food and nutrients to all people is a big challenge. Along with existing agriculture and food technology-related courses, teaching effective new methods of farming such as hydroponics, aquaponics, multilayer farming is beneficial in increasing the food supply.

The spread of the Coronavirus highlighted the drawbacks existing in the healthcare system globally. A limited number of skilled human resources, lack of infrastructure to treat the affected individuals, less scope for research shows the opportunities for development in the field of healthcare. To face challenges like these, the number of skilled medical personnel has to be increased, infrastructure has to be provided for research and treatment activities.

One of the critical aspects that need to be addressed immediately in the education system is Environmental studies. Increased human interventions resulting in climate change, environmental pollution, rise in global temperature, loss of life forms, etc. The long-term lockdown due to the spread of COVID-19 resulted in pausing/reduced human intervention with the environment. This resulted in many positive changes/improvements in the health of the environment. All types of pollution are decreased to a level which was decades ago.

As COVID-19 disrupted the normalcy in social and economic activity of the society, the need for agile and responsive skills development becomes more than inevitable. As discussed earlier, the need for data mapping and management related skills will be in demand mostly driven by the need to strengthen weak systems. Further, courses around supply chain and logistics management would also become important largely in line with experiences related to disruption in supply chain during COVID-19. Apart from the aspects discussed earlier, skills and expertise in aspects like Blockchain, Big Data, Cloud, data analytics, voice deployment, Six Sigma (for Quality and Operations Management), etc. are beneficial in saving and transforming human lives for better.

The Ministry of Rural Development, Government of India has various schemes which target the upliftment of rural youth in an inclusive manner. These schemes encourage equal opportunities to all with particular focus on more vulnerable sections like Scheduled Castes (SCs), Scheduled Tribes (STs), Primitive Tribal Groups (PTGs), single women and women headed households, Persons With Disabilities (PWDs), landless, migrant labour,

isolated communities and communities living in remote, hilly and disturbed areas.

The activities for upliftment of the rural youth would require strengthening and integrating of existing institutions of the poor into the institutional architecture of the poor. The SHG members may be trained to manage their enterprises, linking up with markets, managing their existing livelihoods, enhancing their credit absorption capacity and credit worthiness, etc. NRLM also promotes livelihoods collectives that help rural youth to enhance their livelihoods through deriving economies of scale, backward and forward linkages, and access to information, credit, technology, markets etc. NRLM also facilitates universal access to the affordable cost-effective reliable financial services to the rural youth and poor. These include financial literacy, bank account, savings, credit, insurance, remittance, pension and counselling on financial services.

The core of the NRLM financial inclusion and investment strategy is "making poor the preferred clients of the banking system and mobilising bank credit". While the Mission provides only catalytic capital support to the community institutions, it is expected that the banks provide the major chunk of funds required for meeting the entire gamut of credit needs for the rural poor households. The Mission therefore expects that the SHGs leverage significant amount of bank credit.

For young potential entrepreneurs, the government will provide an enabling environment and support enterprise development. The support from the government will be a facilitator giving easy and small loans to entrepreneurs for starting/expanding small businesses, technical and financial assistance to startups, provide social protection and short/medium-term tax relief to the startups and young entrepreneurs.

The aforementioned targets and programme implementation would also entail significant strengthening of the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all - particularly, for the rural youth in India.

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New Horizons of Agri-entrepreneurship and Agro MSMEs

Dr. Amiya Kumar Mahapatra and Dr. Vidya M. Iyer

With a large reliance on agriculture to provide life and livelihood to its people, India's agriculture holds the key to a broad-based inclusive development. India being the second largest agriculture producer in the world, contributes about 15 percent of the GDP from the vast variety of agriculture products. Indian Agri-entrepreneurship has seen significant growth in rice, sugarcane, coconut, coffee, tea, fruits/vegetables etc, which has been harnessing the e-commerce for enabling small and medium scale farmers to turn entrepreneurs with family-based average landholdings of about 2.0-2.5 acres.

"I see start-ups, technology and innovation as exciting and effective instruments for India's transformation".

Prime Minister Shri Narendra Modi (2020)

In the recent COVID-19 pandemic times, the one sector that has been doing unexpectedly well in India has been agriculture. The good performance of Indian agriculture sector is a harbinger of hope for the millions of organised and unorganised Agri-based families in rural India. India being the second largest agriculture producer in the world, contributes about 15 percent of the GDP from the vast variety of agriculture products (including food, classes of grains, pulses, cereals, vegetables and fruits, oils, meat, milk, eggs and plant based raw material like rubber). The production of the

agriculture produce, packaging, and storage are inter-related businesses that affect the overall prospects of agriculture. With close to 60 percent of the world population and 58 percent of Indian population predominantly relying upon agriculture and allied sectors, the efforts for enhancing the outcomes of the workforce in this Agri-sector would directly affect the quality of lives of millions. Hence, 'the Economics of wellbeing rests heavily on Economics of Agriculture'.

Since times immemorial, farm-produce has been sold in cities and towns from the countryside.



that demonstrating the entrepreneurial orientation of the Indian farmers. Today, we are living in times of on-demand purchases, disruptive technological tools have made it possible for the farmer to sell his/her produce to customers across multiple modes. While in the areas of local production, door-step delivery by farmers is prevalent, door-step delivery of farm produce is catching up with cutting edge e-commerce and supply-chain and logistics tools.

Agri-tech (Agriculture technology) is the application of various technological tools to enhance productivity and profitability in Agri-sector, where the prominent agritech applications include IoT (Internet of things), drones, intelligent software for pest control and soil analysis, satellite imagery for monsoon and water table management, automated irrigation, light and heat management, hi-tech farm equipments. The modern scientific research has brought bio-tech/nano-tech closer to Agri-tech. The Agri-tech startups are on the rise in India. With a large expanse of land area and a gigantic size of workforce employed, entrepreneurs in agri-tech are facilitating the lives of millions of individuals while augmenting India's strengths of demographic dividend, in the global market.

The Agri-entrepreneurship refers to the establishment, development, growth and expansion of the Agri-business enterprises in Agriculture and allied sectors. Entrepreneurial activities involving agritech, farming, and selling have gradually begun to bring in organised business practices in a fairly unorganised sector. Consistent entrepreneurship development and organised business and management practices should bring relief to labour with longstanding complaints of exploitation. Similar to entrepreneurs in other sectors, the Agri-entrepreneurs display risk taking abilities, appetite for growth, leadership and business acumen.

Indian Agri-entrepreneurship has seen significant growth in rice, sugarcane, coconut, coffee, tea, fruits/vegetables etc, which has been harnessing the e-commerce for enabling small and medium scale farmers to turn entrepreneurs with family-based average landholdings of about 2.0-2.5 acres (less than 1 hectare). The Agro MSMEs are increasing owing to organised farm-based activities, influence of technology supported by enabling government policies and keen investment interest.

Agri-entrepreneurs and Inclusive Agri-business Ecosystem

With a large reliance on agriculture to provide life and livelihood to its people, India's agriculture holds the key to a broad-based inclusive development. During 1960s, agriculture was contributing more than 70 percent to Indian GDP, which has declined to 13-20 percent during 2010-20s, however, dependence of rural farming community continues to be about 60-65 percent on Agri-sector.

The sustainable agriculture denotes to an integrated and system-driven method to achieve the reaching impact on social, economic, and environmental processes for all the stakeholders. Agribusiness, unlike the urban new-age businesses like IT and other service sector is the combination of a conventional trade and modern business techniques. The amalgamation of Agriculture and Entrepreneurship to create commercially viable products and business processes is Agri business. The vast variety of Agri-startups in India by the budding entrepreneurs are creating and paving the path for disruptive revolution in Indian Agri-sector in the last 5-10 years. Due to policy reforms and special initiatives taken by the government, the scope and opportunities in Agri-business has increased manifold in the recent years.

The new wave of Agri-preneurship was conceived and effectively implemented by National Institute of Agricultural Extension Management (MANAGE), Hyderabad through its "Agri-Clinics and Agri-Business Centers Scheme" (primarily for Graduates/ Post-Graduates/ Diploma holders in Agri and Allied sectors) and ably supported by the Ministry of Agriculture, Government of India. The Agri-business scheme has been nurturing and accelerating the existing process both Agri-Extension network and enabling the Transfer of Technology (ToT) in Agriculture and also facilitating integrated input-supply and Agri-services. Some of the trained Agri-preneurs have established and successfully running the professional/consultancy extension services to farming community, which was not existing earlier.

Emerging Opportunities In Agri-business Enterprises

A large number of Agri-business opportunities have emerged in the industries in domains like Agri-

product processing, Agri-food packaging, export of fresh fruits and vegetables, organised marketing and supply of semi-processed. Increased availability of micro financing, relaxed government regulations, accessibility to high technology, guidance and workshops on Agri and related areas are increasingly changing the outlook of the industry. The drifting choices of highly skilled personnel in opting for self-employment in agriculture, mounting the Agri-preneurship's perspective in India.

There are numerous domains of entrepreneurship in Agri-sector which included fruit and vegetable cultivation, Horticulture/Floriculture-based nursery farming, dairy industry, sericulture farming, sheep/goat/rabbit rearing, fisheries, shrimp/crab farming and farm forestry. Similarly, it can be found that farming, product marketing, inputs marketing, food processing, and facilitative consulting are some opportunities for entrepreneurial Agri-business with growing demand in India. The rural banks, value chain backward integration models including cold storages, mills and processing machinery, dairy products and marketing are a few activities that present a large scope in almost all parts of India. The producer types are namely Farm-level Producers, Service Providers, Input Producers and Processing and Marketing of Farm Produce. Besides being centred in urban and rural production farm related production activities, value-added/processed products, like unbleached flour, gluten-free food, organic fruits and vegetables, and BST-free cheese etc., have added significantly higher entrepreneurial income for the Agri-entrepreneurs, by sale in the local and regional markets.

Some of the innovative Agri-entrepreneurs have embraced value-added Agri-products, providing Agri-tech services, rental-business of farm equipment, Agri/Eco-tourism, processed forest-based products, both directly also through Community-Based Organisations (CBOs) and Farmers Producers' Organisations (FPOs). In short, 'the farmers who have become Agri-preneurs have generally earned more income, than those without enterprises'.

India is the hot-bed of dairy-industry in the world, with AMUL movement being the fore-runner and largest producer of milk and milk products, on cooperative principles. AMUL and National

India is the hot-bed of dairy-industry in the world, with AMUL movement being the fore-runner and largest producer of milk and milk products, on cooperative principles.

Dairy Development Board (NDDB) has provided opportunity to largest Dairy-entrepreneurs around the world, thus creating the white revolutions by Indian dairy sector – who are generally small & marginal farmers. Dairy Entrepreneurship has created new wave by adoption of modern science and technology for the rural self-reliance, economic empowerment, highest rural employability of youth and women thus bringing the socio-economic equity of rural people with semi-urban Indians by transforming dairy farming as one of the most-productive and remunerative option for the rural farming community.

Government Initiatives, Agri-entrepreneurs and Agri-Business Incubators (ABIs)

Prime Minister of India, Shri Narendra Modi has emphasised upon the innovative practices and use of technology in Agri and allied sectors to promote/nurture the Agri-business to create large scale employment, socio-economic equity, self-reliance with Agri-based start-ups and Agri-entrepreneurs. For example like Organic Sikkim has enabled farmers to earn higher profits by eliminating middlemen and finding markets for their Agri-produce by collaboration. Sikkim organic has retail stores, which offer variety of Agri-products like rice, pulses, ginger, turmeric, cardamom, mandarin oranges, etc and stores have been set up by the government in New Delhi and retail store chain being planned across other major cities. This has created enhanced demand for Sikkim's organic produce and farmers are earning an average 20 percent more-income.

According to Indian agriculture ministry 234 more startups in the agriculture and allied sectors with a sum of Rs. 24.85 crore under a central scheme shall be funded in the current fiscal year. The government is prompting innovation and Agri-preneurship by providing financial support and nurturing the incubation ecosystem under the Rashtriya KrishiVikas Yojana (RKVY). A total of 346 startups in the Agriculture and allied sectors are being funded with a sum of Rs. 36.71 crore in this phase. These Agri-startup entrepreneurs are being

trained for 2-months at 29 Agri-Business Incubation (ABI) centres across India, thus addressing the Agri-preneurship, income generation and also unemployment in rural ecosystem, both directly and indirectly contributing to the income of farmers by providing opportunities at their door-steps.

New Initiatives with Agro MSME Policy in India

The recent announcement by the Government of India of implementation of agro MSME policy is a welcome step in creating in situ employment in the rural economy. Government of India (GoI) through its upcoming Agro MSME policy is mainly focusing on entrepreneurial development in Agri-based, rural, forest and tribal areas. Its primary aim is to utilise the local raw materials and manpower to produce finished goods, for meeting the local needs. The GoI has a vision to translate the rural economy from a typical Agriculture to Agro MSMEs, so that there is an overall enhancement in the localised employment opportunities, economic contribution, innovation and entrepreneurship, technological adoption and improved standard of living of the rural masses. The Agro MSME policy is expected to give a push to 'rural-entrepreneurship' and empower the 'Panchayat' to become part of industry clusters. The initiatives is foreseen to get success, because of development in digital connectivity, better road connectivity, availability of electricity and awareness among the rural people.

Even though agriculture provides highest employment opportunities in numbers, the value of the employment does not yet create adequate livelihoods in India. Through policy reformation, not only employment shall increase but will give a big push to standard of living. There are two ways through which the issue could be addressed (i) through technology support and skills development to increase productivity and efficiency of the employed people (ii) by fostering Agri-entrepreneurship activities among rural youth, thereby producing finished/processed goods using local raw materials for the local markets.

As complementary to the Agro MSME policy, and further to magnetise its effect, ASPIRE (A Scheme for Promotion of Innovation, Rural Industries and Entrepreneurship) has primary

objectives to create employment through skills and training development, by strengthening the grass-root level development and in creating in situ livelihood opportunities.

Way Forward

Agri-entrepreneurship and thrust for MSMEs in the agriculture sector is the need of the hour in Indian economy. The recent studies indicated a contraction of 23.9 percent in national GDP, for Quarter of June 2020, but agriculture has been the only sector to have recorded positive growth. The recent RBI estimates indicated that Agriculture sector in 2019-20 recorded a real GVA growth of 4.0 percent, which was due to the record food grain production. This has accounted for 15.2 percent of the overall economic growth and this is a new record for the agriculture sector in India. Interestingly, this has surpassed the industrial sector's contribution to economic growth, which was just 4.7 percent in 2019-20.

And, the nature of consumer demand has changed towards the Agri-sector and Agri-processed products, hence a new outlook/perspective would certainly help in eradicating poverty and inequality in rural areas. In this direction, few of the innovative initiatives and institutional mechanisms that can be undertaken, by the various stakeholders, for inclusive socio-economic development and benefits are:

- Enable and nurture the local eco-system for Agri-business and Agro MSMEs in cluster-based approach.
- Facilitating the Agri-entrepreneurs can create local employment, enhance income generation and rural empowerment systems, for integrated and inclusive development.
- Agri-entrepreneurship will certainly contribute to localised employment, thereby addressing the poverty and inequality and will foster the holistic economic development.
- Encouraging Agri-entrepreneurship and organised business models, by harnessing e-commerce systems, will create a large network of domestic and international suppliers and buyers resulting in domestic consumption and export revenue.
- Import substitution can be strengthened (on the principles of vocal for local) by focusing more on Agri-business/Agro MSMEs.

thereby contributing to reduced-imports and enhanced-exports, thus leads to integrated AatmaNirbhar economic development.

- Inclusive pattern of sustainable growth of agro MSMEs sector will build an ecosystem to enhance their skills to meet their livelihood needs, increase revenue streams and fulfil aspirations for quality life; in addition to reducing the rural-urban migration.
- Agro MSMEs policy is going to act as the game changer in the economic sustainability of rural economy in particular and Indian economy in general.
- Agri-enterprises can focus on farm production, while Agro MSMEs can devote resources on processing, packing and marketing of Agri-processed products to reach large segments of customers across India.
- The health-conscious New-Gen Indians are target customers for the farm fresh produce to fresh food. Healthy ways of living could provide the succor to small and medium

enterprise to serve raw, semi-finished and fully finished products in edible and non-edible categories.

- Besides investing and holding attractive business propositions trading in consumable farm produce could be the new oil for trading.

Simply stated, the COVID-19 pandemic has negatively impacted majority of the Industry sectors, while the Agri and allied sectors has got renewed thrust focus as it remains the backbone of human existence. It is anticipated that mankind has realised supreme importance of health and safety, when compared to material possessions of 21st Century, hence there is hope for building the ecosystem for profitable Agri-enterprises.

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