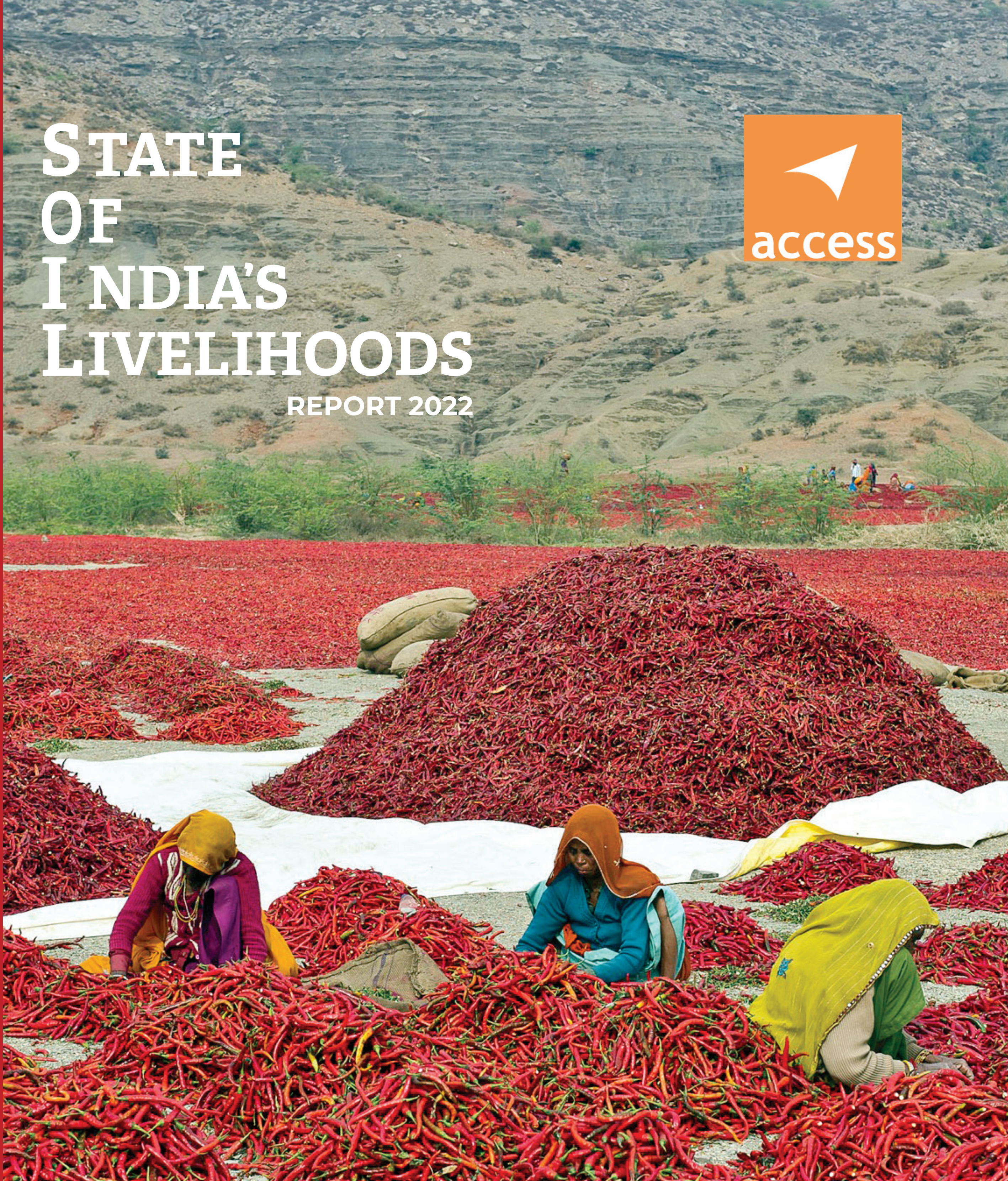
State Of India's Livelihoods

REPORT 2022



An ACCESS Publication

Edited By
Dr Sanjiv Phansalkar

State of India's Livelihoods
Report 2022

ACCESS Development Services
22, Ground Floor, Hauz Khas Village
New Delhi 110016
www.accessdev.org

ISBN 978-81-955245-0-1 (Print)

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List of Abbreviations

AIF	Alternate Investment Fund
BWS	Borlaug Web Services
CBO	Community-Based Organisations
CLF	Cluster Level Federations
CSO	Civil Society Organisation
CSR	Corporate Social Responsibility
DA	Digital Agriculture
EPFO	Employees' Provident Fund Organisation
FDRVC	Foundation for Development of Rural Value Chains
FPC	Farmer Producer Companies
FPO	Farmer Producer Organisation
GAP	Good Agricultural Practice
GDP	Gross Domestic Product
GOAL	Grameen Outcome Accelerated Lending
GOYN	Global Opportunity Youth Network
HDI	Human Development Index
IADP	Intensive Agricultural Development Program
JSLPS	Jharkhand State Rural Livelihood Mission
MACS	Mutually Aided Cooperative Societies
MCA	Ministry of Corporate Affairs
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MNC	Multinational Corporation
MoRD	Ministry of Rural Development
MSP	Minimum Support Price
NAFPO	National Association for Farmer Producer Organisations
NBFC	Non-Banking Financial Company
NCVT	National Council for Vocational Training
NRLM	National Rural Livelihoods Mission
OLM	Odisha Livelihoods Mission
ONDC	Open Network for Digital Commerce
ONORC	One Nation, One Ration Card Scheme
PA	Precision Agriculture
PACS	Primary Agriculture Cooperative Societies
PC	Producer Collectives
PDS	Public Distribution System
PE	Producers Enterprise
PMEGP	Pradhan Mantri Employment Generation Programme
PMGKY	PM Garib Kalyan Yojana
PMKSY	Pradhan Mantri Krishi Sinchai Yojana

PMMVY	Pradhan Mantri Matru Vandana Yojana
PMMY	Pradhan Mantri MUDRA Yojana
PMRDF	Prime Minister's Rural Development Fellowship
PVTG	Particularly Vulnerable Tribal Group
RBI	Reserve Bank of India
SAM	Severe Acute Malnutrition
SDG	Sustainable Development Goal
SFAC	Small Farmers' Agri-business Consortium
SHG	Self-Help Group
SPOs	Social Purpose Organisations
SVEP	Start-Up Village Entrepreneurship Programme
SVF	Social Venture Fund
UNDP	United Nations Development Programme
USEs	Udyog Sahayek Enterprises
VO	Voluntary Organisation
WBCSD	World Business Council for Sustainable Development

Foreword

The COVID-19 hit the Indian economy hard just as it paralysed the rest of the world. While the pandemic negatively impacted lives and livelihoods worldwide, the Indian economy had a quick rebound due to massive vaccination drive setting in the right direction. The economy that had contracted to 6.6% in FY 2021 on account of the pandemic, staged a mild recovery in FY 2022, when it grew to 8.7%. At the same time, India's economic rebound continued to face challenges from the global conflict situation, dampening the momentum of recovery.

Creating jobs for millions of young people entering the job market continued to remain the biggest challenge for the Government. India's job market had taken a massive hit in the wake of COVID-19 pandemic. With the economy starting to get back on its feet, certain uptrends were noticed in the hiring scenario. Two sets of data published on jobs for India – collected in the Periodic Labour Force Survey (PLFS) available up to June 2021 and the National Statistical Office (NSO) data for the urban areas up to the quarter ending September 2022 show that 2022 was a better year than even 2019 in terms of the urban unemployment rate. Urban unemployment was the lowest ever in each quarter in 2022. Labour force participation rate (LFPR) was also consistently higher in 2022 than earlier. However, the unemployment scenario may not be as good as these numbers suggest. The CMIE reports that India's unemployment rate has risen to 8.30 percent in December 2022, the highest in the last 16 months.

In a scenario of India's projected population size reaching about 1.45 billion people by 2025, and becoming the world's most populous country, it is also important to look at and build a continuum of various socio-economic opportunities along with its mandate to meet the SDG Goals and commitments towards Paris Agreement in Climate Change.

At present, India portrays two contrast pictures in terms of poverty and prosperity. On one hand more than 296 million people in India still live in abject poverty, accounting for one-third of the world's poor. This despite the fact that more than 400 million people were lifted out of poverty in India between 2005-06 to 2019-21 as per UNDP's Multidimensional Poverty Index (MPI) 2022. The baseline report of MPI 2021 released by NITI Aayog, identifies 25.01 per cent of the population as multidimensionally poor. On the other hand, it ranks as the third biggest economic global power at purchase poverty parity. India's economy is projected to be the fastest growing of all G20 economies. In this scenario, protecting, sustaining and strengthening livelihoods of the poor in rural, urban and remote tribal locations are considered priority areas for more equitable and inclusionary development.

Agriculture, continues as the most important sectors of the Indian economy. It has evolved over the years aided by significant advancements in technology, farm mechanization and digital applications. However, as per the recent Situation Assessment Survey (SAS) of the Agricultural Households, the decline in average land holding size is one of the challenges that smallholder agriculture faces in boosting farm yield and productivity. Thus, the future of agriculture is a very important issue for policy planners, practitioners and all other stakeholders.

It is against the backdrop that ACCESS is bringing out the 14th Livelihoods India Report in an attempt to collate the emerging trends in livelihoods of the poor in India, aggregate the experiences and challenges of the sector and report on the progress of government and privately-run programmes.

ACCESS has been publishing this report since 2009 and over time the report has become an important reference document for all stakeholders engaged in livelihoods promotion in India. The mainstay proposition of this report is to provide rich information to policy makers and practitioners who are committed to furthering the cause of livelihoods of the poor in India.

All the accomplished authors have made an excellent effort in capturing the important trends in the livelihoods space during the year. The 2022 report is authored by several well-known names in the sector. Dr Sajiv Phansalkar, Dr Orlanda Ruthven, Dr Ashok Sircar, Royston Braganza, PVS Suryakumar, Girija Srinivasan, Dr Sankar Datta, Dr Ajit Kanitkar, Alka Talwar and Shankar Venkateswaran.

In the Overview, Dr Sanjiv Phansalkar starts by presenting a canvas on which the livelihoods picture is painted. He then looks at livelihoods in the 'Green' sector before indicating some opportunities for creating new livelihoods, ways to create a more supportive environment through getting the Samaz, Sarkar and Bazar to work together and a possible way forward.

Focused primarily on rural youth, Dr Ruthven, while examining the nature of job crisis, tries to answer the big question of where the new jobs are.

Dr Ashok Sircar's chapter looks at policy and programme response to revive livelihoods in the post-Covid time. With a focus on small and marginal farmers, non-farm rural livelihoods, fisher-folks, NTFP based livelihoods and formal sector workers, Dr Sircar presents an analysis of the Union Budget as a policy instrument to tackle the livelihood crisis and follows up by a scrutiny of programmes on their promises and delivery.

In chapter 4, 'Tackling Extreme Poverty,' Royston Braganza starts by analysing the status of extreme poverty on a global scale before moving on to present a picture of extreme poverty in India. Royston summaries the key policy interventions for tackling extreme poverty in India as well as private sector involvement around it. One dedicated section looks at the successful Graduation Approach besides other models of tackling extreme poverty.

The chapter on 'Climate Smart Agriculture,' presents the policy landscape for national initiatives on climate change and India's financial requirements to fulfill its obligations under the UNFCCC and the Paris Agreement. PVS Suryakumar dwells on NABARD's priority of livelihood promotion through sustainable climate natural resource management as a strategic tool to obviate the impact of climate change on agriculture and allied sectors. He also dwells on core finance projects at NABARD that create new pathways for climate smart agriculture.

There is a huge policy thrust by the Government around formation and promotion of Farmer Producer Companies. However, the purposive inclusion of women farmers in FPOs seems to be lagging behind in spite of the crucial role played by women in farming. In the chapter 'Engendering Farmer Collectives,' Girija Srinivasan takes a look at recent initiatives that augur well for women led FPOs. Through an analysis of data of 75 women FPOs working in 16 states and promoted 40 resource agencies, she tries to develop an understanding if there is a business case for women led FPOs.

In his chapter on 'Livelihoods in Millet,' Dr Sankar Datta looks at how millets can contribute to the livelihoods of people. He discusses the multiple ways in which promotion of millets can enhance the livelihoods of the poor, looks at the major bottlenecks in livelihoods promotion and proposes the way forward.

Dr Ajit Kantikar and Isha Wadekar present several initiatives of the Government that attempt to bring digitalisation for the benefit of small holder farmers and the vibrant emerging ecosystem for it. He also presents the counterview against digitalisation of agriculture and the way ahead in terms of challenges and concerns on digitalisation.

In Chapter 9 on collectives in non-farm sector Dr. Sanjiv Phansalkar and Nimisha Katakee suggest that collectives in the non-farm sector can be seen in seven groups. They go on to discuss characteristics of each group and the challenges faced by them. They list each of their potential for generating and enhancing livelihoods.

The chapter 'The New Corporate Social Responsibility Rules and Challenges,' reviews the impact on CSR practice in India as a result of the requirements of Section 125 of the Companies Act, 2013

(CSR Act) and its amendments. It lays down an understanding of the scenario of CSR prior to the Act, its key requirements, the changes that took place immediately after the first enactment and subsequent changes due to the most recent amendments to the Act. She further builds on the challenges faced by both corporates and their implementing partners for delivering CSR programs that have a greater impact on national and international development goals and suggests the way forward.

Traditionally, NGOs have engaged with companies, either as critics or as collaborators in designing and delivering CSR programmes. While these paths will always be relevant, there is a strong case for NGOs to consolidate this relationship and become trusted advisors of companies in the development space so that they can influence their behavior. In the final chapter on 'Responsible Business Conduct and the Role of NGOs', Shankar Venkateswaran attempts to look at ways of NGO-Corporate engagement.

I am glad that Dr Sanjiv Phansalkar, agreed to shoulder the daunting editorial responsibilities for this year's SOIL Report. The authors have painstakingly put together this year's report, analysing policy, going over dispersed data and secondary literature, consulting key stakeholders and undertaking interviews. I am sure that this effort will present new insights into livelihood promotion of the poor in India. It has been 14 years since ACCESS conceived the SOIL Report and I am happy that over the years it has evolved into an important sectoral report. I thank all the authors for taking on the challenge.

I take this opportunity to thank the key supporters of the report. The financial assistance received from Research and Development Fund of the National Bank for Agriculture and Rural Development towards publication of the SOIL Report is gratefully knowledge. I thank Mr Arindom Datta and his team at Rabo Foundation for their conviction that SOIL will continue to bring value to the sector and their support to this initiative. I also thank BRAC International for their support towards the chapter Tackling Extreme Poverty.

Finally, the team at ACCESS that anchored the responsibility of ensuring that the SOIL Report is released at the Livelihoods India Summit. Congratulations Lalitha and Parul for a job well done.

I hope that with our combined efforts, the SOIL Report continues to be a valuable reference document for those interested in livelihood promotion in India.

access

Puja Gour
Vice President

Overview

1

Dr Sanjiv Phansalkar

1.1. The Canvas[1]

The first point about the canvas on which the livelihoods picture is to be painted is about our densely overpopulated country. The number of people whose livelihoods need enhancement in India exceeds the total population of virtually every other developing country, and with each passing year, this number keeps increasing with the population of a small developing country. It must be noted that never in the history of the world had any democratic government in the world confronted the challenge of eradicating poverty by promoting the livelihoods of such a large number of people. Even so, as per the UNDP report, between 2004 and 2019, India reduced the number of those in extreme poverty by 415 million. A stupendous achievement[2]. This recognition is humbling and should motivate all to assist the governments in trying to pull out remaining millions of persons out of poverty.

Four distinct 'types of poverty' pose a serious challenge in the livelihoods field. The first, urban poverty, is increasingly becoming important, particularly given how 'visible' it tends to be. The other three types concern rural areas. The most daunting one among them is the huge prevalence of poverty in thickly populated, water-rich (in fact, flood-prone) districts in Ganga and Brahmputra basins. This is the most daunting because infrastructure development in these districts is very poor. The chances of improvement in it are limited due to their vulnerability to floods. Operational land holding sizes are minuscule, and there is great difficulty securing land even if one wishes to set up industrial poles in them. The third type of poverty is seen in huge tracts of semi-arid regions (for example, Bundi in Rajasthan and reaching way down South up to Tirunarveli in Tamilnadu), in mid-western regions of India. The fourth (and to the development community, the dearest) is the poverty that prevails in what was termed 'Central Indian tribal heartlands'. These cover over 120 districts lying between 18 and 25 degrees North of the Equator, from the Western districts of Gujarat right up to the Eastern end in West Bengal (Phansalkar and Verma 2005).

The other aspects of this canvas, pretty well covered by authors in this report, are worth noting as well. With population growth, operational landholding size is falling continuously. Average land holding is reaching abysmally low levels in the most 'backward' districts like Deoria, Madhubani, and Supaul (each of which had a population density in excess of 1200 persons per square km in 2020). There is an increasing recognition of both feminization and senilization of agriculture as young adult males have shown the propensity to migrate in search of employment. Conventionally, the population census had provided no concrete data about the number of people who engaged in seasonal or circular migration each year, and since there was no data, the issue was conveniently ignored by policymakers. The pandemic jerked the Government and all others concerned out of this complacency, and the reality of migration is now well recognized. The third aspect of the canvas is the fact that with a deep incursion of electronic and now social media in rural India, informational isolation of rural India is a thing of the past. The aspirations of people have tended to zoom northward. The fourth aspect of the canvas is that it is no longer considered adequate to focus only on the income of the poor, but it is expected that multi-dimensional poverty will be reduced. This task is obviously more onerous. The fifth aspect of the challenge comes from the deteriorating condition of the resource environment, exacerbated by climate change. The sixth aspect of the canvas concerns the huge opportunities that are claimed to have been created (and to an extent also realized) by the wide-scale adoption of digital technology in rural areas. The seventh aspect is the impressive expansion of high ways network that would reduce travel time and hence make distributed manufacture a realistic possibility. The final dimension of the canvas is that this era, as Rohini Nilekani in her book remarks (Nilekani 2022), is one of urgent need of rebuilding partnerships between *Samaj, Sarkar* and *Bazaar*. This is emphasized in this context by the demanding expectations placed on the private corporate sector corporations through the changes in Company Law.

The informative and useful chapters in this report then need to be looked at in the context of this canvas. In this chapter, some of these aspects are addressed, often using the insights offered by the authors of the chapters in this report. The dimension of aspirations, as well as opportunities currently available in the economic environment faced by the poor, are first looked at. This is followed by a discussion on the policies and programs as the ever-alert governments try to live up to the challenge they face. Engagement of the corporate sector in the pressing task of livelihoods and issues associated with organizations and entities that work with people are then looked at. Specifically, the question as to which 'boots on the ground' appear to be sturdy and robust to work sustainably and how to deploy them is addressed. Finally, a few suggestions are offered with humility and, in a speculative manner, about a possible way forward.

1.2. Livelihoods in the Green Sector

233 million workers (46%) were engaged in agriculture out of 511 million workers in the country in 2019-20[3]. 121 million were absorbed in industry and the rest in the services sector. While the work content may not be inspiring or glamorous, and whether the compensation is adequate, a huge chunk of the workforce is in agriculture now. The issue here is to make the work content more congenial and returns more attractive. Anecdotal evidence exists to argue that in post-pandemic India, even habitual migrant workers express a preference to remain in their village. The question is how to make it worth their while. Three collateral issues influence the possibility of retaining them and yet providing them with meaningful and satisfactory livelihoods in agriculture. The first relates to resources and resource use. The second relates to their interface with the market. The third deals with entities which can help them increase their incomes within the rural area. Some relevant points in these three broad issues are discussed below.

1.2.1. Resources and Resource Use

Land and Water Resources

Loss of topsoil and gross over-utilization of groundwater aquifers are two key issues in this respect. Renewed efforts at in-situ conservation of rainwater in rain-fed zones and wide-scale water harvesting efforts virtually in all areas not affected by issues of floods are needed. Flood plains in lower Gangetic plains and in Brahmaputra and Barak valleys pose major uncertainty to the life and livelihoods of people living in those areas. The question is how MNREGA can be better tweaked to achieve wage employment opportunities as well as resource conservation in rural areas.

Soil Sustainability, Climate Resilience

Aside from the depletion of topsoil, the problem of depletion of soil organic carbon threatens farm productivity in a wide swath of the country. This problem further complicates the challenge posed by climate change. Natural farming advocated by the National Mission on Sustainable Agriculture (and in the manner promoted currently by the Ryathu Sadhikara Samstha of Andhra Pradesh) is considered a desirable solution. Natural farming is more labour-intensive and will absorb more workforce in agriculture[4]. Further, there is an expectation that 'good food' produced by popularizing natural farming will attract demand from a rapidly rising upper middle class in the cities. The Srilankan crisis allegedly exacerbated by the hasty scaling of natural farming may temporarily have reduced the momentum of this work. A relevant point is to consider how MNREGA can be used for both wider scale plantation or cultivation of plant species needed for making natural farming inputs as well as for production of these inputs.

Crops and Activities

Sankar Datta's chapter in this report has argued for livelihood enhancement through scaling up millet production. His argument is that while, on one hand, millets offer a better substitute for cereals for human consumption and also a solid supply of fodder, on the other, they offer a rich potential for strengthening the livelihoods of the particularly unprivileged sections of people living in vulnerable conditions. Millets represent an instance of a category that meets this need in certain specific agro-climatic conditions. Similar solutions (for instance, intensifying homestead production systems in NE) have been discussed in other conditions. In the animal husbandry sector, goat rearing has similar attributes that are favourable, particularly in regions adjoining degraded forest lands. Previously, pro-poor activities were neglected by both policymakers as well as from agricultural research Institutions. The sections in both groups have focused more on 'main' crops and productive, irrigated agriculture regions. However, the main point that this chapter argues is that going forward such crops and activities must be fully exploited to generate livelihoods.

1.2.2. Market Interface

Two specific dimensions influencing market access to the poor need to be seen. The first pertains to a reduction in logistic bottlenecks. As road connections improve and transport and storage infrastructure get created, market access starts becoming easier for producers in the farm sector. This can be seen in regions of agricultural prosperity, particularly in the original 18, IADP (Intensive Agricultural Development Program) districts. The improvement in marketing infrastructure has been occurring at a less dramatic pace in most other parts of the country as well. Regions with natural or man-made barriers, such as recurring floods or the strong influence of left-wing extremism, continue to lag behind in this respect and need attention. The second dimension is of more recent origin and scale. Ajit Kanitkar and Wadekar have captured it very well in their chapter, which focuses on how digital technology is transforming the market interface for farmers. IT-enabled services and numerous technological innovations not only influence access to input markets and much closer linkages with output market actors but also bring a huge difference to the spread of new agronomic practices and agricultural technologies. In fact, to an extent, they could change the image of agriculture as involving nothing but drudgery and may make it attractive enough to motivate young people to stay back in rural areas.

Collective marketing has been advocated through FPOs. Logistic difficulties and hence advantages of aggregation are surely major causes justifying collective marketing. However, a note of caution is in order. The issue concerns the wide disparity in levels of information with private trade and producers or their organizations regarding the dynamic mosaic of mismatch between demand and supply across myriad locations. This is elaborated on below.

For national policy planners, gross national demand and gross national supply are the only considerations, and they act on the mismatch where it touches essential commodities. For everyday market transactions, which determine prices paid by consumers and prices received by producers, the issue is of mismatch between demand and supply in the concerning location on the day of the transaction. Because of their long experience and entrenched kinship networks, private traders have much better access to information regarding which item is in high demand but low supply, in which significant location and when. This information enables them to invest money to acquire and possibly store the relevant goods and also take associated risks. Private trade network justifies the large spread between producer and consumer prices because of the inherent risks, because of the specific information they possess and because of the investment they make in inventory. The producers or their organizations do not have access to this information. As a result, their scope of decision-making is based almost entirely on their knowledge of the proximate market and their contacts there. The issue, of course, is very critical for perishables but not insignificant for items with longer shelf life. As a result, the producers or their organizations remain at a disadvantage compared to private trade. If the potentially revolutionary Open Network for Digital Commerce (ONDC) is put to effective use, producers will come to know where the demand exists for the specific produce they have, and they could arrive at a deal using the ONDC platform. This will happen even for future deliveries if consumers are in a position to place demand for deliveries a week, month or quarter ahead of the date of placing an order. Such deals can help producers plan their production to meet the demand and reduce the stranglehold of private trade and the spread between producer and consumer prices. Efforts and investments are needed in creating protocols and access methods, in multiple languages, for such access to ONDC to come into existence.[5]

1.2.3. Organizations

Producers' organizations have remained a long-standing choice of policymakers for enabling rural farm and non-farm producers to enhance incomes. The preference has remained despite the overwhelming evidence that it takes much more than good intentions and government policy support to enable such organizations to stand on their feet. Clearly, unless they remain viable, they cannot benefit farmers or remain effective in the long run. Theory and historical evidence suggest that these organizations will remain perennially under-capitalized unless specific and targeted efforts are made to continuously and unobtrusively mobilize member equity contribution, as, for instance, is done by the new generation dairy producer companies. Low capitalization leads to low working capital and hence low business volumes, which are incapable of meeting the overhead expenses, let alone developmental expenses. Shining examples of very few successful producers' organizations are repeatedly touted to justify the unrealistic hope of making producers' organizations reliable vehicles for promoting the livelihoods of the poor. What has also tended to happen is to treat the producers' organizations as instruments of public policy and load them with additional, non-business-related mandates such as gender empowerment or the promotion of climate-resilient farming. This trend continues, and there is a great reluctance to take on the hard problem of making producer organizations viable in the development fraternity. The chapter by Phasalkar and Nimisha Katakee in this report highlights specific business challenges faced by producer organizations in the rural non-farm sector. A significant task in the Amirtkaal would be to infuse a practical and hardheaded approach to producer organizations in all promoters, managers and Board members of these FPO. Alternate forms of organizations are urgently needed in both farm and non-farm sectors.

In recent years, a new trend of promoting agri-entrepreneurs has taken root. Initiated by joint efforts of Syngenta Foundation and Transforming Rural India Foundation, systematic efforts to identify, train and promote agri-entrepreneurs (AE) are being done mainly by

Agri-Entrepreneurs Development Foundation, which has set a target of promoting 0.1 million agri-entrepreneurs and has already reached a milestone of 10000[6] entrepreneurs Many other organizations also mount similar efforts with some variations. These efforts rest on the premise that entrepreneurs promoted from among the families of rural poor stand greater chances of becoming quickly viable due to their lower overheads and closer connection with the ground reality. Further, they will continue to remain sensitive to the needs of their rural society and not become new-generation exploiters. AE provides to his local clientele some combination of services such as input supply, equipment hire, agricultural advisory, output aggregation and marketing assistance, as well as linking with the market in other ways. There is much merit in the rationale for developing AE, and the early experiences are encouraging. The typical agri-entrepreneur is motivated by the profit potential of his enterprise and assists households in his village and those nearby in acquiring agricultural inputs and marketing their produce. Whether these entrepreneurs can take on the challenge posed by their significantly more savvy and entrenched private trade in the market while remaining sensitive and non-exploitative to their communities remains to be seen, as these enterprises are of no more than five years vintage. It is possible to explore the combination of agri-entrepreneurs and FPO, as seems to be happening in some places, such as Andhra Pradesh.

Time alone will reveal whether the high-voltage and high investment 10000 FPO program of GOI mounted in 2020 will provide the organizational infrastructure for enhancing rural incomes or whether the small size but a prolific number of agri-entrepreneurs will do the needful.

1.3. Aspirations and Opportunities

The above section indicates some opportunities for creating new livelihoods by managing the resources better, taking up certain classes of activities in farm and non-farm lines and mounting viable organizations and mechanisms for structuring and bolstering the economic transactions associated with livelihood creation. Opportunities in other spheres of life are looked at below.

Orlanda Ruthven's chapter has identified three distinct clusters of opportunities. The first is the 'conventional' cluster of urban-industrial poles, which pulls a lot of rural workers. The second cluster which she identifies is the MSME sector of the economy. The third cluster she identifies is urban civic services. She has also attempted to identify the potential and challenges in these three clusters.

Global experience suggests that the usual progression is for the workforce to reduce in the primary sector, (in particular) agriculture and transit to the manufacturing sector. Such a transition in India has not happened in a truncated manner. With the new age of automation, surplus labour from agriculture may not be absorbed in the industry. Some leaders are talking about India's own growth model led by services and thinking about agricultural labour directly entering the service sector. To some extent, this has been happening, particularly in low-end service sector jobs. Whether 'Make in India' will happen with any significant labour absorption is moot. As of now, a hope (rather than any evidence suggesting it) is that the impressive progress in creating a network of highways will act as a trigger for distributed manufacturing. Such distributed manufacture will help create livelihoods for rural folk closer to their locale than the established distant poles.

Being almost twice as rich as rural India in terms of per capita income, there is no question that urban India, in general, and urban-industrial India, in particular, will continue to pull in rural workers in large numbers. Given the huge numbers, there is every reason to argue that the three sectors identified by Rutwan, in fact, will be the hope of providing meaningful employment to rural workers. There are two significant issues in this regard. The first is the well-established trend of informalization of the workforce in the industrial sector. This trend is very strong owing to the prevalence of labour laws which are particularly protective of organized labour while almost completely leaving unorganized workers to vagaries of the market. The second issue is connected with the fact that the employment of rural workers in urban-industrial clusters inevitably needs them to migrate. Migration can be permanent or circular. While issues connected with permanent migrants tend to be more about integration into the host communities, the issues connected with seasonal migrants are much more serious. Khandelwal and Phansalkar (2021) have documented issues connected with them. These include insecurity of employment, poor occupational safety, absence of acceptable living conditions, being suspected and vulnerable constantly to hostile treatment from both the host cities and communities, as well as the law-and-order machinery in the host cities and absence of basic entitlements in regard to access to food education and health facilities. While some schemes like 'One Nation One Ration Card' as well as the portability of health files have been announced by the Government, the extent to which these have become operational is not documented or known yet. Similar issues are likely to be encountered so far as Rutwan's suggestion about urban civic services as a possible cluster of opportunity is concerned.

While the numbers of those who can be absorbed can be argued about, some opportunities within rural areas have not yet been fully understood or assessed. These are touched upon below. Some of them depend on the leadership and financial support of States.

- One major possibility touched upon in passing in the earlier section is that of agri-entrepreneurship. Viewed along with the implications of digitalization in the farm sector covered so well in the chapter by Kanitkar and Wadekar in this Report; the brave new world of agri-entrepreneurship appears to offer a possible rich source of profitable self-employment as well as wage employment for some other workers within the same village of the agri-entrepreneur.
- The pandemic experience has strongly underlined the need for expanding public health outreach. While hindered by the over-stretched resources of near-bankrupt State Governments in many States, there is no question that there is a huge need to work on this and provide many more boots on the ground to reach basic health facilities to the rural population. While the health services improve, livelihoods also will be created.
- The third area of opportunities is initiating services for the care of the elderly in villages. With increasing longevity in general and also an increasing proportion of rural adult males migrating, the elderly are often left to fend for themselves without any assurance of even the most basic services for their survival. The belief that joint family systems or close-knit communities would care for the elderly is shattered in many villages that are in the grip of a major social and cultural transition to the nuclear family pattern of life. The Governments have mounted a few schemes of providing meagre financial support to the elderly. However, there is a strong need for caring for the elderly in terms of companionship, in terms of enabling them to access health services and for their general well-being (Jadhav 2021). Women-led CBOs in the villages also provide a ready vehicle for hosting such services. There are some examples of how these CBO actually operationalize these services while simultaneously creating livelihoods for the service providers.
- The fourth possibility lies in the field of caring for persons with disability in rural areas. The situation in this regard (and in regard to the care of the mentally challenged) is perhaps much more acute than the situation of the elderly, as mentioned above. However, if only as a hope, I believe that there is an urgent need for the rural society and the State to work together to find solutions to these needs and also generate local employment.
- The fifth possibility within the rural area is the urgent need to expand the policing and safety of citizens. India has among the smallest number of policemen per hundred thousand people in the population. Most of the police force is concentrated in district or sub-district levels. Rural areas are policed by a peculiar combination of traditional system married with the formal police systems (through, for instance, the appointment of 'police patil' in Maharashtra.) As villages become larger and the traditional social fabric weakens, crimes against women or against socially

marginalized people are rising. This points to the need for increased formal policing in rural areas. (Deora and Phansalkar 2019)

- Finally, there is the active possibility that MNREGA funds can be better deployed to achieve the twin objectives of creating livelihoods while contributing to the conservation and enhancement of the productive potential of our natural resources. (Mahajan 2020). This process can receive a significant boost by systematically developing the effectiveness of the 'Triad' of the CBO, Gram Panchayat and local administration in using all the streams of funding from Governments (funds under 15th Finance Commission, MNREGA, schemes meant for the creation of roads, schemes for rural housing and so on) meant for the development of the villages. (Anishkumar 2021). We look at this aspect in the next section as well.

1.4. Supportive Environment and Boots on the Ground: Getting *Samaj, Bazaar* and *Sarkar* to Work Together

In her recent book, Nilekani (2021) has wistfully argued for a trusting and supportive collaboration between civil society, the State and the market players to bring about real and humane changes in the lives of citizens. Given the gigantic challenge of the livelihoods problem, there is an urgent need to collaborate in this sphere to achieve economic growth and an enhanced measure of social and regional equity. The current situation of these three sets of actors is looked at below before articulating a way forward for achieving this collaboration.

In his review of the policies and programs of the Government directly pertaining to the livelihoods generation, Ashok Sarkar has come to the conclusion that the financial support from the Government of India to these programs has either remained stagnant or increased only marginally. He has reviewed budgetary allocations made during the last few years to the 'mainstay' programs of MNREGA, NRLM, PMEGY, Kisan Sinchai Yojana, etc., and come to the above view. It is possible to argue that this snapshot has resulted from the fiscal pressure caused by the pandemic. The budgetary allocations may rise as we go forward, but that remains to be seen. If the Central Government has been hard-pressed to find money, what of the States? The inability of State Governments to find and allocate money to creating livelihoods, or even in several instances to match the Central Governments' grants, is unlikely to change in near future.

Looking at only the programs directly focusing on livelihood creation is perhaps a partial view. It may be noted that the expectations from the Government are rising, and action is recommended to reduce 'multi-dimensional poverty' and not just increase incomes. Royston Braganza has argued that the need of the hour is to realign budgetary allocation to concrete progress on the SDGs. It may be noted that by at least creating a specific space for 'Aspirational Districts' and creating a mechanism in the NITI Aayog for monitoring the progress of these districts on the SDGs, a movement in the direction suggested by him has been occurring for the last few years. Such specific attention and some additional yet unconventional administrative support through Fellowships (starting with Prime Ministers Rural Development Fellowship and now seen in its several variants) has indeed resulted in positive changes in many of these 'Aspirational Districts'.

There is a rich potential for positively impacting livelihoods while impacting the well-being of the rural citizens by better utilization of the untied funds made available to the Gram Panchayats under the 15th Finance Commission. The sad reality is that most States have an entrenched resistance to giving concrete shape to the goal of democratic decentralization. The GP, as well as the rest of the PRI, are firmly under the thumb of the State administration. However, as Anishkumar has argued and as Kudumbshree has demonstrated in Kerala (Vijayanand and Sukumaran 2022), effective collaboration between community-based organizations, the PRI and local administration can result in significant changes in the well-being of the people, use of these funds better and in the process also create livelihoods.

In recent years, many stores have been placed on the funds presumably available under the corporate social responsibility requirement placed on the corporate sector in India. All companies which make a net profit in excess of ₹100 million are required to spend 2% of the net profit on meeting their CSR. This spend is substantial. In FY 2019-20, the spending was in excess of ₹240000 million, including ₹44000 million from the PSU[7]. The rules for this spending have been modified several times. In this Report, Alka Talwar has reviewed the implications of the current set of rules in her chapter. Corporates with manufacturing facilities are required to use the funds in the communities around them. Corporates such as Banks which have a more spread-out presence, enjoy greater geographic choice in deploying their CSR funds. Talwar notes that Corporates have shown a preference for setting up their own Foundations and transferring and spending their CSR funds through them. This enables them to achieve inter-year stability in spend, and thus they can support projects with a longer time horizon than permitted by an annual spending routine. In the past, the Government has seen it fit to encourage companies to align their spending with National programs such as the Swachch Bharat Yojana. During the pandemic period, corporates supported the work connected with combating Covid.

While the funds themselves are useful, an infusion of fresh, unhindered thinking in addressing the issues concerning communities and the poor can be a major contribution of the corporate houses. In his chapter in this report, Shankar Venkaeswaran has explored the issues closely related to the CSR engagement of companies with and through NGOs. He stresses the need to build mutual trust and the need for the NGOs to understand and adjust to the compulsions faced by Companies. He also argues that responsible business conduct goes beyond mere CSR spending and may involve providing intellectual leadership for community well-being as well as the involvement of the communities in their own business processes.

The current status and developments in civil society, the third partner in the triad of *Samaj, Bazaar* and *Sarkar*, are addressed now. People in the development sector tend to equate civil society with the set of formally registered NGOs. If one were to adopt this narrow view, there is no question that the sector rues the loss of centre stage and preeminence it enjoyed in the development sector in the country. One keeps hearing from several NGO leaders stating that the ‘space for the civil society has been shrinking’. The funding environment for the NGO world has been deteriorating for several years now. On one hand, the Foreign Contributions Regulation Act has become more stringent and demanding, while on the other, the Companies with CSR funds are seen as keeping a narrow and short vision and geographic focus, ignoring the institutional dimensions of the NGOs. The old generation Foundations as well as the new generation philanthropists, have taken more to technology-aided, highly-focused and measurable development intervention than institutional strengthening of the conventional NGOs (Vikasanvesh Foundation 2020). To make matters worse, the salaries of professionals in other sectors of the economy have been rising rapidly; hence, NGOs find it difficult to attract and retain talent.

At the same time, with the sterling contribution of the work done by various State Rural Livelihoods Missions, a large number of community-based organizations (CBO) and their federal structures have come about. The presence of self-help groups, their village-level federations called Village Organizations, and the Cluster Level Federations (CLF) are to be seen in every district. The unique feature of interests about them is that they represent the poor people in the organizations by design. A fair number of CLFs have been working on issues that impinge upon multi-dimensional poverty, and several of them have taken a significant interest in articulating the demand of the poor and hence created a pull force for improved governance. In effect, one form of civil society seems to be yielding space to another form. The CBO suffer from the same financial sustainability issues as the NGOs, except that they have a greater possibility of mobilizing user charges for their services than NGOs. It can be argued that governments and corporate houses may find it worthwhile to reach out to and work with these civil society organizations even where there are no NGOs. This is all the more important in districts of very high population density in UP, Bihar and West Bengal, which unfortunately have not seen the growth of as many credible NGOs as, for instance, as the districts in Central Indian tribal regions.

1.5. A Possible Way Forward in the Amritkaal

It is not very difficult to be pessimistic about the livelihood situation given the huge number of people seeking them and the relatively slow and truncated agrarian transition in the country. The emphasis on skill building, self-employment and supporting start-ups through, inter alia, Mudra loans etc., as at least articulated by the State, steps in the right direction. There is no question that skill building and Mudra loans, both would be needed for continued absorption in the service sector. A reimagined manufacturing sector focusing on distributed manufacture would become quite necessary if livelihoods for millions of youths seeking them are to be created without creating the difficult problems encountered by migrant labour. The following points are offered more in the spirit of initiating a discussion and dialogue on the way forward than as cut-and-dry solutions.

- **Systematic Push to Distributed Manufacture and Service Provisioning**
  The construction of a large number of expressways and other highways will result in substantial improvement in road connectivity and a reduction in logistic bottlenecks. This opens up the possibility of distributed manufacture or in fact relocation of manufacturing facilities away from the current poles. This possibility can be leveraged via the now tried and tested method of setting up theme-based industrial parks (food processing park, light engineering park, plastic goods manufacturing park etc.). The chief advantage will be many more locales than the major industrial poles would feel the load of migrant labour.
- **Corporates Adopt Aspirational Districts**
  In his chapter, Braganza has suggested modifying CSR rules to try and redirect the flow of CSR funds and activities to achieve SDGs. Taking a cue from him, one specific suggestion is obvious. The Government and Apex Industry Associations need to work together and persuade large corporates to adopt one Aspirational District each. The most intractable livelihood problems are in the flood-prone, thickly populated districts in the Gangetic plain and Brahmputra flood plains. These districts are also the source districts for the largest number of migrant workers in the country. Very few industrial units, if any, operate in these districts, and as such, they will always remain out of the purview of CSR activities of corporate India. A positive, proactive stance in modifying the CSR rules to ensure that both managerial talent as well as financial support flows in these districts would be of much help. These initiatives can focus on skill building, development of local entrepreneurship and even attempting to include the economic activities in these districts in their business processes.
- **Scale the Localization Experience**
  Involving the prolific number of SHGs and their federal structures created under the NRLM umbrella in local development by forging an effective collaboration between such CBO, the local PRI and the State administration as achieved is necessary to impact on multi-dimensional poverty as well as create livelihoods. Such collaboration can effectively use the untied funds made annually available to the GPs under the 15th Finance Commission and work towards development goals prioritized by the community.
- **Constructive Reliance on Digital Technology**
  Digital technology has shown its utility in several spheres of economic activity in rural areas. Our work in the past (Phansalkar 2019) suggested that access to digital technology was rising at a rapid pace. Language barriers (ITES most commonly available mainly in English) made digital inclusion suffer from the expected infirmities caused by social

stratification and patriarchy, leading to the emergence of the possibility of the rise of the new 'digital age gatekeepers'. The intervening years, particularly the force of compulsion caused by the lockdowns and mobility restrictions during the pandemic, have perhaps led to much more equitable digital inclusion. Well-meaning and benign interveners can certainly intermediate to deploy fast-developing technology applications to enhance livelihoods. As Kanitkar and Wadekar have summarized in their chapter in this report, this helps bridge the information gap and hence enhances access to inputs, agronomy advice, and markets. As mentioned below, digital applications can also happen in other spheres of livelihood. At a higher level, efforts to make ONDC operational and accessible to producers need to be expedited.

- **Engagement With Youth and Large-Scale Skilling**
  Efforts at large-scale skilling as attempted by the Government are highly desirable and need support from every quarter. One lacuna for skilling programs so far has been that they tend to address the demand from youth who have education up to 10th or 12th Grade. This ends up ignoring the school dropouts who are forced to join the labour force as unskilled workers. As the New Education Policy proposes, skills and vocations need to be introduced early during skilling. Some excellent initiatives, such as that by Lend a Hand, are available to learn from and scale for skills/vocations training in schools. The pilots of mounting youth connect through Youth Hubs which reach out to all youth in the NEET category post assessment of their aptitudes and connect them to appropriate training or employment opportunities are promising, as are the pilots launched under the Global Opportunity Youth Network (GOYN) program in India. There is a need to learn from and build on these pilots.
- **New Initiatives in Rural Areas**
  The six potential opportunities discussed in section 3 on Aspirations and Opportunities above need systematic assessment. The unique advantage of these opportunities is that they serve multiple purposes: create livelihoods as well as contribute to concrete improvement in the well-being of the people. These opportunities are perhaps best tapped by relying on the agency of the civil society entities created under the aegis of the rural livelihoods mission.

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Notes

[1] India's population in 1981 was 680 million. Ford Foundation had then sponsored papers in what was called the 'Second India Series' and the publications in that series projected the state of affairs when we would increase the population to double its size then and speculated about

the ways to deal with those problems. In the forty years since then, we have indeed doubled our population. A well-known demographer had projected in 2005 that India's population would stabilize at 1580 million by 2030. Now with population having reached 1400 million in 2022, stabilization at this level seems unlikely. An interesting question is whether the ever-increasing population be taken as a relevant factor in discussing livelihoods.

2 The pandemic induced economic distress may have undone some of this gain.

3 Ramesh Chand and Jaspal Singh, 'Workforce changes and Employment: some findings from PLFS data series', Discussion Paper 1/2022, NITI Aayog, New Delhi; Table 5A, page 8.

4 One however needs to be modest about its appeal given the reluctance of youth to engage with work connected with these materials.

5 I thank Dr. Avinash Paranjape for poining out these issues.

6 10129 as on October 24 2022 as per their website www.aegf.in

7 https://www.csr.gov.in/content/csr/global/master/home/home.html#:~:text=This%20CSR%20Initiative%20will%20push,private%20partnership%20in%20transforming%20India.&text=Total%20Amount%20Spent%20on%20CSR%20(INR%20Cr.)&text=Rs%207490.84%20Cr.

Where are the New Jobs?

2

Dr Orlanda Ruthven

2.1. Introduction

India's public discourse is finally attending to the jobs crisis. It is widely understood that the 'Make in India' promise is floundering, that education is not helping, that demographics might be making things worse, and that the shock of the pandemic only exacerbated existing problems. Few commentators would deny the deeper problems behind the still low 'unemployment' rate and other official claims. But the solutions to all this are not clear.

Focused primarily on rural youth, this report begins with examining the nature of the job crisis, a prerequisite for assessing possible solutions (Section 2). But it does not dwell for too long on the 'state we're in', well documented as it is by the Centre for Sustainable Employment (CSE) at Azim Premji University, the Grameen Foundation, NCAER, as well as the SOIL reports of the last two years. Instead, we try to answer our title question, 'where are the new jobs?'. The question has the word 'new' in it to ensure we don't get waylaid in a common statistical pastime of calling 'job creation' when it's actually subsistence 'eeking-out' activity. We use the term 'job' rather than 'livelihood' to recognise the high demand for salaried jobs among the youth and the difficulties in setting up sustainable self-employment with no work experience.

We make a go of answering our title question in three different ways. First, in the most conventional way i.e., the jobs are where the investment and growth are: large urban-industrial centres and their role in making productive use of workers who travel from the rural and no-growth regions (Section 2.3.1). Second, we turn the lens on the micro sector with its enormous volume of small firms distributed unevenly but persistently across the country and never far from idle youth (Section 2.3.2). Third, we review a proposal which is getting attention among policymakers and industry for a publicly financed urban employment scheme geared to civic services in small cities and towns (Section 2.3.3). We look at the evidence for each of these possible answers to our question: the quantity and quality of the jobs on offer, the readiness of rural youth to move into such jobs, and existing efforts to address demand-supply gaps through skilling interventions. We also touch on the factors which need to be addressed by the government and other programmes to get each of these to take off.

In addition to secondary sources (available newspaper and journal articles), Section 3 incorporates anecdotal findings from a round of phone interviews with representatives of employers and skills providers in Odisha and various urban-industrial centres in India. The final section of our report concludes.

2.2. The State We are in

2.2.1. A Complex and Cumulative Crisis

Somewhere around the year 2020, India can be said to have entered its age of demographic advantage when our working age population is close to 70% of the total and our medium age, at a little under 28 years, is the youngest in the world. For the next 20 years, the burden of dependency of young children or old folks will be less than it has ever been and will ever be again. And yet we enter the age with a heritage of constraints and challenges which must be understood in order to answer our question well.

This summary of the multifaceted nature of our jobs crisis draws heavily on the work of economists at the CSE. Other sources used are referenced in the footnotes.

The Economy's Transition From Agriculture to Manufacturing and Services is not Yielding Enough Jobs nor Decent Jobs

Since 1980, India's annual GDP growth has mostly stayed in the range of 4-8%, but over the same period, the employment generated by this growth has been shrinking. Meanwhile, India's working-age population has continued to grow, with the delayed effect of fertility rates which remained at their peak of 2.3% until 1986. So, since the early 2000s, the crisis of 'jobless growth' has been further confounded by an acceleration in the young people coming of working age. As Santosh Mehrotra has put it, new entrants into the labour force have increased every year since 2012 and will continue to increase exponentially until 2030, when the rate of increase will start to decline. The deceleration will only kick in from 2040. At current levels of employment elasticity, India's GDP will need to grow at 18% a year (3-4 times its pre covid level) to generate the jobs needed.

India's jobless growth should be seen in the context of its transition into the economic structure. The expectation, built largely on the experience of East and South-East Asia since the 1970s, is that India's workforce will gradually move away from agriculture and other low-productivity livelihoods towards higher productivity work in the manufacturing sector, supported by policies of investment and export promotion. But, while Indian workers are indeed transitioning from agriculture, albeit at a slower pace than might have been hoped, they are not moving to manufacturing at anything like the scale envisaged. While, thanks to automation, the manufacturing sector has increased its productivity manifold in recent years (and is offering a growing proportion of jobs in large and somewhat automated units), the quantity of jobs on offer is dwarfed by that in other sectors. In the main, workers who leave their or others' farms are moving to construction and services, not manufacturing. What's more, too many of these jobs are not significantly more productive than those in which the workers earlier engaged in agriculture. Such jobs as petty retailing, small eateries, domestic help, sanitation, security staffing and transport are low-wage and in informal enterprises.

Can India still affect a workforce transition through the 'conventional' route of manufacturing? There is a growing realisation that this route may no longer be a viable one, given India's relative disadvantage and the rapid pace of automation in manufacturing. This situation of 'Make Little in India' was not inevitable but the result of layer upon layer of policies since the 1990s. Liberalisation has favoured imports of machinery and capital intensification, while low investment in infrastructure and governance has made the use of labour relatively unattractive. We have reached a situation where, in globally competitive manufacturing industries, it takes ₹ 20-30 million investment to generate one job. Liberalisation of consumer imports has also decimated the small-scale sector (toys and kitchenware, for example) as well as crafts. If Indian workers are to transition to better jobs in manufacturing rather than services, this will need to be in the small units of industrial clusters, which still draw amply on labour.

Only Half of India's Working Age Population is Actually Working for Wages or Seeking Work

At around 8%, India's unemployment rate has been rising slowly since 2017 (if we look past the disruption of covid). But it enormously understates the problem, not only because of all the folks who report 'employed' but are clearly under-employed with too little work. An equally large hole in the metric is those who are unemployed but not 'openly'. i.e., they are not (or no longer) actively seeking work. Of India's 900 million people of working age (15-64), only 450 million or so are working or actively seeking work. The other half includes the majority of the youth, i.e., half of the males and 5 of 6 females in the age group 16-25 years. To be out of work and 'actively seeking work' (and therefore to be classified as 'unemployed'), one must have recently 'contacted potential employers for jobs, employment agencies, placement agencies, appeared for job interviews… reached out to family members, friends, teachers to look for jobs for them'. Waiting for a job to come along, points out economics blogger Vivek Kaul, is not actively looking for a job.

The vast majority of women and youth are in this category, not employed but not looking for work either. Many women will be engaged in unpaid family labour, domestic work and childcare and uninterested/ unable to work for a wage. Among the youth, some may still be in education. But many others will have dropped out or completed education and yet still will not be actively looking for work. A third of all those aged between 16-25 are, in fact, NEETs, i.e., not in education, employment or training. The covid lockdown probably exacerbated the trend among youth to quit the labour force. Many young workers – having faced the trauma of being laid off and stranded without help at lockdown - started reporting as students. Considering how the working-age population is increasing very fast, this enormous number, neither employed nor looking for work, is striking.

There is a special concern in relation to India's graduates. Eight million students graduate yearly, competing for 1 million graduate jobs. So, the gap between graduates of working age and jobs available is more than double what it is for the workforce in general. Somewhere close to 30 million graduates are idling, waiting for the right work. The vast majority, around 88% of them, have general degrees in Arts, Science or Commerce, with very few having professional degrees. The issue is particularly acute among Arts graduates, who are the single largest category of graduates and also face the highest rate of unemployment or retreat from the labour force.

The decision to get a degree qualification from a provincial college is a strategy of hope against extreme odds. The degree is the first step in a journey towards competitive exams and applications for government jobs, which, if won, would meet aspirations multi-fold since the wage, benefits and security offered from such posts are all way higher than even the formal private sector, which, in any case, may have little presence in deep rural areas. One might take many gambles in life, but few that take up so much time with such slim odds. In this case, 'many individuals spend the best part of their youth' preparing and waiting for jobs they won't get. The statistics show us that those youths eventually get older, settle down to some activity, and align their expectations with what is on offer. Jobs are short, but government jobs are also holding youth back.

Failure to Embrace Migration to Urban Industrial Centres

On the whole, India's investment and growth are still clustered around urban-industrial centres. The further we get from metros and large cities, the lower the growth and the smaller the scale of the demand for workers. It is the corporate and industrial employers in the high-growth regions around Bangalore, Chennai, Pune, Hyderabad and Ahmedabad, who have a large requirement for fresh workers, be they delivery aggregators, restaurant chains, or makers of garments, electronics or medicine. For many such firms, this demand is through the seasons, at scale, without fail. They are places where one knows one can always get hired, on the strength of a 10th or 12th pass or less, if one can just get there! These places are far from the homes of young people who need the work most. To take advantage of such opportunities - to learn and to earn several times the locally available wage - is to travel across the country and struggle with accommodation and difficult conditions in a strange land.

Yet public policy has consistently shied from bold investments in infrastructure to support migrant workers. The young people, who make the move to far-flung destinations, do it carefully leaning on home networks to find their feet and manage risk in a context where they are often harassed by police, face much higher costs of living and cannot fall back on public welfare (rations) nor services (healthcare, for instance). This ill-ease in migrant policy did not shift when Skill India's DDU-GKY scheme became an unwitting agent of migration for fresh layers of rural youth. Reluctance to commit to migrants was starkly demonstrated during the Covid lockdown when the Centre demonstrated extreme disregard for migrants stranded out-of-state with no wages nor food. It is not at all a surprise, then, that young people hesitate before answering the call of large employers hungry for new talent. As jobs 'trickle down' to smaller and provincial cities, youth face a trade-off between the advantages of being closer to home and wages and benefits often worse than they could get in more distant centres.

A Sequence of Shocks

In the three years preceding the pandemic, the central government had been heavily criticised for imposing demonetisation, and then GST hot on its heels. While the first led to huge job losses as cash-strapped firms could not pay workers, the second increased the cost of compliance, sending many micro, small and medium enterprises (MSMEs) out of business. Intended to push formalisation and digitisation, which could ultimately help strengthen transactions across supply chains, 'GST architecture incentivises the larger firms to procure from GST-compliant firms, thereby inherently creating a disadvantage for smaller informal firms', explains the Grameen Foundation report. In an article from November 2021, Rosa Abraham and Anand Shrivastava of CSE-APU examine the workforce statistics over these three years (late 2016 to late 2019). They show the negative impact of this double shock on young people who were pushed into unemployment or out of the labour force.

The youth also turned out to be among the worst affected during the covid lockdown. All sectors except agriculture and essential services were severely affected during the lockdown, and recovery has been patchy. One of the most widespread responses was reverse migration, leading to job losses of upwards of 27 million. CSE's State of Working India 2021 report estimates a 15-20% increase in poverty levels during the pandemic. Abraham reports that, of all-aged workers, those under 24 years of age faced the greatest loss of employment and also took the longest period to recover. An enormous cost was also borne by women workers. The State of India Working report 2021 shows that during the lockdown, only 19% of women remained employed, and 47% suffered a permanent job loss, not returning to work even by the end of 2020. Economics blogger Vivek Kaul uses CMIE statistics to show that by January 2021, the female labour participation rate slid to under 11%.

2.2.2. Today's Outlook

Of the 470 million reporting in today's labour force, around 34 million are openly unemployed, and the rest in some kind of work, in agriculture (over 200 million), the range of services (150 million), manufacturing (around 60 million) and construction (around 50 million).

The great majority of these jobs are low in wages, productivity and security, even outside agriculture. 246 million are 'self-employed', most of whom do not hire anyone and survive in 'own-account enterprises' (OAEs). Another 118 million are employed as 'casual workers'. 'Regular salaried' workers account for only 60 million of the total (13%).

When we come to estimate how many existing working-aged folks need a job, we need to combine some of these under-employed workers above, with some of those who have left the labour force (particularly many women and many youths), along with those who are reporting as 'unemployed'. One estimate is that this number of 'surplus workers' is about 100 million. And then we should not forget the 15 million young people entering the workforce each year. This is the scale of the job challenge.

Perhaps Teamlease's Employment Outlook Report can cheer us up a bit. The report surveys the 'intent to hire' by Indian employers on a quarterly basis. The report for the second quarter (Jul-Sept) 2022-23 shows a 7% gain in firms' intent to hire from the first quarter. Of the sector-wise firms surveyed, the highest proportion with intent to hire are in IT (98% of employers), educational services (91%), e-commerce and allied start-ups (89%), healthcare and pharmaceuticals (88%), telecommunications (84%), essential retail (75%), FMCG (73%) and logistics (70%). Of course, many of these big hires also suffer the highest attrition rates (22% in IT, for example). But the net picture is still positive. In comparison, a little over half of agro-industry and manufacturing firms registered intent to hire.

The locations with the highest intent are the service sector-fueled metros of Bangalore, Chennai, Mumbai, Delhi and Hyderabad, with urban-industrial centres better known for manufacturing (such as Pune and Ahmedabad) registering more moderate intent. The proportion of firms with intent to hire cascades downwards as we move outwards, from city to countryside, from an average of nearly 90% in metros and Tier 1 cities, down to 22% in rural areas. These figures testify to India's spatial imbalance between urban and rural areas and to the need to invest 'deeper' to generate jobs in the districts. The key to this, writers agree, is focusing on small cities rather than rural areas.

Which sizes of the firm are hiring most? Large firms (i.e., over 250 employees) are hiring the most (at 69% of surveyed firms). Next are small firms (i.e., less than 50 employees) at 47%, and the lowest proportion is among medium-sized firms (i.e., above fifty and below 250 workers), at 40%. Though large firms are more likely to hire, the increase in intent since the last quarter is sharpest among small firms. For all firms, hiring intent is strongest for entry and junior-level positions, perhaps reflecting the categories most laid off during the pandemic.

While we can question how well these forecasts from company HR managers corroborate with employment data, the Teamlease Report helps us see the spread of the post-covid recovery underway in India. We all knew that the IT sector grew exceptionally during the pandemic, but now we can also see that many other sectors are doing nearly as well.

2.3. Where are the New Jobs?

2.3.1. The Jobs are (Still) in Major Urban-Industrial Centres

The first and most obvious answer to our question, 'Where are the new jobs?', is that they are in urban-industrial centres. They always were and will continue to be, now that post-pandemic recovery is fully underway. The Teamlease reports show the continued dominance of metros and Tier 1 towns with respect to growth, especially those centres which incorporate clusters of services (such as IT, health and hospitality) as well as older manufacturing.

Even though such centres often have their own youth, i.e. the youth originally from these areas (not migrants), in need of employment, large employers are consistent in their preference for a 'mixed' workforce incorporating a significant share of migrants from other states. There are several benefits from this strategy, including:

- a more 'captive' workforce which attends better and works harder;
- a more 'docile' or less 'troublesome' workforce which has few links to local civil society and is poorly positioned to complain or take recourse with the local police or labour administration;
- a 'regionally balanced' workforce is also a more stable one in the main, in which different groups leave or quit at different times of year (according to different festivals), allowing employers to even out workforce availability.

The Grameen Foundation's report, along with many others, highlights the allocative and growth benefits of internal migration, including matching labour demand and supply, the income effects of remittances, the skill and exposure effects from returnees, and the role of jobs in far off destinations in skilling rural youth. Leading from this evidence, the rest of this section answers the question through the lens of two industry examples, first, that of the garment industry in Bangalore and Tirupur, and second, that of the auto-parts and engineering industry across Western India and Chennai. We review the pick-up of demand post-covid and the type of jobs available with respect to their quality (wages, contract). For both these industry examples, our reference workforce is Odisha-based youth linked to training institutions. We draw on anecdotal experience to glean the readiness of rural youth for the jobs available and report on various efforts to make them employable. We consider the gaps which need to be filled by policy interventions in order to ensure the realisation of urban-industrial jobs in the numbers required.

In the latest Teamlease Employment Outlook Report, a third of firms in the textile industry, and over half of firms in the engineering industries, reported their intent to hire. These figures are moderate to low compared to those in some service industries , but recruiters on the ground confirm that employer demand is buoyant and firms are reaching out to interstate migrants to come and (re) join from Odisha and other source states. In the garment industry, there are indications that some global brand buyers used the pandemic as an opportunity to continue a structural shift towards Bangladesh and Myanmar, away from India. This decision is based on price and order lead times. There are also reports from employers that the pandemic period led to a consolidation of garment makers in the hands of a smaller number of large firms. This is perhaps part of a response to the competition the sector faces from firms in neighbouring countries.

What can we learn about the quality of jobs on offer in these organised manufacturing industries? What changes appear to have set in, post-pandemic and post the gamut of labour reforms rapidly pushed through by central government during the lockdown?

First, wages. In spite of reports that labour markets have tightened since covid, the garment industry is registering only a modest wage increase since before the pandemic. The cluster of Tirupur reports a norm of extremely long working hours (10 or more compulsory hours per day), perhaps even longer than was the case in 2019. Thus, there appears to be scant evidence that workers benefit from a reported labour supply shortage. The story is more positive in the engineering industries of Pune and Gujarat. Wages for ITI-qualified students range from ₹ 12,000 to ₹ 20,000 per month, an improvement from the years before covid when wages ranged between ₹ 10-12,000.

Second, contractual arrangements. One of the promises of the new labour code on industrial relations was to ease 'hire and fire' and reduce the need felt by employers to hire workers through contractors. It is argued that direct hiring on fixed-term contracts should benefit employer and worker alike since it removes intermediaries who muddy the employer's accountability and leads to graft on wages. But two years after the codes were passed, there appears to be no reduction in the use of labour contractors. . Respondents working in the engineering sector reported that contractors were as widespread as ever in the large machine shops, handling payroll and all compliances for a percentage of workers' wages. Here, as before, workers are hired for a term of less than a year before being asked to take a break in order to rejoin. As before, these workers tend to be inter-state migrants.

What appears to be shifting is that the contractors are becoming more powerful and integrated into the organised sector. In the new law, contractors act as third-party aggregators (TPA), taking full responsibility for the coverage of workers under PF and ESI, among other provisions. While the earlier law kept the contractor as an *agent* of the *principal* employer who retained legal liability, the new code passes liability to the TPA. But enforcing these liabilities among TPAs is more difficult than it was among employers for three reasons:

- Labour inspectors' mandate to visit units and demand documents has been curbed, as self-certification and random inspections have replaced purposive and complaint-based inquiries.

- Contractors/TPAs have more leverage since their 'asset base' is in the form of mobile manpower, rather than the fixed establishment. They can use the threat of withdrawal of manpower to stave off compliance.
- While TPAs may be more formal or organised, a worker's relationship is still with the employer, not the TPA. Workers are unlikely to be able to raise complaints against a TPA with whom they have a little relationship.

Liberalising the role of TPAs is also part of the amendments to apprenticeship law. The earlier law mandated employers to hire apprentices directly and handle the considerable compliance requirements themselves. With the new amendment, payroll and compliance are handed to the TPA, who can also play the role of the training institution, at least for the purpose of the classroom component. While the amendment does increase the stipend due to the apprentice, it has effectively made it easier for employers to use the scheme as a means to hire temporary workers through a third party under the minimum wage. By contrast, it has not enforced employers' role in training the apprentices. The value of an apprenticeship from the learning viewpoint remains minimal. Neither do the apprentices stand a better chance of being hired at the end of the 'learning' period. In fact, argue two Odisha employers and an ITI official contacted by phone, an apprenticeship, in some ways just delays the problem of entering the job market 'for real', while the apprenticeship certification has little value in the market when the graduates' shifts to another firm. For these reasons, it tends not to be favoured by ITI graduates who prefer to be hired direct.

The low value of apprenticeships is symptomatic of the work offered by many export-led industries. Incorporating relatively low-skilled roles operating machines or on assembly lines, export-led and semi-automated plants are driven by the need to keep machines turning according to demand fluctuations. The scope to nurture and develop their workforce is thin since the gains from upskilling and even from improved retention are limited.

What have we learned of youths' readiness to take up these jobs? And how employable are they found to be by these employers? There are 15,600 industrial training institutes (ITIs) in India training a cadre of about 200,000 students at any time in one- or two-year trade-based courses. The institutes use a curriculum and certification developed by the government's National Council for Vocational Training (NCVT). ITIs are one of the most important recruitment grounds for urban-industrial employers in the manufacturing trades. Contacts in two Odisha ITIs shared that Oriya youth are increasingly ready to travel out-of-state because they see the wage premium they can get, as compared to local jobs, which are relatively poorly paid. Even though the requirement for entry into an ITI course is a 10th pass, a growing proportion of them are graduates returning to technical education when their degrees fail to yield employment. Some of these more educated youth, said one Odisha-based employer, have unrealistic expectations. During campus hiring, he meets candidates who are clueless about the job role, about what they'll need to do in the job and how it fits in with the company. And yet, such candidates may have 'sky high' expectations of permanent jobs with wages of ₹ 30,000 plus, he said.

How well are youth such as these prepared for employment in large corporates or plants in urban-industrial centres? Since the 2010s, skilling agencies from the industry have started engaging with ITIs to help them overcome the constraints of outdated curricula and teaching styles, lack of capacity to provide practical training on today's equipment and disconnect with industry requirements. One such is the Tata Group's Tata STRIVE (www.tatastrive.com), whose programme in Odisha, in partnership with Odisha's skills mission, reaches 60 of the state's ITIs with a package of monitoring, upgraded life skills, guest lectures and career counselling. To equip their students with the skills demanded by industry, these ITIs are getting employers to install labs in their campuses where students can learn on state-of-the-art machines (see Box 2.1). They are also partnering with locally available industries to provide on-the-job training (OJT) as a routine part of the course for all trades. OJT (at the employer's site) is especially valuable for service sector trades (fashion, hospitality), where people-facing skills are more important. 25% of student time should now be in OJT, according to the new NCVT guidelines. OJT as part of the ITI course is much shorter-term than apprenticeships, which continue for at least a year. But for this short period, the employer may provide a more authentic opportunity to learn and get exposure to a company's operations.

Box 2.1. Industry Builds Labs in ITIs

In the engineering-based trades, growing numbers of government ITIs are making MoUs with industry to construct state-of-the-art labs inside their campuses. Other equipments, the industry provides ToT to faculty on how to train the students in the lab. Some ITIs are going a step further to reconstruct their curriculum around these labs. A popular trade is Motor Mechanic. One institute contacted has mapped the training modules provided by the industry against the NCVT curriculum, refashioning the common parts into activity-based learning and culling the obsolete parts to produce a course '2 parts theory to 1 part practical'. At the end of the year, the student receives a dual certification from NCVT and from the industry which installed the lab. The goal is that every trade offered should be mapped with a particular industry partner who installs the lab. The in-campus industry labs have vastly improved placements since graduates have now been exposed to relevant machines and processes.

Rather than industry going to institute, we also have examples of institute going to industry. Training providers use a provision floated by the Directorate General of Training (DGT) to offer the ITI course on a schedule crafted around the working hours of youth already in jobs (see Box 2.2). We also have examples of where an industry has floated its own training wing and then sets about offering private courses with its own curriculum and seeking how to roll these out to train ITI teachers as well as school children. This model is featured in Box 2.3.

Box 2.2. Training Providers Offer ITI Courses at Industry Sites

The 'Flexi MoU' arrangement launched by the Directorate General of Training of the MSDE, allows the training partner (industry or skills provider) offers the ITI curriculum outside working hours to youth already hired in the industry. Industry provides the classroom and also leads in the OJT or practical component of the work. The students pay ₹ 15,000 for a year's course, deducted from wages.

Box 2.3. Industry Floats its own Training Wing

Gaining experience in running their own training institutions, some industries then seek to extend their reach to public education and vocational training. Phillips Machine Tools is a global company specialising in importing, selling, installing and servicing machine tools across the world. Phillips Education is the company's dedicated training wing which works in multiple ways to address the skills requirements to work and service machine tools. Three-month residential courses are available for ₹ 35,000 (10th pass is the entry requirement), at the end of which a shop floor job earning upwards of ₹ 15,000 per month could be secured. In addition to its own institute-based courses, the company is training ITI faculty and installing its machines in ITI campuses across Karnataka, Gujarat, Tamil Nadu, Bihar and Assam.

From the reflections of employers who have participated in recruitments with ITI students, we learn the distance still to be covered to prepare young vocational students for work. One employer estimated that 80% of ITI students lacked 'the basics', including knowledge of safety and other standards practised by industry. They also lacked behavioural skills such as dress sense, correct hygiene and shop-floor etiquette. The principal of a leading ITI shared that there is a gap not only in how to apply their knowledge but also in their capacity to adapt and to re-learn, which is essential in a context of rapid technology change. IT literacy has now become essential for blue and grey-collar workers, while in the past, it pertained only to white collar. New entrants, in engineering or services, will need to master automated systems of surveillance, quality, output, communications, payroll and benefits. In all this, the ITI faculty are frequently the weak link, lacking in up-to-date competencies and even in interest. Box 2.4 provides two employers' views on how these weaknesses could be addressed.

Box 2.4. Employer Reflections: Exposure to Industry and a Maker Mindset

One employer commented that students are not motivated if they've never been engaged in industrial processes. Their understanding (of what they've learned in industrial drawing or a manufacturing process, for example) will remain weak because they've never seen how it is applied. The solution, according to him, is to take school-goers on industry visits from as early as 9th grade. The children should be able to witness the industry and ask questions to understand what's happening. Another employer concurred that 'we need to get the kids young before their priorities change'. He also thought 9th grade was the right time. What was needed, he said, was to cultivate a 'maker mindset' by putting up a manufacturing training lab in each district which schools can visit and then establishing 'maker labs' in schools

In conclusion, we have provided the first answer to our question, 'Where are the new jobs?'. In the short term, at least, the majority of the new jobs will be in large urban-industrial centres. The promotion of high-growth urban industrial centres will continue to exacerbate India's spatial imbalance and its ecological crisis, in terms of emissions, waste and the products manufactured and used. As industries automate, they will also create diminishing numbers of jobs. But for the moment, such urban-industrial centres remain the dominant employment destinations. Before youth can take the best advantage of these locations, however, we need to fix three things.

First, young, mostly low-income and rural people need to be better prepared for these work environments. This is a matter of interest and engagement with the industry, as well as the capacity to adapt and learn new skills in the context of constantly updating technology. Second, we need to push the industry to provide better contractual arrangements which foster learning and progression in the company. Third, we need to support young people to take the leap to these jobs far from their home town and provide them with a minimum of accommodation and welfare infrastructure to sustain themselves in good health once there.

2.3.2. The Jobs are Everywhere, in Micro and Small Enterprises

The second answer to our title question, 'Where are the new jobs?' is that they're in the micro and small sector, in the form of self-employment, youth start-ups and small incremental hiring across India's enormous number of micro-enterprises. The sheer size of this sector, the resilience it has demonstrated, and its alignment with the preferences expressed by many of India's youth, all support this answer. Imagining this sector as the main engine of employment is to imagine the possibility of overcoming India's spatial imbalance (between rural and urban) as well as the role of labour-intensive trades in local and craft-based markets. The evidence is that the small sector is being held back by constraints which, if resolved, could unleash its employment potential.

India has 63 million MSMEs employing close to 110 million workers. But the vast majority of these firms are 'micro', i.e., have invested less than 10 million, have a turnover of less than 50 million and hire less than 20 workers. Only 1% or so of these 63 million firms, employing a little over 3% of workers, will be larger than this. Within this micro sector, own account enterprises (OAEs) predominate at 62% of firms, i.e., these are self-employments which hire no workers. Another 32% of the micro sector are firms that have two or three workers. Those with four workers or above (up to 19) are only 6-7% of all firms.

In Section 2.2, we highlighted the role of the small and informal sector in absorbing workers who were leaving agriculture and its resilience in weathering the various shocks meted by demonetisation, GST and covid in spite of little government assistance. We also highlighted the positive signs of recovery in the registered small sector, which are coming through the Teamlease Employment Outlook surveys. The rest of this section will review the evidence of hiring and self-employment in the micro sector and the constraints that may be holding back its employment potential. We then review the preferences of youth for self-employment and jobs close to home and consider their readiness for micro enterprise-based work. Finally, we turn to the question of the policy interventions which would be needed to unleash the micro sector as an engine of employment growth. In particular, we review the proposal for a network of young Udyog Sahayak Enterprises (USEs) who would support the micro sector to achieve this growth.

What evidence do we have of employment growth in the micro sector, and what are its patterns? The joint GAME and CSE-APU report in 2019 on microenterprises look in detail at composition, employment and output growth between 2010 and 2015. While drawing on data a few years old, the report has some findings around the patterns of growth which are enlightening:

- The predominance of firms with three or less workers in the micro sector is not changing. The share of these 'nano' enterprises is consistent across time. Likewise, the paltry share of those in the largest in the category (i.e., 10-20 workers) is not growing.
- Over the period, value-added grew at a faster rate than employment (as was the case in the economy as a whole), but there are differences between sectors with respect to how well wages kept pace with this productivity increase. Among the sectors which best kept pace were apparel, restaurants, education and health.
- Micro enterprises in the sector of health and education stand out as having good employment growth, paying better wages and having a decent representation of women entrepreneurs.
- Productivity increases tended to occur in the progression from 1-3 workers to 4-5 workers, but after the 5-worker mark, 'decreasing returns set in, and there is saturation behaviour, perhaps due to infrastructural constraints.
- The distribution of women entrepreneurs was uneven across sectors and above average in education, tobacco, paper products, chemicals, apparel, plastics and beverages.
- Women entrepreneurs exhibited a high tendency to hire other women. Most women-led enterprises operated out of home (78%), and the 22% which operated from commercial premises were clustered in West Bengal, as well as metros such as Chennai, Pune, Ahmedabad and Bangalore.
- Women entrepreneurs were concentrated in a relatively small number of sectors and tended to have fewer assets and lower productivity than their male counterparts. These features may relate to the excess competition they faced in these 'women-friendly' sectors.

The diversity in the micro sector makes it hard to discuss it as one. While the majority of OAEs, for instance, maybe Kirana stores, Ferrywallahs or seamstresses with a singer in the front room, some others are relatively high-tech. A representative we spoke to from Phillips Machine Tools said that of the 4000 locations in which the company had installed its CNC machines, 2500 were small shops, most with a single machine and one or two workers. A key distinction is whether the enterprise serves consumer (retail) markets or business (intermediary or wholesale) markets. Another is whether the enterprise is trading goods or making goods.

But there are features in common across the small sector. First, they are often *caring* and *nurturing* employers. Vested in the local economy and without the brand advantage or capacity to pay better wages of larger firms, micro firms have to work harder to train and retain talent. As Santosh Mehrotra has highlighted, the small size of micro firms means they tend to offer all-around training to employees who learn close to home before taking steps to move further away from their careers. But the uncertainty of the business means that they often struggle to retain talent. MSEs need to be artful in how they attract and keep employees: searching from different 'talent pools' and building a reputation around their willingness to provide needs-based protection and nurture employees in their learning. As noted by a recent article in the Financial Express, they need to trade on the 'unparalleled learning opportunities they offer, as employees get a chance to try new projects, with a bird's eye view of the entire organisation'. Box 2.5 below provides one example of a small nurturing employer in Odisha.

Box 2.5. A Nurturing Employer in the Small Sector

The US tools giant Snap-On has an exclusive dealer in each state of India. The Odisha dealership has 25 workers catering to the fast-growing vehicle mechanic sector across the state with US-made machine tools. The company recruits through Odisha's ITIs, but it also offers OJT to several students as part of their course, who may or may not join the recruitment process later. In spite of its small scale, the company engages students in OJT, with no financial benefit, just to play its part in building the skills of youth. OJT students are provided with machines and trained workers to mentor them. Candidates recruited are hired directly and confirmed after three months of probation. Through the pandemic, in spite of business coming to a standstill, no staff were laid off, and all were kept on full wages.

A second feature common among micro firms is that they face financial constraints. The micro sector remains largely excluded from bank finance and must therefore borrow from more expensive NBFCs and MFIs. Being unbanked, these firms are precluded from benefitting from government schemes and moratoriums. Neither are their working capital requirements covered by the term loans they borrow from these non-bank institutions. Skills providers in Odisha confirmed that the various schemes launched by the central government for youth start-ups, including the MUDRA scheme, the PMEGP and the CGTMSE, were nearly impossible to access due to eligibility criteria and documentary requirements. Amrita Pillai writing in the Grameen Foundation's State of Jobs in India 2019 report cites the RBI's Expert Committee report on MSMEs, which quantified the financing gap for the small sector at ₹ 20-25 trillion, with only 40% of demand currently met. She also cites other studies which report 84% of credit demand being met from sources even more informal than NBFCs, i.e., moneylenders, chit funds and social networks. She further highlights that whatever scheme-based credit is available is often guzzled routinely by 'dwarf firms', i.e., firms which employ under 100 workers despite being more than 10 years old. Her recommendation is that government support should be based strictly on hiring capacity.

Is the problem perhaps that these enterprises need to be pushed into the formal sector in order to grow? i.e., do they need to be registered, incorporated and file their tax returns? One effort to push formality has been through voluntary MSME registration, first through the Udyog Aadhaar Memorandum (UAM) and now through the Udyam portal, which has replaced it. But commentators are skeptical of an all-out formalisation campaign. Mehrotra has argued that their reasons to formalise are no stronger than they were prior to 2016 (i.e., before demonetisation, GTS and the covid-led tech wave). Certainly, they suffer credit constraints, but in spite of these constraints, the graduation from informal to formal has been small. He thus calls for a close examination of the real benefits of going formal. The CSE-APU team argue that the benefits of formality are a matter of scale in terms of investment and workers. A key message here is that we should not worry about the overwhelmingly informal character of the micro and small sector. Instead, we should focus on the constraints they feel, which are related to finance, markets and access to government support.

The fact that so many micro industries are clustered, makes them easier to reach with assistance in a coordinated and integrated manner. The suggestion made by Mahajan and others is that this clustering provides the opportunity to kick-start new firms in ecological sectors, as well as to support existing ones. Sectors such as renewable energy and recycling-based production have huge employment potential and directly address regeneration and climate change according to local priorities.

What do young people say about working for micro-enterprises in their home neighbourhoods? They are aware that wages will be a third or more less than they could get in urban-industrial centres. But there are many benefits of being close to home. First, low-cost or even free accommodation, food and fuel. Second, one can support the family and its various livelihoods. Third, one can attend to ongoing higher education interests more easily. Fourth, one can live better (better air, water, food, environment). Further, the local firm might be more caring and nurturing (as discussed), while the larger distant employer may have continuous work but won't hesitate to replace you at the drop of a hat. This is perhaps seen as a trade-off with the relative insecurity of a local firm.

What learning is already going in in the non-farm micro sector? This critical question is hard to answer from the available data. The Periodic Labour Force Survey (PLFS) 2017-18, reported nearly 6% of the labour force was 'informally trained' through OJT and self-learning. While this is likely a big underestimate, it is already much higher than those 'formally trained'. How can it be grown?

In August 2022, the Just Jobs Network and Teamlease published a joint report on the power of learning through apprenticeships, the opportunity provided by the new legal amendments and what India could do to build '10 million apprentices in 10 years'. The paper rightly points out that the new lower-level floor of 30 workers, above which apprentices are mandated, effectively misses the huge opportunity presented by the micro and small sector whose worker count is below this. If we were to bring the floor down further, to five workers for instance, and 'if each establishment engages even one apprentice, the MSME sector can generate over two and a half million apprentices', argue the authors. The report makes the additional recommendation of a supply-chain approach instituting these apprentices in small firms. 'Exploring cluster-based or value-chain based approaches where big companies can support smaller ones in instituting apprenticeship programmes and implement the associated training requirements will create opportunities for youth'.

These are exciting ideas which concur with Mehrotra's point cited earlier that acquiring experience in small firms has a special value because of the overview of business functions which one acquires, not usually offered in a large firm. Not only can it feed directly into creating start-up entrepreneurs, but it could also help fix the problem of no premium paid to youth for the skills they have acquired. On the other hand, the report does not address the problem that we identified in Section 2.3.1, i.e., that notwithstanding the new amendment in the apprenticeship rules, the lack of learning, which often characterises apprenticeship terms, is not addressed. The issue of how we ensure that employers actually train, mentor and nurture their apprentices are not addressed.

As we noted earlier, there are many small firms that take on the challenge of training, even for those who will leave their establishment after a few months (see Box 2.5). The organisation Going to School, producing life and entrepreneurship skills content for children across India, has a project in Bihar which identifies and on-boards local eco-entrepreneurs to provide exposure to secondary school girls as part of their non-academic curriculum. The 'green internships' group students for a period of two weeks to learn directly from the entrepreneur and gain exposure to the various steps and functions involved in running the business. In spite of the brevity of exposure, the 'internships' have inspired many teenagers to start up home-based enterprises alongside school.

The ultimate goal of Going to School is to create entrepreneurs who will become employers. This is a tough call: if the business environment is tough for established enterprises, it is more so for youths short of work experience and capital. Tata STRIVE's Nano Unicorn programme seeks out ITI graduates with some work experience to start their own businesses in their home state as an alternative to taking jobs far from home.

Once they're through a tough selection process, candidates are offered an interest-free loan of ₹ 100,000. But to date, the programme picks up only a tiny fraction of the student pass-outs.

What would it take to unleash the employer potential of the micro sector? The team at CSE-APU and others are arguing for a comprehensive support system for nano and micro enterprises. And the idea is growing legs. In 2021, CSE, along with FICCI and TISS, published a report arguing for the creation of a network of Udyog Sahayak enterprises (USEs), young entrepreneurs who would establish online shops to assist micro-enterprises with a wide variety of credit, marketing, workforce and compliance needs. The proposed USENET would focus squarely on the constraints related to the vast majority of firms with less than 20 workers. While recognising this as a very heterogenous bunch, the report broadly segregates them by size to identify the kinds of support which would be required by the majority in order to realise job growth. Table 2.1 illustrates the kinds of intervention to be provided to the different subcategories of micro-enterprises.

A key rationale of the proposal is the digital context which now engulfs virtually any context in India. For example, the report notes:

- 90% of internet users in urban and 97% of users in rural areas access the internet only through smartphones. Rural smartphone based users numbered 230 million at the end of 2019.
- Internet penetration is growing faster among women.
- 70% of all internet users access it daily.
- 35% of these users are in the 20-29 year age bracket.
- Half of all users are in the 20-40 year age bracket. Focusing on the age scale brings us to the populations who are already likely using it more on their own phones due to maturity in the labour market.
- The expansion of digital payment transactions using the UPI platform increased from 0.1 million in October 2016 to 1.3 billion in January 2020.

The Udyog Sahayek Enterprises (USEs) will offer a wide selection of services covering banking, the digital market, e-governance, by leveraging existing schemes and technology platforms to ensure their availability on the doorstep of the micro-entrepreneur. Using a National Digital Ecosystem for MSMEs (NDEM) that will be built as a public good, each USE would be a mobile unit with a small home office, a computer, printer, scanner, web camera, broadband connectivity and power backup, as well as a two-wheeler to enable micro-enterprise visits. Half the CapEx required to set up a USE (estimated at ₹ 114,000) would be provided in the form of a government grant, and 80% of working capital requirements would come from MUDRA loans. The network of USEs will be a 'much-improved version of the Common Service Centre' network and will also learn from the experience of Banking Correspondents.

While the network of USEs would directly generate 1.8 million jobs, far greater gains would result from the increased hiring among serviced enterprises. We assume that each USE would

Table 2.1. USENET Proposal: Micro Enterprise Categories and Proposed Support

Category of Micro-Enterprises	% Share of all Micro-Enterprises	Relation Between GVA and Employment Share (Provides Rationale)	Broad Shape of Assistance Proposed Through USENET
<5 workers, turnover of 'few hunder thousands' ('nano')	98% (own-accounts are 62%)	As we move from own-account enterprises to firms with 3-4 workers, GVA matches and then overtakes employment share as productivity rises. Huge scope for employment growth due to the numbers	Role as a learning environment for workers to join formal enterprises; also, in-situ growth through improving access to finance, information, digitisation, permissions
5 to 20 workers, turnover of more than 5 million ('micro')	2% (most of which are below 10 workers)	GVA is somewhat higher than employment share, by 2.5-3%. This shows scope for productivity and wage growth, if their number and size can be increased	Incentives to grow and formalise rather than keep spawning more own-account enterprises and nanos.

Source: Author's arrangement from USENET Report, 2021 provide support to between 15 and 50 micro and small entrepreneurs, taking a monthly fee of around ₹ 300 from each, 50% of which would be reimbursed by GOI for the first five years. The report presents the following forecast of jobs created as a result of the support from USE to enterprise:

- At current growth levels (10%) and levels of output elasticity of employment, we can expect 1.6 jobs to be created for every 100 firms per year or 3.5 million new job opportunities over 5 years.
- If this 'employment elasticity' increases even fractionally from the existing 0.1% to 0.2%, and growth improves from 10% to 12%, we get to 5 firms in 100 (instead of 1.6 firms) hiring an additional worker, or closer to 12 million new jobs over 5 years.
- Since the cumulative effect could improve elasticity still further, we can quickly imagine 12.5 firms in 100 (in Year 5) and eventually 25 firms (in Year 10) hiring an extra worker. This implies the creation of 10.3 million jobs in 5 years and nearly 60 million jobs over 10 years.

Given the level of investment required to help set up the USEs in business (with various supports for the first five years), this employment outcome represents a return on investment of seven times (712%) over five years and nearly 30 times over 10 years, argue the report's authors. The public investment of ₹ 11,310 per job created implied by the proposal is very low compared to the investment required in large enterprises.

In conclusion, in the second answer to our title question, 'Where are the new jobs?', we have discussed the scope for the micro and small sector to unleash their growth to become an engine of employment. The number, ubiquity, closeness to the homes of unengaged youth, and even the evidence of being vested in their trainees and employees, all play in the small sector's favour. Other positive factors are its potential to help women, thus far working unwaged at home, into earning a wage, as well as its exciting scope as an engine for the locally relevant green enterprise. But the challenges are many and deep. Foremost are the financial constraints, both investment and working capital. Then there is the need to build digital know-how to access markets and government services to grow. The two proposals considered here, of panning out apprenticeships in the small sector and of a dedicated network of young and online helpers, Udyog Sahayeks, could show the way.

2.3.3. The Jobs are in Urban Civic Services

The least obvious of our three answers is the last one. In answer to our question, 'Where are the new jobs?', the response is that jobs need to be created – at least in the short term - by the government. Rural youth would be employed in critical urban services in order to establish small cities and towns as sustainable growth centres in the long term. As a publicly funded proposal, this third answer draws on a different economic philosophy: if the government steps into markets (private labour markets in this case), it can cause multiplier effects in these markets with long-lasting effects which sustained on their own. The long-term effects from the careers of those youth and the benefits of the goods and services built will offset the short-term expense of funding jobs.

Our third answer reflects a belief that we may now be in a negative cycle, wherein youth are no longer learning nor networking due to their choice to stay away from jobs which don't value their education, as well as from negative experiences in work and in seeking work. Rather than a means to acquire work, education is becoming a means to avoid it. This view calls for urgent and dramatic action to enlist youth in a programme which will skill, expose and motivate them. It also responds to the evidence that market-led (rather than public) urban employment in smaller cities is constrained by poor infrastructure and public service failure. The poor quality of life resulting from such failure dampens the growth, which would result, if these services and this quality of life were improved. Here are some examples:

- If *Anganwadi* centres could grow into full-time daycare units, many more women would go to work.
- If public walkways could be wider/ better protected from traffic/ lit up after dark/ sealed from dust, street- and sidewalk businesses on the walkway would grow.
- If *Malba* and garbage were properly disposed

of or used to landscape rather than dumped on park edges, the parks would be used by many more citizens…etc.

Finally, it builds on evidence of the budgetary and governance constraints faced by local urban bodies who lack the capacity to do many of the tasks required to improve urban services and quality of life. Our third answer is necessarily more speculative since we can't yet draw on evidence of jobs already existing. The jobs still need to be created by a publicly funded policy process.

This section outlines a proposal for a civic service scheme for youth. While it draws closely on the proposal for an urban employment guarantee scheme floated by CSE-APU and others, it departs from it because of its focus on youth and its explicit goals of solidarity and nation-building. In the coming paragraphs, we outline the 'character' of the scheme which would be projected to youth and the kinds of services and job roles which would be created. We consider whether the youth would be ready to take up the opportunity and how they could be prepared and trained to be fit for the task.

In a series of press articles as well as a paper written with the CII, the CSE-APU team outlines the concept of urban employment, guaranteed to operate in smaller towns and cities where municipal services and public space are particularly underdeveloped. The range of functions and services which could be brought under the scheme are listed as follows: 'Upgradation of public provisioning of basic services in urban slums, such as clean water supply, drainage and sanitation; building and maintenance of roads, footpaths, and bridges; beautification and upkeep of public structures; creation, rejuvenation, and monitoring of urban commons (like water bodies and parks) and other tasks for ecological regeneration of urban areas; monitoring, evaluation, and surveying of air, water, and soil quality; work in municipal offices, schools and health centres; provisioning of care for children, elderly, specially-abled, and those in correctional facilities; and craft related works for artisans and craftsperson'.

By these authors, the scheme is envisaged as a direct complement to MGNREGA. Cardholders would be restricted to those who do not hold an MGNREGA card, and the scheme would have the similar goal of assuring employment to those who need it on a demand or self-targeting basis. The rationale, it is argued, Is the huge suffering of the unorganised urban sector during covid and its exclusion from most of the emergency support provided. The scheme would help this sector to recover. While some differences with MGNREGA are envisaged, in many ways, it replicates MGNREGA in a different setting, where the range of public works and services required is far more diverse.

In contrast to that proposed by the CSE team and others, our proposal is to develop the employment scheme as a civic service scheme for youth. In this tradition, it would have an explicit goal of national service and solidarity building across youth. It would thus adopt elements of the National Cadet Corps (NCC) as well as some of the NGO-led schemes such as Teach for India. But while the NCC remains militaristic in its approach and activities and is looked on by rural youth as a means to enter the armed forces or other public employments, a youth civic service would engage directly with the problems of our time: how to live together in an increasingly urban and unequal world under growing levels of ecological distress.

What would be offered to youth is not a 'job' so much as an opportunity to build, along with their peer groups, the skill, experience and exposure around the specific functions and services required for us to live together in cities. A youthful focus of the scheme would help to address the concerns raised by some commentators that mature casual workers (envisaged to benefit in the CSE proposal) will not be dependable because they will need to take private work when it arises.

A USAID study documenting developing country examples of youth civic service remains relevant, although it was published more than a decade ago: 'Young people everywhere are highly energised and eager to take advantage of the opportunity to serve their country and their communities. Service programs have been an effective vehicle for promoting nation-building, and helping countries harness the resources and energy of young people to address urgent development needs.'

The urban focus of the scheme means youth would need to be accommodated in organised housing in state capitals and regional towns where they are placed. It could even be built into the design that youth must leave their homes and live alongside other youth from across their region and state, of other castes and communities. In this regard, the scheme builds on the experience of residential hostels of students of higher and vocational education, where young people live alongside each other in situations of relative equality ('same rules for everyone') and learn to respect each other as well as to function in working teams.

Dedicated hostels would need to be provided and offered to youth against a fee docked directly from their wage. In this regard, the scheme would learn from the experience of large industry building a captive workforce from young migrants. A residential scheme would ensure reliability in attendance, locking the youth into the work and the scope to build the intensity of the learning offered.

The scheme would explicitly address the failure of skill as well as 'social capital' among the youth, apart from the fulfilment of identified job roles. It, therefore, learns from some of the industry models shared in Section 3.1, regarding how learning takes place in the job context. A careful skills counselling and job assignment process would precede contracting to ensure reasonable fit of the candidate to the role and adequate training and mentoring content in the job role so that learning takes place at the required level. On joining the scheme, the youth recruited could be in a variety of situations. While some would be motivated to quit less-desirable jobs in order to join, others would apply from a position of unemployment, and still, others would be motivated to rejoin the workforce as a result of the scheme.

Would the youth be ready to engage at minimum wages in a civic service programme?

A lot would depend on how the opportunity was pitched to them, how the jobs were packaged and how the teams were formed and motivated. It will also depend on the match of the job with their education, skills and interests. As indicated above, the range of public goods and services the youth would build would be so broad as to have the scope to offer 'something for everyone'.

2.4. Conclusion

We began this report by summarising how we got into our jobs crisis in India. India's transition from agriculture has not been towards the higher productivity roles in manufacturing, but instead, it has been towards informal and low-wage jobs in services. Just as better jobs prove elusive, the young enrol in school and higher education in ever greater numbers, as our demographic 'deluge' gets underway. These 'precocious' youth are showing us that it will take more than the informal and 'indecent' employment on offer to get them to work. Neither are they given much encouragement when the combined shocks of demonetisation, GST and covid have made even these employments less available, and they are provided scant support as out-of-state migrants.

We looked at three possible answers to our question. First, the new jobs will continue to be in urban-industrial centres. But since this depends on taking youth from the countryside far from home, preparing them for such a transition is critical, which needs close industry engagement. Further, the whole migrant ecosystem needs to be better supported by public policy. Second, the new jobs will be realised in micro-enterprises across the country. From the perspective of ecology and adjustment, as well as the viewpoint of women in need of work close to home, this is an exciting perspective which upends many of our assumptions about how jobs are created. But the constraints on the micro sector are myriad and complex, and the policy demands of this second answer are great. Third, the new jobs will be through a government-funded youth civic service scheme which would cover a wide range of essential services required to improve the quality of life and environment in small cities and towns. The scheme's goal is beyond services, to jump-start out of a cycle of low experience-low motivation in which our schooled youth is trapped. While the acceptability of such a publicly funded scheme needs to be seen, it must be assessed against the long-term gains to small cities as sustainable growth centres.

We end this report with three points of caution regarding the assumptions which we make in our policy responses. Each of the points is relevant to all three of our question answers.

First, we are witnessing a proliferation of technologies of employment: digital applications used to manage personnel systems, to survey performance, to aggregate workers under TPAs for payroll and compliance purposes, and to render them gig workers in digital marketplaces. Workers' experience of such technologies shows us that, while 'digital' now means 'formal' and *vice versa*, digital is not necessarily 'decent', in the ILO sense of the term. There are many ways by which technology is harnessed by employers and their investors to crank up the extraction of value for less wage share and to reduce 'personnel risk', thereby exacerbating workers' insecurity. In short, digital applications are never neutral, and neither do they lead spontaneously to better jobs. Instead, they reflect the interests of their designers. By the same token, they can be re-designed to reflect other priorities.

Second, there is a widespread assumption that larger and 'formal' employers are better, from the viewpoint of entry-level workers seeking to learn on the job. This may have been the case when the only large firms in our midst were the public sector units and the blue-chip nation builders like Tata and Bajaj. But it is no longer the case. The proportion of casually- or TPA-hired workers in formal companies is growing. Which employers are fit to train youth is a question we need to ask and research. Apprenticeship policy and Skill India's placement-led programme DDU-GKY, have each made assumptions that youth are being skilled on the job. But the experience many of them acquire is of being corralled into narrow semi-automated roles in global production plants with no one to nurture them or help them learn. There is likely more learning taking place in the MSME, though it is unobserved and unmapped by Skill India. We need to start observing it.

Third, thanks to Pratham and others, we have known for years that India's public schools are failing to prepare youth for jobs, but this is often misinterpreted as a problem of vocational skills or perhaps 'soft' behavioural skills. The response is to replace the upper years of schooling with trade-based instruction, such as is available at ITIs or through vocational options in school. But employers tell us that the problem is different and more fundamental.

Young people benefit little from the school curriculum they have covered because they have not processed this information into knowledge and experience. Instead, it has remained abstract and unapplied, learned by rote to clear exams. But we know that learning really takes place when one sees how information is applied and when one relates it to experience. 'The art of teaching, and its major successes, relates to 'what happens next' – the manner in which the teacher reacts to how the student interprets, accommodates, rejects and/or reinvents the content and skills, how the student relates and applies the content to other tasks…', wrote John Hattie. The goal of public-school teachers is to cover the curriculum and help children to regurgitate it accurately. These goals cannot be met if teachers start 'wasting time' with examples, discussions and activities which would help the children to process and apply what they are learning.

The problem is it is just these skills of application which employers ask for, and as technology enters more and more job roles in different ways, it demands these skills evermore. 'Technological changes have increased the intensity of jobs involving non-routine cognitive analytical tasks… Much of the new skills requirements will be on competence in new technology with priority on high-skilled non-routine and cognitive tasks'. Employers seeking to recruit candidates bemoan not so much their lack of technical competence. They bemoan the poor capacity to understand what's important, to know what can be applied in which context, to see the need to re-evaluate, learn something new and know how to go about it. These are the skills of application which are the base of non-routine cognitive tasks, which our schools urgently need to address. And as early as possible in the child's career.

Notes

1 https://cse.azimpremjiuniversity.edu.in/
2 https://grameenfoundation.in/
3 https://www.ncaer.org/
5 https://www.accessdev.org/state-of-indias-livelihood-report/, particularly from 2020 and 20201
5 https://www.ncaer.org/publication_details.php?pID=300, pg 2
6 The main report used here is at https://publications.azimpremjiuniversity.edu.in/2481/1/USENET_Report_Final_for_Release.pdf
7 60 days 60 voices, Global Alliance for Mass Entrepreneurship (GAME), 20th April 2020 (https://www.youtube.com/watch?v=LQY7uiIuBzE
8 The rate at which employment is generated by gross value added (GVA) is the employment elasticity of growth.
9 Mahajan, in SOIL 2020, at https://www.accessdev.org/wp-content/uploads/2021/07/soil-repert-2020.pdf
10 Bhadury, Narayanan & Pratap, 2021, Structural transformation of jobs from manufacturing to services, will it work for India? https://journals.sagepub.com/doi/10.1177/0973801020976608
11 Quoted in Vivek Kaul's blog https://vivekkaul.com/2021/03/08/revealing-the-real-picture-behind-indias-unemployment-problem/. Definition from CMIE.
12 Ibid.
13 https://www.theindiaforum.in/article employment-question-india
14 https://grameenfoundation.in/wp-content/uploads/2021/11/State-of-the-Jobs-Report-Final-Version-compressed.pdf
15 https://vivekkaul.com/2021/03/08/revealing-the-real-picture-behind-indias-unemployment-problem/
16 The goal of Skill India's DDU-GKY programme (managed by the Ministry of Rural Development) is to train and place candidates. Implementing partners don't get paid unless they deliver on the placement, not just the training.
17 In November 2016 with no prior notice, the Prime Minister declared that all higher value currency notes were no longer legal tender and had to be deposited in the bank to redeem their value, in strictly limited installments. In July 2017, GST was imposed across all firms in India whose turnover was above ₹ 2 million.
18 MSMEs are broadly speaking those with less than 250 workers. https://vivekkaul.com/2021/03/08/revealing-the-real-picture-behind-indias-unemployment-problem/
19 The Grameen Foundation report argues that while the long-term logic of GST is sound and promises to build a better architecture to finance business, in the short term, it's tough for those below or close to the 2 million floor. Further, what is less considered is the trade-off between GST payments and other indirect tax payments which shrink on account of the disruption to purchasing power from job losses (https://grameenfoundation.in/wp-content/uploads/2021/11/State-of-the-Jobs-Report-Final-Version-compressed.pdf, pg 67).
20 https://scroll.in/article/1009877/no-country-for-young-workers-how-demonetisation-has-hurt-a-generation-of-indians
21 The USENET report estimates the number of employments lost to be between 27 and 80 million, equivalent to the different estimates of migrants at the point of lockdown.
22 https://cse.azimpremjiuniversity.edu.in/wp-content/uploads/2021/08/SWI2021_Executive-Summary_August.pdf
23 https://www.hindustantimes.com/india-news/covid19-and-india-s-youth-workforce-101639593698010.html
24 https://cse.azimpremjiuniversity.edu.in/wp-content/uploads/2021/08/SWI2021_Executive-Summary_August.pdf
25 https://group.teamlease.com/insights/employment-outlook-report-q2-july-september-2022/
26 Mahajan's introduction to the SOIL 2020 report provides a detailed account of what would be required to centre job-creation in labour-intensive manufacturing in provincial areas and around industrial clusters. Sectors of potential focus include renewable energy and recycling-based industries as well as agro-processing and crafts. He recommends a target of 25% of total workforce to be gainfully employed in small towns by 2030 (up from 14.8% today). https://www.accessdev.org/wp-content/uploads/2021/07/soil-repert-2020.pdf
27 If we take just the top 5 IT companies, employees grew 36% between April 2020 and June 2022.The companies cited in Damodaran's article are TCS,

Infosys, Wipro, HCL Technologies and Tech Mahindra (https://indianexpress.com/article/explained/explained-indias-unique-jobs-crisis-8062853/)

[28] https://group.teamlease.com/insights/employment-outlook-report-q2-july-september-2022/

[29] Pg 9, https://grameenfoundation.in/wp-content/uploads/2021/11/State-of-the-Jobs-Report-Final-Version-compressed.pdf

[30] https://group.teamlease.com/insights/employment-outlook-report-q2-july-september-2022/

[31] Notably IT, education, e-commerce and healthcare.

[32] The government pushed its long awaited labour reforms through a poorly attended Lok Sabha between the two covid lockdowns in late 2021. See https://prsindia.org/billtrack/overview-of-labour-law-reforms for a summary of the reforms and their implications (need to check for updated reference).

[33] Such reports of tightening labour markets from the garment cluster appear to reflect the reduced supply of migrant labour as a result of a new reluctance to commute far from home, following the traumatic experience of lockdown.

[34] Reports from Tirupur and Banglore are in the range of an ₹ 1000 wage increase since 2019, on a wage of ₹ 8,000-10,000.

[35] Personal communication with an executive of a skills provider in Bangalore, 28th September 2022

[36] The 'license' to be a labour contractor, explained one source, is written informally into the settlement between land losers (farmers) and land acquirers (industry) at the time of industry establishment. The industry avoids giving jobs to locals, but it facilitates their setting up as labour contractors.

[37] Shared by phone from a brand representative in Tirupur's knitwear cluster, 17th September 2022.

[38] One representative from a high performing ITI in Odisha explained that the ITI graduates who accept to take apprenticeships don't expect a learning opportunity but settle for a short-term job because it is close to home or because they cannot commit longer-term since they are still pursuing their education.

[39] The NCVT is part of the Directorate General of Training (DGT) of the Ministry of Skills Development and Entrepreneurship (MSDE).

[40] The Government of Odisha's skills mission is the Odisha Skill Development Authority (OSDA). See https://skillodisha.gov.in/home

[41] https://dgt.gov.in/Flexi_MOU

[42] https://www.phillips.education/

[43] This is with funds from various source, including Tata Tech and Ministry of Education.

[44] There are two definitions of the micro and small sectors. One is from MSME and is based on investment and turnover; the other is from the labour administration which categorises firms by number of workers.

[45] Basole A. & Chandy V. (2019) Microenterprises in India: A Multidimensional Analysis, Global Alliance for Mass Entrepreneurship and Azim Premji University, Bangalore. Available at: massentrepreneurship.org/micro/ and cse.azimpremjiuniversity.edu.in/

[46] ibid, pg 4.

[47] 60 days 60 voices, Global Alliance for Mass Entrepreneurship (GAME), 20th April 2020 (https://www.youtube.com/watch?v=LQY7uiIuBzE)

[48] https://www.financialexpress.com/industry/sme/the-big-problem-of-attracting-and-managing-talent-in-msmes/2698298/

[49] Santosh Mehrotra at 60 days 60 voices, Global Alliance for Mass Entrepreneurship (GAME), 20th April 2020 (https://www.youtube.com/watch?v=LQY7uiIuBzE)

[50] For the MUDRA scheme, see https://www.financialexpress.com/industry/sme/msme-fin-mudra-scheme-2-19-cr-loans-sanctioned-in-h1-fy23-up-8-from-year-ago-shows-govt-data/2707162/. For the PMEGP (PM's Employment Generation Programme), see https://msme.gov.in/1-prime-ministers-employment-generation-programme-pmegp. For the CGTMSE (Credit Guarantee To Micro and Small Enterprises), see https://www.moneycontrol.com/news/economy/policy/government-may-increase-cover-for-msmes-under-credit-guarantee-scheme-7937051.html

[51] Pillai is with the National Institute of Public Finance and Policy (NIPFP). https://grameenfoundation.in/wp-content/uploads/2021/11/State-of-the-Jobs-Report-Final-Version-compressed.pdf, pg 71

[52] There are 1400 modern industry and another 5500 handcraft industry clusters in India (Mehrotra YT).

[53] In 2019, the central government amended the rules pertaining to apprenticeships, bringing in the following changes:- (i) smaller firms (above 30 workers) are now mandated to offer apprenticeships; (ii) firms smaller than this (above 4 workers) can opt in if they want; (iii) up to 15% of a firm's labour force can be apprentices;

(iv) a stipend between ₹ 5,000 and ₹ 9,000 must be provided to the apprentice, for which partial reimbursement is available from the government. See https://economictimes.indiatimes.com/news/politics-and-nation/government-notifies-changes-in-apprenticeship-rules/articleshow/71378026.cms?from=mdr for a summary

54 https://www.justjobsnetwork.org/reimagining-employability-for-the-21st-century10-million-apprentices-in-10-years/#:~:text=2022%20238%20Views-,Reimagining%20Employability%20for%20the%2021st%2Dcentury%3A%2010%20Million%20Apprentices%20in,also%20poses%20a%20formidable%20challenge

55 Ibid, pg 32.

56 Ibid, pg 35.

57 https://www.goingtoschool.com/

58 https://publications.azimpremjiuniversity.edu.in/2481/1/USENET_Report_Final_for_Release.pdf

59 i.e. Udyog Sahayak Enterprise Network

60 Defining micro enterprises by number of workers (i.e. 'less than 20 worker') is more relevant to our job-focused concerns since the 20 mark is still a watershed for compliance (i.e. above 20 requires compliance under many more labor laws). The MSME Ministry defines 'micro' in terms of <10 million investment and <50 million turnover, but the USENET report authors argue that there is heavy overlap in these definitions.

61 Another study by Google and KPMG has estimated that Indian SMEs with digital capabilities are likely to grow at double the rate of those offline (ref).

62 Ibid, pg 22.

63 The output elasticity of employment is the percent increase in employment with 1% increase in value-added (pg 29).

64 The authors cite the example of the Gujarat Partnership Summit of 2015, where companies committed to ₹ 2 trillion investment and the creation of 50,000 jobs, a per job investment of ₹ 40 million!

65 https://www.theindiaforum.in/article/time-right-urban-employment-guarantee-programme and https://cse.azimpremjiuniversity.edu.in/wp-content/uploads/2021/03/CII-Report-Employment-Livelihoods-1.pdf

66 https://www.theindiaforum.in/article/time-right-urban-employment-guarantee-programme

67 The differences noted include:- the scheme would need to respond to a much less seasonal workforce and would need to work with urban local bodies (ULBs) who have traditionally been much less democratic than the Panchayati Raj institutions of rural areas.

68 The NCC's goals include building unity, discipline, responsibility, community service, and a secular outlook among the youth. https://indiancc.nic.in/

69 https://www.business-standard.com/article/economy-policy/rajasthan-govt-set-to-launch-job-guarantee-scheme-for-the-urban-poor-122090900475_1.html.

70 https://www.edc.org/sites/default/files/uploads/Promising-Youth-Development-Strategies.pdf

71 Craig Jeffrey's work in Western UP and Uttarakhand evaluates the role of waiting, 'doing nothing' and 'being nothing' among rural educated young men. He dwells on the possibility that 'timepass', while demoralizing, can also 'serve as a seed-bed for novel friendships and positive youth politics'. Jeffrey, C & Dyson, J, 2017, Doing nothing and being nothing. How hope can solve the crisis facing India's youth, EPW, May 27th 2017, retrieved from https://www.epw.in/journal/2017/21/commentary/doing-nothing-and-being-nothing.html

72 Taken from Mahajan (2020), ibid.

73 The recent campaigns of Uber and Ola drivers have shown how workers' share is whittled down and exploitation is cranked up through the use of app-based processes and metrics.

74 https://www.pratham.org/

75 See https://visible-learning.org/ for information on Hattie's 'visible learning'.

76 See State of Jobs in India 2019, pg. X (at https://grameenfoundation.in/wp-content/uploads/2021/11/State-of-the-Jobs-Report-Final-Version-compressed.pdf)

Policy and Programme Response to Revive Livelihoods:

A Glass not Filling up?

3

Dr Ashok Kr. Sircar

3.1. Introduction

While the economy is certainly reviving from the massive blow of the Covid 19 attack and prolonged lockdown, the question we should be asking is, are the livelihoods of most working Indians reviving? And if so, to what extent? This chapter will attempt to look at this question through the lens of policies and programmes of the state and union governments. In doing so, the chapter will look at the budgetary provisions, programmatic emphasis, continuity (or discontinuity) of special programmes initiated during the last two years, and if any new initiatives are being unfolded to either generate or enhance livelihoods. As has been the case in previous years, the focus will be on the livelihoods of small and marginal farmers, non-farm rural livelihoods, fisherfolks, NTFP-based LH, informal sector, and formal sector workers.

We first provide an overall scenario of the livelihoods of the above constituencies during the last two years. The findings were stark in an early survey conducted by the Centre for Sustainable Employment of Azim Premji University in April -May 2020. It reports 2/3rd of the workforce lost work and earnings; the urban areas were affected the most. In rural areas, the casual workers were most affected, while the self-employed in the non-farm sectors lost the most. The gender divide, too was horrific, the women were 80% more likely to have lost work than men. The earnings fell by almost 50% across the board. Several other surveys painted a similar scenario. The scenario continued even in December 2020 – January 2021, as per a survey done in ten states by a coalition of CSOs assisted by Azim Premji University. The percentage of the workforce earning less than ₹5000/- month has increased to approximately 60% on average. Growth and output surveys of different sectors corroborated this. Table 3.1 captures the decline of various sectors in 2020-2021 and even in 2021-2022 compared to 2019-2020.

The livelihood-related policies of the union and state governments need to be seen in this context. We discuss policy responses of the governments to show that the focus remains on protecting human lives by way of increased allocation of food grains, MGNREGA works, portability of PDS ration deliveries for migrants, small amounts of cash in women's bank accounts, etc. While these were all appreciated by the large masses of the poor, reviving the vast SMEs that employ the largest number of non-farm workers at many levels, did not receive adequate policy push from the state or the banks and other NBFCs.

While the second wave was certainly more lethal, the economy recovered greatly from the dip it took in the earlier year, as shown in Table 3.1. The livelihoods scenario, however, remains deeply strained during 2021-2022. This is reflected by two data sets, the demand for MGNREGA work, which remained very high, to consume 90% of the MGNREGA allocation for 2021-2022 in just five months, and also the unemployment data, which hovered around 7.5-8.0% throughout the year of 2021-2022.

The policy response of the government needs to be situated in this overall context. The following section will look at the union budget as a policy instrument to tackle the livelihoods crisis, following which the flagship programmes will be scrutinised on their promises and delivery in the section thereafter. A specific section will look at the special programmes initiated by the governments as their continuity or not. The final section will make a few comments on the emerging trends.

3.2. The Union Budget in 2021-2022

There are two distinct ways to look at budget allocations. One is to look at any new provisioning which is necessary but did not exist before and how it positively or negatively impacts livelihoods. The second is to look for enhancement or reduction in budget allocation in existing schemes and try to make sense of it based on experience and the felt need.

Table 3.1. Sector-Wise Performance Scenario which Impacts Livelihoods

	Sector		Trend Growth Pre-Pandemic		Growth Pandemic Perlod		Status
1.	Agriculture, forestry & fishing		3.6	5.2	3.3	6.7	Resilient
2.	Mining & quarrying		2.4	2.4	-8.6	2.9	Recovering/ Need Repair
3.	Manufacturing		6.6	5	-0.6	9.8	
4.	Electricity, gas, water supply & other utility services		6	7.5	-3.6	3.9	
5.	Construction		4.2	4.6	-7.3	1.9	
6.	Trade, hotels, transport, communication and services related to broadcasting	6.1. Trade, hotel and repair	8.4	8.1	-22.4	-10.9	Still Suffering
		6.2. Transport, communication and services related to broadcasting			-15.3		
7.	Financial, real estate & professional services	7.1. Financial services	8.2	5.4	5.1	6.6	Resilient
		7.2. Real estate, and professional services			1.2		
8.	Public Administration, defence and other services	8.1. Public Administration, defence	6.5	7.0	2.3	6.4	Resilient
		8.2. Other services			-11.5		Recovering/ Need Repair
	GVA at basic prices		6.6	5.9	-4.8	3.1	Recovering/ Need Repair

Source: NSO and RBI Staff Estimates.

Table 3.2. Budget Allocation in Livelihoods Enhancing Schemes (₹ in Billion)[7]

Name of Scheme	Actuals 2019-20	Revised 2020-21	Budget 2021-22	% Change w.r.t last yr
MGNREGS	716.87	1115.00	730.00	-35
PM Kisan Yojana	487.14	650.00	650.00	0
PM Fasal Bima Yojana	126.39	153.07	160.00	4.5
National Livelihoods Mission	97.55	100.05	144.73	45
Green Revolution	98.95	104.74	134.08	28
PM Krishi Sinchai Yojana	82.00	79.54	115.88	51
MSME Sector[8]		75.72	157.00	107%

The union budget did not announce any new initiative in the realm of livelihoods. Looking at the budget allocation, one can't but feel deep disappointment for the reduction in MGNREGA allocation by 35%, while the demand for MGNREGA work has never really shown any significant decline. 90% of the budget allocation was spent by the first five months of the financial year, which was an indicator of the need for MGNREGA. PM Kisan Yojana and Fasal Bima Yojana did not see any significant rise in allocation either. Does it indicate that these are no longer a priority for the government, or has it saturated its potential? We will have a detailed discussion about these two schemes in the following section and see which can be the probable explanation. On the other hand, a 45% increase in the allocation to National Livelihoods Mission is certainly a welcome step. The same can be said for Green Revolution (in the eastern areas), Krishi Sinchai Scheme, and allocation to the MSME sector, which received a substantive increase. The increase of 28% in the Green Revolution scheme will now include 22 perishable products and not limited to tomatoes, onions, and potatoes only. In addition to the budget allocation of ₹157.00 billion, the budget for 2021-2022 also announced ₹100.00 billion to the corpus fund of credit guarantee. This is primarily to provide five types of credit guarantees, namely for skill development, factoring, micro units, emergency line credit, and stand-up India. All these are welcome steps. We will see in a section dedicated to MSMEs how effective these interventions were in reviving the sector and putting it on the growth path.

3.3. Performance of the Schemes / Sectoral Allocations

3.3.1. The MSME Sector

By all accounts, it became abundantly clear that people associated with the MSME sector were the hardest hit due to Covid, lockdown, and related manifestations. It was hit by a massive labour exodus, as well as domestic and international supply chain disruptions. A general estimate points to 63 million units in this sector employing 111 million individuals. Micro enterprises account for 99% of the units in this sector, and small and medium enterprises account for only 0.52 and 0.01% of units. Several reports pointed out the negative impact of the lockdown and sought better credit facilities and marketing support to come out of this crisis.[9] The production declined, labour retention suffered a blow, market access became difficult, and loan defaults increased. In this context, the increase in annual budgetary allocation from ₹75.72 billion to 157.00 billion in 2020-21 and again increase to ₹214.22 billion in 2022-203 is a welcome step. However, we find that the budget allocation for the Khadi village and Coir Industries was reduced by 2.75%; also, the technology upgradation support was reduced to ₹807.2 million in contrast to the ₹3.30 billion last year. The allocation of the scheme was also reduced massively.[10] The allocation of ₹214.22 billion consists of ₹150.00 billion for the credit guarantee scheme, which is not direct support to the MSMEs. The data suggests that only 3 million guarantees were issued in 2021-2022, and about 2.1 million guarantees were issued in the year 2020-21. This amounts to less than 10% of MSMEs receiving such guarantees, so far in two distress years.[11]

The policy response of the government needs to be viewed concerning the actual needs of the sector. Firstly, we should ask the fundamental question – Is MSME an appropriate policy category? The category encompasses a vast range of investments from ₹10-500 million per unit to turnover from ₹50-2500 million per unit. Also, the percentage of micro-enterprises as per the 73rd round of the NSSO is 99.46% of all MSMEs, while its percentage of employed persons is 96.96% of all employed in MSMEs. It may justify adding the small and medium category enterprises clubbed into the MSME category meaning these two categories will not distort the overall picture of the sector. But, if we look at the financing pattern, 66% of medium category enterprises have banks/NBFCs as their primary funder, whereas only 40% of the small category enterprises access banking finance! Informal sources finance 16% of the micro-enterprises, whereas only 5% of the medium-category firms access informal capital. The same is the scenario of self-financing – 40% of the micro-enterprises are self-financed, whereas only 29% of the medium category enterprises are self-financed.[12] This impacts governments' financing support which is likely to go to the medium category enterprises through banks/NBFCs. The social composition of the micro, small and medium enterprises presents a stark contrast – while OBCs own 50% of the micro-enterprises, 70% of medium category enterprises are owned by the general caste, and the share of SCs comes down from 12.5% of the ownership of micro-enterprises to just 1.1% of medium enterprises ownership.[13] This creates significant asymmetries of information and other accesses, and we can relate it to the very low achievement of credit guarantees as well as awareness of information of the government support.[14] We see an echo of our argument in the Parliamentary Committee's 315th report on MSMEs on 21st March 2022. On page 4, it advises the government to treat the micro & small, and medium category enterprises separately in terms of policy and intervention.[15]

One of the policy issues in the MSME sector is delayed payments. As individual units are small and often their customers are in the medium and large enterprises, their negotiating power in the market vis-à-vis their customers is also weak. Since a significant number of MSME units supply to relatively larger units, including governments and public sector undertakings, they operate in a buyers' market. The delayed payments have been increasing as a percentage of sales for micro-enterprises to 65% in 2021-2022, 31.10% for small and only 25% for medium-scale enterprises, as reported by a study.[16] The study goes on to say that four large sectors – public administration, retail, construction, and real estate are those who delay the payments to the MSMEs. But here too, the difference between the micro and medium-scale enterprises is stark – 65% in contrast to 25%, which supports our argument against the categorisation of MSME as one policy category. This situation can be easily improved by a clear policy response by the state, which has full control over the public administration (read public sector) units.

While the sector struggled to revive its full potential through the year 2021-2022, we must take special note of what happened to individuals employed or self-employed in this sector. The only systematic study done was by ILO in late 2020, which highlighted the lack of any social security for 85% of the workers they surveyed in MSMEs in the services and manufacturing sector. Therefore, the policy response in the form of E-SHRAM, a portal to register unorganised sector workers to provide social security, is a welcome step. It has already registered more than 280 million individuals, half of which are in agriculture and allied activities. The governments now have the names of the vast majority of informal sector workers, almost 40% of which are engaged in MSMEs. It connects with various social assistance schemes and employment schemes. However, it's not clear how many of these 280 million have availed any benefit through this portal other than one more plastic card for them.

3.3.2. Pradhan Mantri Employment Generation Programme (PMEGP)

This is an old programme to generate self-employment. Eligible individuals can obtain loans from banks and with margin money support from the governments against business projects of 356 kinds. Most projects are below ₹1.0 million, but a few are as high as almost ₹20 million. Applications are received online from individuals, SHGs, Trusts, and other registered institutions, in a prescribed format, including the major costs of each component of the project already laid down. These are processed by government departments and then forwarded to banks, who then do their assessments and sanction the project loan in two categories- term loan and working capital.

The data shows an abysmal picture of this programme's implementation. From 2016-2017 onwards to 2021-2022, a total of 2.56 million applications have been received, 1.6 million applications forwarded by the governments to banks, but only 0.42 million applications got approvals from banks for loans which are just about 25% of applications received by the banks. Only 0.39 million projects claimed the margin money, which reflects progress in these projects. From the year 2019-2020, we find a marginal increase in applications in 2020-2021, which again came down to below the 2019-2020 level and is still at that level even in this financial year if we go by the trend.[17] Even if we consider projects claiming margin money have completed the endeavour, we should ask the question, is this worthy of effort by the government? We argue that a thorough review should be done to decide to take this forward. Even the Parliamentary Committee has taken the same view.[18]

3.3.3. PM Kisan

PM Kisan Yojana directly supports the farmers of this country with a direct cash transfer of ₹6000/- in 3 instalments. This facilitates production-linked investments in various crop cycles, which reduced the burden of cash flow for the farmers. The press release by the Government of India claims that from a start of only 31.6 million farmers in 2018-2019, the number of farmers who benefitted from the scheme is now about 110 million farmers. This amounts to 75% of the farmers of the country if we take 145 million operational holdings as per the last Agricultural Census 2015-2016, a no mean achievement. The growth of PM Kisan beneficiaries is captured below.

Table 3.3. Farmers Benefited From Various Instalments[19]

	Instalments	Number of Farmers Benefitted	Variations From the Previous Instalment (in million)
01	December 2018-March-19	3,16,11, 918	
02	April-July 19	6,63,33,984	
03	August-Nov 19	8,76,21,525	
04	December-19-March 20	8,96,15,663	
05	April-July 20	10,49,32,450	15.3
06	August-Nov 20	10,23,45,113	-2.59
07	December-20-March 21	10,23,51,017	.005
08	April-July 21	11,13,20,806	9.0
09	August-Nov 21	11,18,25,677	.50
10	December 21- March 22	10,85,21,288	-3.30

Leaving aside the growth phase captured in the first four instalments, the period from 2020-2021 shows a gradual stabilisation period for the scheme, which has now more or less stabilised around 110 million Kisan. This is also reflected in the budget allocation, which has now stabilised for three consecutive financial years, 2020-21, 2021-22, and 2022-23 around ₹660-670.00 Billion.

Centre for Policy Research has analysed the PM Kisan data, which raises a few questions. Firstly, the number of farmers registered and the number of farmers for whom the fund transfer orders are generated show interesting discrepancies in every state, of which UP, Assam, Jharkhand, and Tamil Nadu show significant discrepancies at 5.2, 1.5, 1.4, 1.2 million farmers respectively! Even in other states, discrepancies between 0.2-0.5 million are very common. Secondly, its seen that in the last two instalments, the gap between farmers for whom FTOs are generated and farmers who received the payments was about 4.0 million farmers. Thirdly, there seem to have been payments made to ineligible farmers, the total number of them being identified as 4.49 million, of which Assam, Tamil Nādu, Punjab, Maharashtra, and UP are the top states. The total recoverable money from all states from ineligible farmers is ₹33.46 billion.[20]

Despite these general shortcomings, it must be said that from a government's point of view, the scheme can be described as a success, as it reaches nearly 75% of the farmers of India. Is it a success from the farmer's point of view? No systematic study is available to claim either way, but a conjecture can be made. If PM Kisan supports farmers for their expenditure, then we can look at to what extent PM Kisan supports a farmer's household's consumption expenditure. In 13 states where the monthly expenditure of the farmers varies from ₹5000/- to 7500/-, a cash infusion of ₹6000/- covers 80% at the minimum and 120% at the maximum of the range. In only five states, namely Andhra, Gujrat, Kerala, Haryana, and Punjab where the support falls below the 80% minimum. This means a very large section of farmers in India being really poor are likely to feel benefited from the scheme, although it is not transformative.

3.3.4. PM Fasal Bima Yojana

In contrast to PM Kisan, PM Fasal Bima Yojana lags much behind in its promise. In five years since 2018, the number of applicants has increased from 30.7 million to 59.7 million farmers in Kharif, which compared to PM Kisan, is still about half the number of farmers. The area insured is just about 25% of the net sown area in Kharif, some years even less. The number of villages declared as insurance units have also come down from 0.147 million to 0.127 million villages. The percentage of marginal farmers taking the insurance is just about 17% of applicants, while 61% of small farmers have applied for the benefit. All the numbers significantly come down for the Ravi season consistently over the last five years.[21]

There are no systematic statistics captured in the PMFBY dashboard on actual claims, claims settled and the time taken. This itself is a policy lacuna that while the applicants' numbers are captured, the number of recipients of insurance claims is not. The Hindu Business Line reported referring to Parliament questions, that out of ₹1024,26 Billion claimed from 2016 to 2021, ₹1020.45 billion have been paid, leaving only ₹33.81 billion outstanding.[22] It's not clear how much is outstanding, for how long, for how many farmers and in which states!

Table 3.4. Performance of PM Fasal Bima Yojana

	2018	2019	2020	2021	2022
Insurance Units (in Nos.)	1,47,836	1,56,800	1,27,497	1,21,728	1,27,135
Farmers Applied (in Million)	30.7	38.3	40.9	49.5	59.7
Area Insured (in 000Ha)	27,788	29,299	27,133	23,922	22,887
Marginal Farmers (in %)	18.07	16.48	16.54	18.04	17.02
Small Farmers (in %)	64.87	67.63	67.64	62.16	61.72

Several instances of delayed payments and non-payments of insurance claims came to light. The Telegraph reports a payment delay of ₹6.16 billion for nearly a year in Odisha.[23] The Free Press journal reports a delay in payments of ₹2.35 billion in Madhya Pradesh as late as august 2022.[24] Financial Express reports a delay in payments to farmers in Gujrat, Jharkhand, Telangana on March 2021, amounting to more than ₹15.00 billion.[25] PRS reports that the parliamentary standing committee noted '… delays in settlement of insurance claims as one of the biggest challenges in the implementation of the scheme. It noted that the delays may be due to factors such as (i) late release of yield data and premium subsidy by states, (ii) yield-related disputes between insurance companies and states, and (iii) non-receipt of account details of farmers. It recommended addressing these issues using technology and the coordination of all institutional mechanisms. It also recommended implementing a timeline for settlement of claims by insurance companies.'[26]

Several states like Bihar, West Bengal, Jharkhand, Telangana, Maharashtra, and Gujrat have implemented their own Fasal Bima scheme and did not join the central scheme. Andhra Pradesh has quit and again re-joined the central scheme in July 2022. Punjab never implemented any Fasal Bima scheme at all. One reason why some states wanted their schemes is the high premium to be paid for the central scheme by the farmers. But there is also a larger political reason to do so. PM Fasal Bima Scheme has a state share to the extent of 50%, but the scheme is always projected as a central scheme in all public campaigns with photos of the PM and often the union Agricultural Minister, completely ignoring the states. The campaigns conducted to popularise the scheme almost always ignores the fact that the states are equal partner. The states feel left out despite providing money and therefore feel obligated to start their schemes, which they can popularise as theirs. Also, the model adopted by Maharashtra, West Bengal, and others are more useful, as reported by us in the 2021 SOIL report.

Several studies of the period 2016-2019 have founded several lacunae in the implementation of the scheme, including inadequate awareness, complicated procedures, delayed payments, non-payments, exclusions due to definitional reasons, etc.[27] It's interesting, however, that after the scheme was revamped, no systematic study is available. We can hope that this year, a few studies will be reported to get a better understanding of the implementation of the programme.

3.3.5. PM Shram Yogi Mann-Dhan Yojana

This too is a continuing scheme from the past, albeit with a new name, to cover unorganised sector workers under a pension programme. This is strictly not a livelihoods generation or livelihoods enhancement scheme, but considering nearly 380 million unorganised sector workers in this country, it's a livelihood protection scheme and, therefore, worth considering in this chapter.

The idea is simple. If an unorganised sector worker with a monthly income of less than ₹15,000 per month has a bank account, his account will be auto-debited to a pension account, in which the central government will also deposit the same contribution. On attaining the age of 60, the person can get a monthly pension of ₹3000/- per month. The worker can get enrolled using an AADHAR Card and bank account details at any common service center in the country. The account should have a minimum balance to deduct ₹55/- to ₹100/- per month. The pension will be deposited automatically in his same bank account. 127 different occupations/ services have been identified by the scheme, where a worker can get this benefit.

It's not clear why there is so little uptake of this scheme. So far, up to August 2022, only 4.9 million workers have accessed this scheme all over the country! If we take the yearly count, only 1,61,744 workers have got added to this scheme in the year 2021-2022. This is in sharp contrast to the registration to the E-SHRAM portal, touching 280 million individuals. In addition to PM Shram Yogi Man-Dhan Yojana, there is also a Kisan Man-Dhan Yojana, which too has only about 1.99 million registrations! And a scheme for a pension for self-employed people has only 51 thousand registrations!

Not a single study could be found in the literature asking the simple question as to why there is so less uptake of the scheme. Unfortunately, the parliamentary committee report on the subject is also not available in the public domain. We believe a comprehensive review must be made to understand what is needed to make the scheme work for the unorganised sector workers.

3.3.6. MGNREGA

MGNREGA is often regarded as the pulse of the condition of rural livelihoods. Work demand is known to be the key indicator of rural and even urban employment/income distress or the lack of it. Unfortunately, despite the provisions of the Act, the work demand gets negatively impacted dependent on the money availability on the ground to give people work and pay them. It has now become a national practice not to record work demand if no money is available. However, even with this limitation, MGNREGA is still a good barometer of what is happening in rural livelihoods. We will compare work demand for three consecutive years to see if any significant pattern emerges.

Several conjectures can be made from the above chart, which depicts individual work demands for MGNREGA works. Firstly, the highest demand for workers remains in May, June, and July (marked in yellow), and that demand remains higher than the pre-pandemic level. Secondly, even when the demand reduces during the Kharif season, the work demand remains significantly higher than the pre-pandemic level up to October (marked in Green). Thirdly, the work demand in 2021-2022 is certainly less than in 2020-2021, even when money is usually available during the first five months. This indicates some revival of other avenues of rural livelihoods, thus reducing the pressure on MGNREGA. But the steady increase in demand from February 2022 to June 2022 is extraordinary. It may be due to poor sowing of the winter crops, or opportunities for non-farm work may have dried up after the initial recovery during the latter half of 2021.

From the point of view of rural livelihoods, MGNREGA's essential promise of providing work within 15 days of asking and paying the workers within another 15 days has long been subverted through a complicated system of IT-based work and fund management. Work demand is now subject to fund availability, work assignment is now subject to generating an e-muster roll, making wage payments is now subject to creating stage 1 and stage 2 FTOs, and so on. In addition, from 2nd March 2021, a new payment system desegregated by caste has been instituted in which SC, ST, and others are paid through separate fund management

Table 3.5. Month-Wise Individual Work Demand for MGNREGA Works[28]

	2019-2020 (In Million)	2020-2021 (In Million)	2021-2022 (In Million)	2022-2023 (In Million)
	(A)	(B)	(C)	(D)
April	303.7	200.1	340.7	328.8
May	356.8	542.5	371.1	435.1
June	353.8	635.0	451.7	432.2
July	240.7	429.0	379.5	252.1
August	182.8	315.8	278.2	198.8
September	177.2	312.8	278.6	
October	160.2	309.4	221.7	
November	192.7	289.2	228.6	
December	222.5	348.7	297.8	
January	249.4	343.7	269.7	
February	294.6	283.9	270.0	
March	276.3	359.1	245.1	

tracks. Overall, its results in significant delays in payments. Libtech, a technical agency consisting of academics, software engineers, and social workers has analysed the delay. They analysed 1.79 million payments through random sampling between April to September 2021 to analyse delays by the central government. Libtech found that the central government delays 71% of payments beyond 7 days, 44% of payments beyond 15 days, and 14% of payments delayed beyond 30 days. States like Madhya Pradesh, Jharkhand, and West Bengal suffered more. 66% of payments were delayed beyond 15 days in Jharkhand, and more than 50% of payments in West Bengal and Madhya Pradesh were delayed beyond 15 days. After the new system of desegregated payment system for SC, ST and others had been instituted, Libtech found that 46% of the wage payments to SCs were completed in the mandated 7-day period, and 80% of the wage payments to SCs were completed in 15 days. This was 37% and 63% for STs. For the 'Other' category, only 26% of payments were completed in 7 days, and only 51% of payments were completed in 15 days.[29]

Since MGNREGA remains a lifeline in rural India, it is necessary to think again about how the promises of the Act can be restored. It is clear that while an electronic system may be useful, the essential management of the implementation must have to be decentralised. The electronic system and the centralisation have taken place ostensibly to curb corruption, which is a valid concern indeed. Therefore, a suitable combination of efficient implementation and equally efficient monitoring and social audit have to be found. This would require piloting a couple of new designs, and the time has come to do that to save the programme, which has already turned into another government scheme guided by bureaucratic inertia.

3.3.7. Van Dhan Yojana

One important policy intervention took place in 2018 in which minor forest produce gathered by forest dweller communities is purchased at a declared minimum support price through

Table 3.6. Implementation of Van Dhan Yojana[30]

States	No. of VDSHGs Approved	No. of VDKs Approved	No of Forest Gatherers	Money Approved (₹ In Million)	Revolving Fund to States (₹ In Million)	Infrastructure Support (₹ In Million)	MFP Procured (₹ In Million)
Andhra	6225	415	123258	61.62	8.28	7.09	9.5
Assam	7140	302	90316	45.30	6.7	70.8	
Bihar	120	8	1630	8.1			
Chhattisgarh	4170	139	41700	208.5	1536.6	99.0	859.1
Gujrat	1740	116	34424	172.1	62.2	49.7	6.4
Himachal	61	3	810	4.0			
Jharkhand	585	39	11601	56.9	467.2	3.9	20.5
Karnataka	1946	140	41748	208.7	12.5		3.6
Kerala	660	44	12038	59.7	348.9	35.7	6.7
MP	1605	107	32100	160.5	50.0	268.1	0.6
Maharashtra	3960	264	79350	396.0	50.0	32.5	11.9
Odisha	4110	170	51019	247.9	499.1		57.8
Rajasthan	7322	479	144803	713.5	2.0		
TN	192	8	2400	12.0	22.8		
Telangana	255	17	5100	25.5			
UP	375	25	7191	35.9	24.0	82.1	0.2
Uttarakhand	180	12	3605	17.9			

a collection mechanism of the forest SHGs collectivised in a Van Dhan Kendra. A Van Dhan Kendra consists of 10-15 SHGs formed by minor forest produce gatherers. Each SHG may have up to 20 members. Van Dhan Kendra forms the unit of livelihood generation and enhancements, including packing, sorting, transportation, processing, and sale at MSP. While the State Government has to make available, free of cost, land/building for the setting of the Kendra, the Central Govt. will provide for expenditure towards training, advocacy, raw material, tool kits, etc. The training programmes have been modified under Van Dhan Yojana to integrate training, value addition, packaging, branding & marketing activities to establish sustainable tribal entrepreneurship through a cluster-based approach. This will provide regular livelihood and income generation opportunities to tribal families. Let us look at the implementation of the programme so far.

Several observations can be made from Table 3.6. Firstly, the coverage is still abysmally low in all states compared to the number of forest gatherers; secondly, there is no correlation between the number of VDKs or the number of forest gatherers and the money released or the value of MFP procured. Thirdly, many states have either not reported data or may not have received any funds because of bureaucratic reasons. It's also not clear why the procurement varies so much among states, irrespective of the number of VDKs.

3.3.8. Agriculture Infrastructure Fund

This too is another policy response to generate post-production business opportunities in agriculture and allied sectors. Most agriculture-related investments of the union and state governments happen in supporting production. In comparison, the post-production investment is primarily made by the private sector. Therefore, to boost public investment, this fund has been created to support entrepreneurs in building facilities supporting packaging, sorting, processing, quality testing, transport, cold chain, and many related activities. In addition, the investment is intended to also focus on more sustainable production techniques. The government's budgetary support is, however limited to interest subvention of 3% for loans up to ₹20 million per annum for 7 years, credit guarantee support, and project PMU support. The actual investment in the projects is to be funded by commercial and cooperative banks and, in relevant cases, to be refinanced by NABARD. The interest rates offered varies from 4-9%.[31] The Agri Infra Fund is available for food crops as well as cash crops. The support is given to individuals, cooperatives, FPCs, SHGs, Federations of Cooperatives, etc. Some state governments have come forward to further support the interest subvention by providing subsidies, leaving the entrepreneurs to pay only about 1-3% interest on investments per annum. The portal provides the most relevant information, including some training videos regarding the application process but is silent on the progress of the scheme in terms of the number of applications received, state-wise-district-wise breakup, items, nature of applicants, etc.

Two years down the line, according to a reply filed in the Parliament on December 4th, 2021, a total of 8,488 projects have been sanctioned under the scheme with a loan amount of Rs 60.98 billion. Of this, ₹20.71 billion has been disbursed for 4,003 projects. Of the 8,488 projects, 60% or so has been awarded to Primary Agriculture Cooperative Societies (PACS), followed by agricultural entrepreneurs (2,576), farmers (685), Farmer-Producer Organisations (61), and the remaining by start-ups and others.[32]

This abysmally low performance can be explained by the fact that the facility is meant to support only small units; therefore, a good part of the private sector is not interested in this. Also, the capital subsidy offered by NABARD is a better option for small units. What is also lacking is preparing such entrepreneurs (individual or collective) through proper incubation programmes and business schoolings, for which no investment exists in the agricultural ecosystem. For example, most FPOs lack business management systems, entrepreneurial skills, understanding of markets, prices, logistics, cash flow, etc. Unless a large business incubation programme is instituted across the country, this programme does not seem to take off.

3.3.9. National Rural Livelihoods Mission

The NRLM is a continuing programme to organise households in an SHG-VO structure, to provide nurturing support to build institutions for the poor, and eventually help them to enhance their livelihoods by taking up new activities or improving upon the existing ones. This is the only programme dedicated to institution building; livelihoods support in terms of training, skilling, finance, financial inclusion, market linkages, convergence with the departmental scheme, etc. This is also the only programme that attempts to build connections between livelihood generation or enhancements and other aspects of the household wellbeing in terms of health, nutrition, and condition of women.

In terms of pure statistics, NRLM, a fourteen-year-old programme, presents impressive data.

The overall coverage is impressive, and the financial inclusion aspects in terms of savings, individual bank accounts, and revolving funds too are looking good. As expected, the aim of livelihood generation through individual or group enterprises is low in comparison. This is because for most families or even groups, starting up an enterprise in trade, production, and services, marks a shift from their usual livelihood-related work. Secondly, for women, who are either homemakers or labourers on the family farm, trade, or elsewhere, setting up an enterprise, however small it may be, marks an even bigger cultural-mental shift. Secondly, while NRLM can bring financial assistance, setting up and running an enterprise would require skill, technology, and market support, which requires an enterprise development ecosystem that is generally missing.

NRLM has tried to address these challenges through various convergence mechanisms. One such mechanism is Mission Antyoday, which aims to create a favourable ecosystem for enhancing and generating rural livelihoods, especially in backward districts. The unit of intervention here is a Gram Panchayat, where a combination of infrastructure improvements, social development and protection measures, and livelihood generation and enhancement measures are attempted in tandem to make sure that a favourable ecosystem is available for rural transformation and enhancement of rural livelihoods. While a good amount of data is available on the current status of the Gram Panchayats in the above three aspects of infrastructure, social development, and livelihoods, it's yet to be seen how this is changing through the intervention of Mission Antyoday.

The second one, closely related to Mission Antyoday, is NRLM's attempt to build convergence with GPDP and departmental schemes from the block and district levels. This Fundamentally means that Livelihood generation and enhancement are to be integrally built within the Gram Panchayat Development Plan and in the process, bring the resources of departmental schemes to make it happen. In addition, access to welfare and entitlement schemes (like MGNREGA) that improve household cash flow

Table 3.7. NRLM Overall Performance[33]

NRLM coverage in number of Blocks of the country	6845 Nos.
Number of households covered in SHGs	59.8 million
Number of SHGs formed	5.986 million
Number of Village Organisations formed	0.31 million
Number of SHGs as members of Village Orgs.	3.59 million
Total Savings mobilised (in ₹)	₹ 263.93 billion
Number of SHG members having own savings A/c	20.0 million
Number of SHGs received revolving Fund (CIF)	6.618 million
Number of group enterprises under Start Up Village Entrepreneurship Programme (SVEP)	0.506 million
Number of individual enterprises under Start Up Village Entrepreneurship Programme (SVEP)	0.165 million
Number of producers' Groups formed	0.414 million

must also be integrated into the household-level and GP-level development planning.

The SRLM of Assam has made a serious attempt to make this happen, and Table 3.8 indicates some promising aspects of the result.

The convergence activities included training, financial support, skill development, welfare entitlement access, marketing access, linkages with private sector CSRs and NGO programmes, etc. A glance at the data holds promises.

We hope such attempts of integration and convergence are pursued with rigour and continuity to achieve substantive results in due course of time.

3.4. Livelihoods Protection Measures

The spread of Covid Lock 19 and consequent lockdowns precipitated an unprecedented crisis in the livelihoods of most Indians. In response, the government came out with a PM Garib Kalyan Yojana (PMGKY) comprising additional allocation for MGNREGA work, food grains, specific support to migrant workers, frontloading PM Kisan instalments, etc. We take a look at the status of these interventions for the years 2021-22 and beyond.

One of the most critical parts of the PMGKY is an additional 5 kg of food grains for 800 million individuals free in addition to the entitlement under the national food security act 2013. First announced in March 2020, the scheme has so far undergone six extensions, the latest one being in last week extending the scheme to December 2022. The government has spent ₹0.34 million on this over and above its commitment to NFSA, and will spend another ₹440.00 billion for the next three months. Continuing the scheme even after 25 months must be a reflection of the felt need in the country and the government's resolve to continue the support.

On the other hand, the allocation on MGNREGA has undergone a drastic reduction from ₹1100.00 billion to ₹730.00 billion in 2021-2022 and that continues in the current financial year. This is despite the higher demand, as shown in the section on MGNREGA. In addition, all other cash support programmes, such as ₹500/- to women, frontloading ₹2000/- of PM Kisan

Table 3.8. Livelihoods Generation and Enhancement in GPDP in Assam[34]

GPDP Plans Include (Among Others)	Planned	Initiated
Animal Husbandry Projects in 2020-21	41158	21385
Group Animal Husbandry Projects in 2020-21	1550	712
Individual Micro-Enterprise Projects in 2020-21	30721	6967
Group Micro-Enterprise Projects in 2020-21	2222	538
Individual and Group Micro-Enterprise Projects in 2021-22 (Up to June 2022)	276072	73086
Individual and Group Animal Husbandry Projects in 2021-2022 (up to June 2022)	528995	159192

Table 3.9. Convergence Support From Various Departments in Assam[35]

Convergence Support of Various Kinds	No. of SHG Members
Vaccination Support from Animal Husbandry Department	1.203 million
Procurement Support for NTFP Collection	15600
Support to Organic Farming, Soil Testing, etc	28525
Pisciculture Promotion Support	10,002
PM Food Enterprises Scheme Support	5585
Handloom Textiles Department Support	604

instalments, ₹1000/- support to elderly persons, and cash support to migrant workers have been withdrawn. As of today, only the food grain component of the PM Garib Kalyan Yojana continues, other than the extension of the Health Insurance Policy to 31st March 2022 given to the health workers given in 2020-21.

One other intervention which grew in emphasis is to universalise access to rations across the state and the nation. This was named the One Nation, One Ration Card scheme (ONORC). This seems to be slowly picking up as the following data suggests.

The data clearly shows that the uptake of ration by intra-state migrants is by far ahead of the inter-state migrants. In the absence of national-level seasonal migration data, it's not possible to compare the progress with the target, but as an initiative emphasised only in the last three years, this is certainly optimistic. Interstate integration is far more difficult because of language and other technical issues. Bihar, Haryana, Rajasthan, Uttar Pradesh, and Andhra Pradesh dominate the intra-state transactions of ration cards by migrants ranging from 24% in Bihar to 15.3% in Uttar Pradesh.[37]

While the overall scenario is slowing improving, challenges do exist and need to be addressed. A small study conducted on the implementation of the ONORC scheme found the following.[38]

- Only 9 states have done more than 99% of ration cards linked with AADHAR, a prerequisite for ration card portability, followed by 4 states with more than 95%, 4 states above 90% but below 95%, and 13 states are still lagging at below 80%.
- Five states such as Andhra Pradesh, Bihar, Rajasthan, Haryana, and Uttar Pradesh, drive 60% of portable transactions.
- Only 20% of migrants tried to use the portability option to pick up ration
- 66% of ration dealers received ration cards not registered to their shops, and 28% of them had difficulty in serving the requests.
- 59% of the failures to serve were due to biometric failure, 57% were due to internet connectivity, 32% were due to stock out at the shops,

The study identifies many challenges, only a few of which are listed above. Overall, it seemed that the challenges are mostly on the supply side in terms of dealers' preparedness, state dictate, technology, and logistics.

Table 3.10. Implementation of One Nation One Ration Card Scheme[36]

nos of Ration Cards Transacted by Migrants	Intra-State (nos. in Million)	Inter-State (nos.)	Nos of Ration Cards Transacted by Migrants	Intra-State (nos. in Million)	Inter-State (nos.)
April 2021	11.9	2159	April 2022	13.5	12451
May 2021	11.5		May 2022	13.7	11571
June 2021	16.5	2514	June 2022	14.0	5961
July 2021	12.0	3448	July 2022	8.0	9337
August 2021	13.0	5902	August 2022	8.2	11169
September 2021	12.5	8023			
October 2021	14.3	10257			
November 2021	13.2	9769			
December 2021	12.1	12750			
January 2022	13.7	13211			
February 2022	11.4	13524			
March 2022	11.5	13428			

3.5. Concluding Remarks

Overall, the policy and programme response reflect a conservative approach to livelihood generation, revival and enhancements. Programmes requiring cash outgo from the government, like MGNREGA or PM Kisan, or liquidity infusion to MSMEs and their workers have seen a reduction or marginal growth in allocation. Programmes to generate individual or collective self-employment have not seen the required boost needed in the post-Covid scenario. Except for the food grain allocation, no other programme has seen a sustained continuity at the same level. Fortunately, agriculture has performed a little above its expectations, which, together with MGREGA and PDS support, have protected the vast majority of rural poor from widespread hunger. However, the vast informal sector with micro-enterprises dominating the landscape did not see a robust policy response. This sector needs urgent and special attention for the next years to revive India's livelihoods scenario.

Notes

1 Surbhi Kesar, et al. *Canadian Journal of Development Studies*, 42: 1-2: Pages 145-164 (specifically read Table 1, 4, 5)

2 https://cse.azimpremjiuniversity.edu.in/covid19-analysis-of-impact-and-relief-measures/#other_ this link contains links to all the surveys conducted by various institutions.

3 https://www.rcrc.in/wp-content uploads/2021/03/RCRC_householdsurvey round3.pdf slide 12

4 https://m.rbi.org.in/scripts/PublicationsView.aspx?id=21035 (downloaded on 14th September 2022, Table I.2)

5 https://economictimes.indiatimes.com/news/economy/finance/paeg-flags-acute-shortage-of-funds-under-mgnrega-govt-says-committed-to-its-proper-implementation/articleshow/87395606.cms?from=mdr (downloaded on 14th September 2022).

6 https://unemploymentinindia.cmie.com/kommon/bin/sr.php?kall=wsttimeseries&index_code=050050000000&dtype=total (downloaded on 15th September 2022).

7 https://prsindia.org/budgets/parliament/union-budget-2021-22-analysis (downloaded on 15th September 2022). See Table 6 on the PDF version on page 6.

8 https://msme.gov.in/sites/default/files/Impact-of-Budget-2021-22-on-MSME-Sector.pdf (downloaded on 15th September 2022).

9 https://cse.azimpremjiuniversity.edu.in/wp-content/uploads/2021/05/SWI2021_Background_Paper1_Rathore_Khanna.pdf; pages 7-9. Also see https://www.dnb.co.in/file/reports/Whitepaper_Impact-of-COVID-19-on-Small-Businesses.pdf, pages 6-7. Downloaded on 15th September 2022.

10 https://www.newsclick.in/COVID-MSMEs-union-budget-2022-23 (downloaded on 15th September 2022).

11 https://www.cgtmse.in/DocumentRepository/ckfinder/files/CGTMSE%20English%20AR%20FY%202021%20Final.pdf page 09, downloaded on 15th September 2022, and National Credit Guarantee Trustee Company Limited annual report page 14.

12 https://cse.azimpremjiuniversity.edu.in/wp-content/uploads/2021/05/SWI2021_Background_Paper1_Rathore_Khanna.pdf; page-11,

13 Ministry of MSME Annual report 2021-2022, page 27.

14 See https://cse.azimpremjiuniversity.edu.in wp-content/uploads/2021/05/SWI2021_Background_Paper1_Rathore_Khanna.pdf; pages 7-9

15 Parliamentary committee report number 315 of 21st March 2022, page 4.

16 https://massentrepreneurship.org/wp-content/uploads/2022/06/Delayed-Payments-Report.pdf (page 13, downloaded on 17th September 2022).

17 https://www.kviconline.gov.in/pmegpeportal/pmegphome/dashboard.jsp (downloaded on 16th September 2022).

18 315th Report of the Parliamentary Committee report on industry, page 7.

19 https://static.pib.gov.in/WriteReadData/specificdocs/documents/2022/mar/doc202231124301.pdf (downloaded on 19th December 2022).

20 https://cprindia.org/wp-content/uploads/2022/06/Pradhan-Mantri-Kisan-Samman-Nidhi_2022-23.pdf (downloaded on 18th September 2022).

21 https://pmfby.gov.in/adminStatistics/dashboard downloaded on 18th September 2022

22 https://www.thehindubusinessline.com/data-stories/data-focus/data-focus/article64926359.ece downloaded on 18th September 2022

23 https://www.telegraphindia.com/india/odisha-farmers-face-payment-delay-in-pradhan-mantri-fasal-bima-yojana-scheme/cid/1876453 downloaded on 19th September 2022

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25 https://www.financialexpress.com/economy/unsettled-fasal-bima-claims-rise-as-states-delay-premium/2212543/ downloaded on 19th September 2022

26 https://prsindia.org/policy/report-summaries/pradhan-mantri-fasal-bima-yojana-an-evaluation downloaded on 19th September 2022

27 Please see the papers https://journals.sagepub.com/doi/abs/10.1177/2319714520966084 and https://www.epw.in/journal/2021/19/perspectives/pradhan-mantri-fasal-bima-yojana-20. html ; https://eprajournals.com/IJMR/article/4789 (downloaded on 19th September 2022)

28 Author's tabulation based on NREGA.nic.in reports

29 http://libtech.in/wp-content/uploads/2021/11/Heavy-Wait_LibTech_NREGAPaymentDetails-CastePaymentType_AprilSep2021_FINAL.pdf (page 5, downloaded on 19th September 2022).

30 Author's tabulation based on Annual Report of the Ministry of Tribal Affairs, 2021-2022, pages 113 to 117.

31 https://agriinfra.dac.gov.in/Home/InterestRate (downloaded on 20th September 2022).

32 https://www.business-standard.com/article/economy-policy/more-takers-for-infra-fund-among-primary-farm-co-ops-than-large-layers-122012600927_1.html (downloaded on 20th September 2022).

33 Compiled (PROGRESS UPTO MARCH) Report of All MPR Indicators for (2021-2022)All States, downloaded in excel file on 21st September 2022.

34 Presentation by Dr. Rousy Baruah, personal communications dated 15th August 2022

35 IBID

36 Author's calculation using the data available in the dash board of https://impds.nic.in sale/stateUnautmated?month=7&year=2021 (downloaded on 25th September 2022).

37 IBID

38 https://policyinsights.in/wp-content/uploads/2022/04/ONORC-report_April-2022-2 (pdf downloaded on 26th September 2022).

Tackling Extreme Poverty

4

Royston Braganza

4.1. Introduction

GOOOOOOOOOOAAAAAALLLLLL! This word now becomes commonplace in a world in the throes of FIFA World Cup fever. The frenzied celebration that reverberates across the globe every time a goal is scored reflects the seemingly universal passion for the game. Football – much like music, food, arts, dance, etc. - cuts across generations, blurs political boundaries and traverses ethnic divisions.

Sadly, other things do too – hunger, refugee crises, deprivation of the girl child and global warming, to name a few. Tragically, extreme poverty is one more such global malaise Like football *goals*, Sustainable Development GOALS (SDGs) too need to become ubiquitous.

4.2. Extreme Poverty on the Global Scale

4.2.1. Snapshot

Across much of the world, extreme poverty seems to have raised its ugly head, and its impact is seen in the concerning trend in human development indices. Human development encompasses issues that depict the overall health of a nation, including a long and healthy life, a decent standard of living and a strong education system. However, in a first, the Human Development Index (HDI) has declined for two years in a row (UNDP 2022). This presents a grave problem in the ongoing fight against poverty, deprivation and injustice.

4.2.2. Pandemic and Worldwide Economic Upheaval

Almost every country has seen reversals in human development in the last two years. The share of countries that have shown declines in the last year has been higher than ever, with an even greater number than in the 2008 financial crisis (UNDP 2022).

More people have been pushed into poverty than ever before. As per the Bill and Melinda Gates Foundation's Goalkeepers Report 2021, an additional 31 million people from around the world

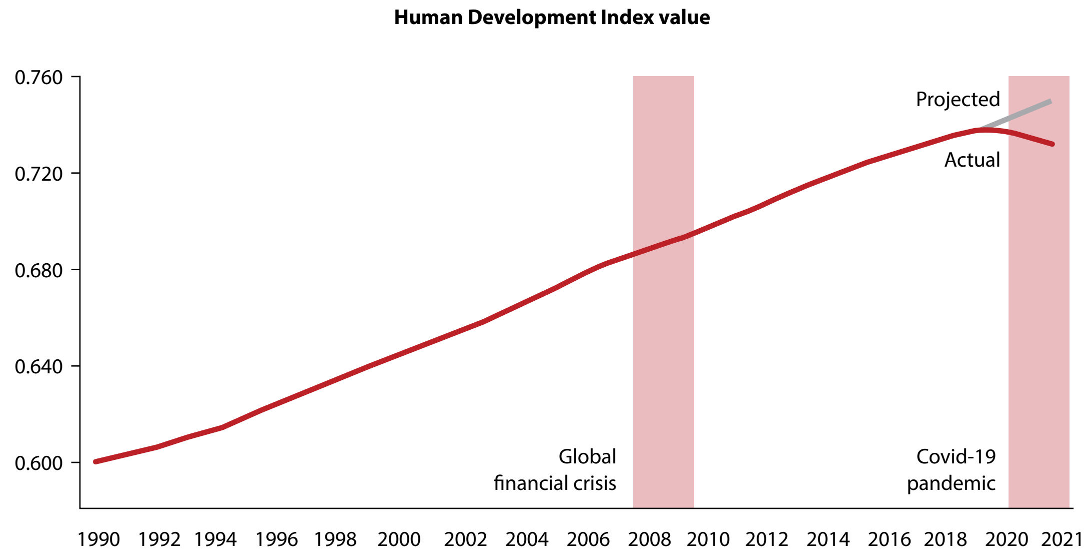

Figure 4.1. The Human Development Index Value (UNDP 2022)

Note: The period of the global financial crisis is indicative.

Source: Human Development Report Office calculations based on data from Barro and Lee (2018). IMF (2021c, 2022), UNDESA (2022a, 2022b), UNESCO Institute for Statistics (2022), UNSD (2022) and World Bank (2022c).

have been pushed into poverty since the pandemic. The economic and social effects of this poverty will be disproportionately borne by women.

4.2.3. Growing Mental Distress and Poverty - A Rising 'Uncertainty Complex'

While there have been massive strides in technology that have created great progress in development, new layers of uncertainty are interacting with each other in order to create a new 'uncertainty complex' (UNDP 2022). From the war in Ukraine to the Covid-19 pandemic, the world seems to be in a state where it is lurching from crisis to crisis, causing a great deal of insecurity. This pervasive feeling of fear and uncertainty even predates the pandemic. The UNDP found that six out of seven people reported feeling insecure about many aspects of their lives even before the pandemic. .

In order to drive change, intergenerational cycles of mental distress and socio-economic hardship need to be challenged. Mental distress is associated with poor education achievements (Brännlund, Strandh and Nilsson 2017), low productivity at work (Bubonya, Cobb-Clark & Wooden 2017), poverty (Callander and Schofield 2018), premature and excess mortality (Saxena 2018) and poor overall health.

Certain vulnerable groups of the population are adversely affected by socio-economic stressors such as repeated financial shocks, persistent low incomes, food insecurity and unemployment. People with mental health conditions such as bipolar disorder, depression and schizophrenia tend to earn less and therefore face even greater income insecurity, which can cause even more mental distress. The circular relation has been found to nearly double the negative impact of financial shocks, explaining low financial resilience in long-term mental distress–poverty trap (Alloush 2022). This relationship between mental distress and financial insecurity can perpetuate income inequality across generations.

4.2.4. Areas of Conflict

Worldwide ~1.2 billion live in conflict-stricken areas (Steiner 2022). Poverty and conflict are closely interrelated. Sustained conflict creates damage to infrastructure, institutions and production; the destruction of assets; the breakup of communities and social networks; forced displacement and increased unemployment and inflation (Rohwerder 2014), which intensifies poverty. Conversely, countries that face chronic poverty are more prone to civil war, and armed conflict weakening governance and economic performance, thus increasing the risk of conflict relapse (Goodhand 2003).

Major conflict also has significant ripple effects on economies across the globe. The Ukraine conflict has led to spikes in food, energy and fertiliser costs across 74 other countries. The UNDP emphasises the importance of investing in development at times like these more than ever, stating that 'Decisions to boost military spending and disinvest in development, for instance, will lead only to a more fractured global community that will be poorer, less innovative and more prone to conflict. Development is both the only lasting solution to the crisis and the best means to prevent it' (Steiner 2022).

4.3. Extreme Poverty

The world's population of the 'extreme poor', defined as those living on less than $1.90 per person per day, called the global extreme poverty line (World Bank 2016), is rather unevenly distributed. It is estimated that around half of the worlds extremely poor live in just five countries, viz India, Bangladesh, Nigeria, Democratic Republic of Congo and Ethiopia It is worth noting that these countries are the most heavily populated in the South Asian and Sub-Saharan African regions, which account for ~85% of the world's poor. (Katayamadivya 2019).

The fight against extreme poverty has been very successful over the last few decades. Between 1990 and 2015, the number of people living in extreme poverty fell from 1.9 billion to 700 million. (Hoddinott & Doruska 2021) However, with worsening inequality and the economic upheaval of the pandemic, it is feared that there will be a marked increase in the extremely poor. This may be a result of rising global food prices (which threatens to lead to 65 million more into extreme poverty), sharp cost of living increases and high government debt (which forces governments to slash public spending).

4.3.1. Current Policy and Efforts

The growing economic insecurity in the past few years has pointed to a need for better, more robust social security infrastructure. According to the UN, social protection and risk protection can go a long way in mitigating the effects of shock on vulnerable populations. It delivers economic returns, creates new jobs, draws in more taxes, reduces poverty and barriers to women working (Steiner 2022).

During the pandemic, countries with comprehensive social protection systems were able to quickly scale up and cushion some of the blow from the crisis. (Blofield, Giambruno & Pribble 2021; Lustig et al 2021). In developing African nations, government safety nets are a newer measure. (World Bank 2014). Across African countries, a number of countries are actively employing social nets for the poor, and some of these programmes target specific vulnerable populations. For example, Tanzania Social Action Fund, Ghana's Livelihood Empowerment against Poverty program, and Kenya's Cash Transfer for Orphans and Vulnerable Children program. In countries like Rwanda and Tanzania, the ministries of finance, economy and planning are backing institutionalised programs (World Bank 2014).

The UNDP Strategic Plan for 2022-25 hinges on pursuing change at a systemic level via three key pillars - structural transformation (working with countries to amend systems and shape sustainable development), leaving no one behind (focusing on rights around inclusion, equity, human agency and human development), and building resilience (strengthening institutions and countries in order to prevent and lessen the impact of conflict, disaster and socio-economic shocks). These solutions are to be supported by enablers to maximise impact, such as support in digitalisation, strategic innovation and development financing, bringing together public and private capital flows with SDGs.

4.4. Sustainable Development Goals

The Sustainable Development Goals (SDGs), as set by the UN, are a set of goals for countries to achieve by 2030. SDG. Goal 1 aims to eradicate poverty in all forms everywhere (UN 2015). There are many interlinkages between eradicating poverty and some of the other goals outlined that concomitantly lead to uplifting poverty across multiple dimensions.

4.4.1. Vaccination and Immunisation

SDG 3 calls for ensuring healthy lives and promoting the well-being of all (UN 2015). There is a negative, moderate and statistically significant correlation between global MPI value and coverage of DTP3: some of the poorest countries (South Sudan, Chad, Central African Republic, Guinea) vaccinate less than half of surviving infants with the DTP3 vaccine (United Nations Development Programme [UNDP] and Oxford Poverty and Human Development Initiative [OPHI] 2020). Effective immunisation programmes and overall physical health can help reduce poverty and stave off medical impoverishment for many families (Gavi 2018).

One study estimates that for every 1 USD spent on immunisation, 16 USD is saved in healthcare costs, lost wages and lost productivity due to illness. When the fact that post immunisation, people live longer, healthier lives is taken into account, this number goes up to 44 USD (Ozawa et al. 2016).

4.4.2. Education

SDG 4 encompasses equitable and inclusive education systems (UN 2015). In Sub-Saharan Africa, most people who are multi-dimensionally poor are also deprived of years of schooling. Education and poverty share an inverse relationship. There are overlapping intersectionalities to be considered in this case, such as gender. In Mali, the mean years of schooling of adults older than 25 are higher for men than for women across all four poverty groups. (United Nations Development Programme [UNDP] and Oxford Poverty and Human Development Initiative [OPHI] 2020)

4.4.3. Climate Change and the Environment

The poorest sections of society bear the greatest brunt of the effects of climate change. On the one hand, they are vulnerable to immediate environmental threats, and on the other hand, 'poverty can aggravate environmental problems through unsustainable practices of use of natural resources' (United Nations Development Programme [UNDP] and Oxford Poverty and Human Development Initiative [OPHI] 2020: 28). Environmental deprivations contribute 24.6 per cent to the Multidimensional Poverty Index (MPI) on average—a much higher share than their weight of 17 per cent (United Nations Development Programme [UNDP] and Oxford Poverty and Human Development Initiative [OPHI] 2020).

4.5. India and Extreme Poverty

4.5.1. Overview

India is one of the world's fastest-growing economies. However, it is also home to one of the largest populations of people in extreme poverty. (In fact, India held the largest population in extreme poverty until 2018, when Nigeria overtook it). India's scope for poverty alleviation is immense and has long been a subject of great attention and scrutiny.

India has made efforts to measure and tackle poverty in the country since its pre-independence days. For example, Dadabhai Naoroji's book 'Poverty and Un-British Rule in India' had one of the earliest estimates of the poverty line at 1867-68 prices (₹16 to ₹35 per capita per year). Since then, there have been many revisions to the poverty line, notably the Tendulkar Expert Group (2009), which recommended shifting the estimates of poverty lines from calorie norms to targeted nutritional outcomes.

India ranks low on a number of key global poverty indicators that measure poverty in multiple dimensions. India ranked 62 out of 74 countries studied by the World Economic Forum's Inclusive Development Index, falling behind other countries in the subcontinent, with Nepal, Bangladesh and Sri Lanka ranking higher on this index. Among BRICS nations, India only outperformed South Africa and Pakistan. The report published by WEF points out that despite the decline in poverty rates in India, 6 out of 10

Indians still live on less than US$3.20 per day, highlighting the scope for poverty alleviation in the country.

The World Economic Forum's Inclusive Development Index (2018) ranks India at 62 out of 74 emerging economies behind neighbours Nepal (22), Bangladesh (34) and Sri Lanka (40), with only South Africa (69) and Pakistan (74) ranked lower among BRICS nations. The same report estimates 6 out of 10 Indians live on less than US$3.20 per day.

In the wake of the pandemic, progress in human development has stalled for many countries.India ranks 132 out of 191 countries and territories on the 2021/22 Human Development Index, tracking the global decline in human development. India's latest score on HDI is 0.633, a drop from its value of 0.645 in the 2020 report (UNDP 2022).India's fight against multidimensional poverty and supporting human development has seen some progress, particularly in efforts to meet the 2030 targets for the Sustainable Development Goals (SDGs). Overall, India's SDG score has improved from 2019 to 2020-21, jumping up 6 points to 66. This improvement is largely attributed to sweeping success in Goal 6 (Clean Water and Sanitation) and Goal 7 (Affordable and Clean Energy) across the entire country.

Goal 1, which encompasses the aim of eradicating poverty in all forms and dimensions, has seen progress with varying levels of success among different states (as shown in Fig.1.). Tamil Nadu and Delhi are the top performers among the States and the UTs, respectively. Seventeen States and seven UTs bagged a position in the category of Front Runners (score range between 65 and 99, including both). However, six states fell behind in the Aspirants category (with Index scores less than 50). However, NITI Aayog reports several key successes in this goal, stating that 270 million people have been lifted out of multidimensional poverty, and marked the success of government programmes such as MGNREGA and Pradhan Mantri Matru Vandana Yojana (NITI Aayog 2021).

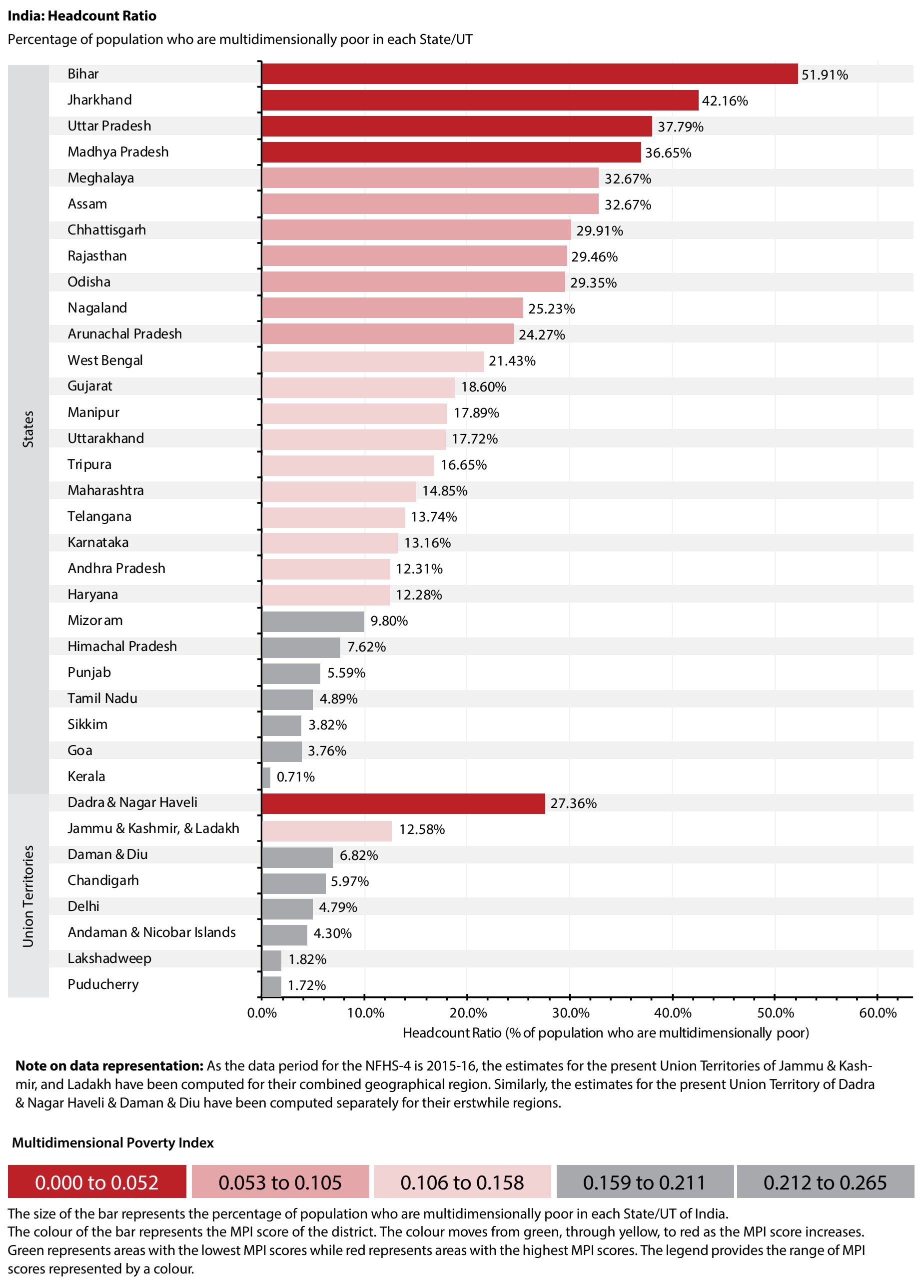

Figure 4.2. Percentage of the Population who are Multi-Dimensionally Poor in Each State/U.T. (NITI Aayog, 2021)

4.5.2. Extreme Poverty

The World Bank defines 'extreme poverty' as living on less than $1.90 per person per day, called the global extreme poverty line (Revenga 2016). A 2019 study by the World Bank suggests that while India has been able to reduce the number of extremely poor in the country, the rate of this decline has started to wane. Despite the fact that extreme poverty was 12.3% lower in 2019 than in 2011, poverty alleviation occurred at a faster rate in the 2004-11 period. However, poverty reduction rates in rural areas have been higher than in urban areas. The study points out that these declining rates are due in part to the fact that there have been two incidences of rising poverty in the 2011-19 period of study - urban poverty grew by 2% in the wake of demonetisation in 2016, and rural poverty increased by 10% in 2019, owing to a slowdown in growth (Sinha Roy & Van Der Weide 2022).

An additional lens of analysis when dealing with poverty is the issue of chronic or 'long-term' poverty. DEEP takes into account groups in India that face a heightened likelihood of being chronically poor (i.e., long-term poor) or that face a heightened risk of falling into poverty, even if they are currently non-poor when studying poverty in India. This lens is significant as it takes into account the failings of short-term policy and success, highlighting the need for viable long-term solutions that create income-generating opportunities for the poor and ensure that they are lifted out of poverty for good.

The study divides the state of poverty into poor, vulnerable and secure, where 'vulnerable' are those that are currently not characterised as poor but face the risk of landing back into poverty. They find that transitioning out of poverty into the 'secure' category is very rare, and most people lifted out of abject poverty landed into the category of the vulnerable.

Studying the period between 2004-5 and 2011-13, 18% of the population studied was found to be 'chronically poor'. Of the 37% estimated to be poor, roughly half were unable to escape from poverty. While just over 40% of the population could be considered vulnerable in 2004/5, an estimated 6.4% had dropped back into poverty by 2011/2, and another 19.4% continued to face a heightened risk of falling back into poverty. They make the argument, 'While India's economy grew markedly during this period, and overall poverty levels fell, the chronically poor and vulnerable possess characteristics that would make them likely to experience reversals during a period of generalised contraction.' (Dang et al. 2021).

4.5.3. Covid-19 and Extreme Poverty

When the Covid-19 pandemic hit India, it created a slew of previously unprecedented health and economic problems. As the virus wreaked havoc through the country, businesses stagnated, migrant workers in cities were laid off en masse and forced to return home, and in the sphere of economic and social progress, efforts to reduce poverty were stagnated and, in some ways, significantly reversed.

Worldwide, it is estimated that there has been an increase of 97 million extremely poor in 2020 and a reduced 76 million in 2021(World Bank 2021). Extrapolating this data to India, some estimate the poverty increase estimate in India to be in the range of 32-230 million in 2020 (Kochhar 2021; Basole et al. 2021).

Tracking the effects of the pandemic on income levels, inequality and poverty across the lockdown periods, the immediate aftermath and through the long recovery post the second wave in 2021, a study from APU has shown that all-India household income dropped between 30 to 38 per cent during the months of the nationwide lockdown of April and May 2020. In the post-lockdown period, households, on average, continued to make 16 to 19% lower cumulative income but have shown a recovery in the second half of 2021. In the months of April and May 2020, 20% of the poorest did not earn any income. This contributed to an increase in poverty by 15 per cent in rural and 20 per cent in urban areas. Poverty coupled with less/no savings and productive resources has dragged households into a 'poverty trap'.

Poverty more than doubled during the lockdown and was 50-80% higher immediately post-lockdown. Post the second wave; poverty was still slightly higher than pre-pandemic levels.

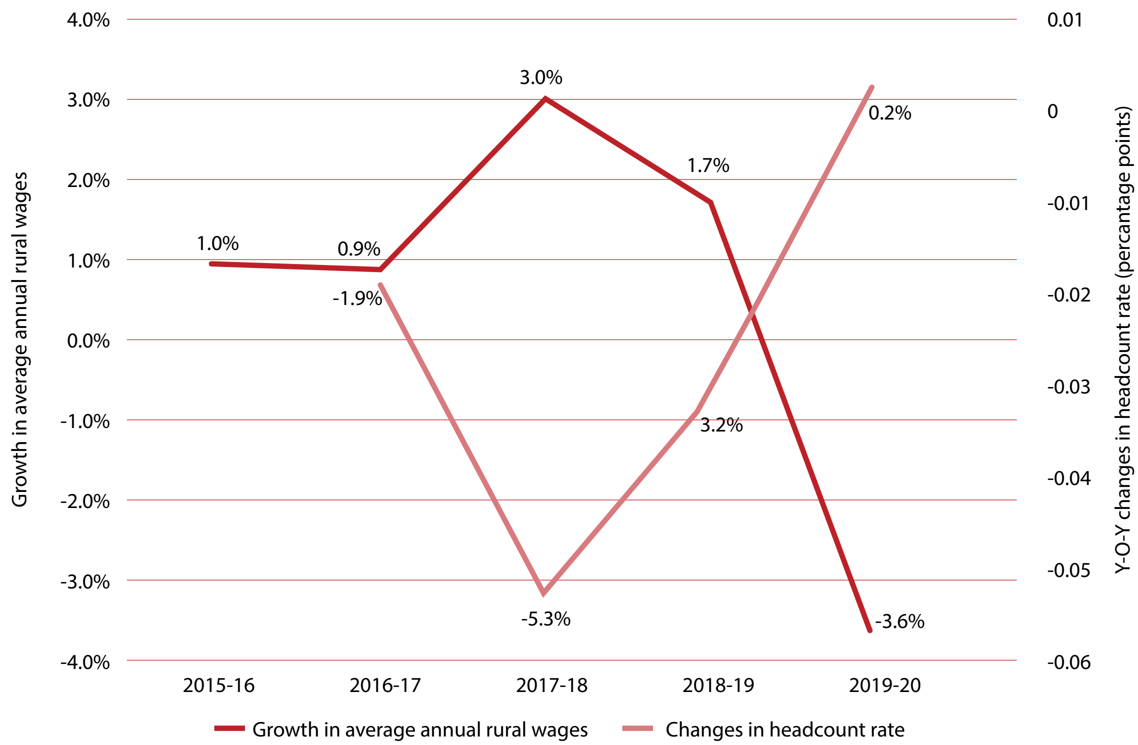

Figure 4.3. Relationship Between Real Rural Wage Growth and Rate of Rural Poverty Reduction

Source: Sutirtha and Roy (2022), Poverty in India has declined over the last decade but not as much as previously thought, Policy Research Working Paper, World Bank Group

It is worth noting that progress that would have normally been made in poverty reduction during that time was lost. Without the pandemic, poverty would have declined by 5 per cent in rural areas and 1.5 per cent in urban areas between 2019 and 2020, considering the previous years' trends. The number of individuals below the national minimum wage threshold (₹375 per day as recommended by the Anoop Satpathy committee) increased by 230 million during the pandemic. Approximately 50 million would have been lifted above this line had the pandemic not occurred.

During the lockdown, the proportion of individuals increased two-fold for the rural population at 62% and three folds at 56% for urban areas. The proportions were 36% and 24% for rural and urban areas post the second wave period.

Inequality too spiked during the pandemic but returned to pre-pandemic levels after the second phase. It was found that the initial shock of the lockdown was more severe for the bottom of the income distribution, but the bottom also experienced a faster recovery. On

Area	Pre-Covid	Lockdown	Post-Lockdown	Second Wave	Post-Second Wave
Rural	32.27	63.62	41.04	45.99	35.8
Urban	17.83	55.88	27.93	34.6	24.11

Figure 4.4. Percentage of Individuals Below the National Minimum Wage

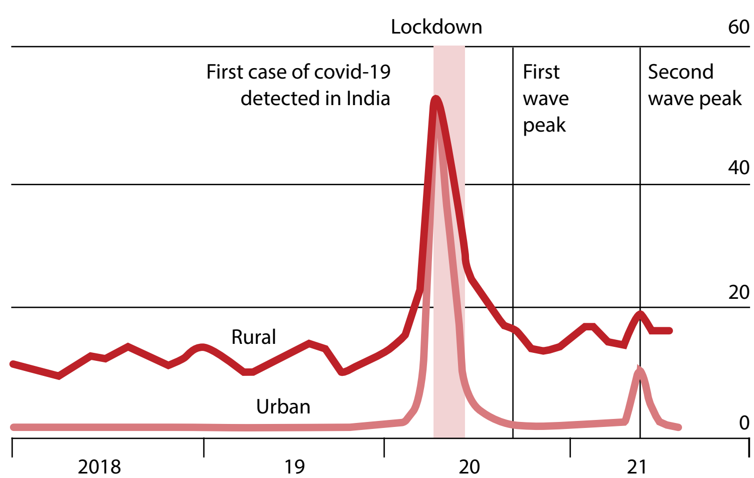

Figure 4.5. Shock and Convergence of Proportional Extreme Poverty in India in Pre and Post Lockdown

the other hand, the top end of the distribution experienced smaller declines during the lockdown, but they have been slow to recover. (Jha and Lahoti 2022).

4.6. Marginalised Groups

Even as India's economic growth is tremendous, the gains from that growth are not evenly enjoyed by all sections of society. Historically, there has been greater progress in states and social groups that were already better off to begin with.

These intersectionalities need to be considered when dealing with poverty, as it is an issue that affects people differently depending on gender, class, caste and religion (World Bank 2020).

There are several extenuating factors that can help mitigate poverty. An important one to consider is the role of education. Research has shown that chronic poverty becomes less likely once the household head has primary schooling or higher. The likelihood of chronic poverty diminishes as education levels rise. Even a little education helps protect against chronic poverty (Dang et al. 2021).

4.6.1. Rural India

On the whole, rural workers have higher odds of belonging to the chronically poor, while urban workers are less exposed. Further, chronic poverty disproportionately affects rural workers in the agricultural space (Dang et al. 2021).

As per the NITI Aayog Multi-Dimensional Poverty Report (NITI Aayog 2021), while ~25% of the country is multi-dimensionally poor, in rural areas, this ratio goes up to ~33%. In comparison, the urban poverty rate stands at ~9%. This pattern of the population being predominantly a rural issue was the same across all states and Union Territories (except in Delhi, which is a city-state).

Migrant workers were significantly more likely to be laid off than similar non-migrant workers – rural migrant workers were 73.9% more likely, and urban workers were 50.7% more likely, to lose their job than their non-migrant counterparts (Kesar et al. 2020).

It is worth mentioning that rural poverty in India and urban poverty in India differ from each other in several key ways. Although there are some basic commonalities that define these strata of society as poor - inadequate employment, food, healthcare, and education, as well as access to information and a lack of representation in the areas in which they live. For both the rural and the urban poor, their ability to influence decision-making is superseded by the organised and richer social classes.

Urban poor face a lack of basic services and adequate housing in a way that the rural poor do not. In big cities, the poor end up living in slums or informal housing, which are not sufficient for families to live in. Furthermore, as these dwellings are not legally authorised and are built illegally, they always run the risk of being evicted at any time. There is also a major problem in sanitation and infrastructure that the urban poor have to face - a lack of drinking water, toilet facilities, clean air and ventilation. They are also more vulnerable to crime and face dangers such as extortion.

In rural India, the disparity between the rich and the poor is not the same as in cities, as society is less stratified. Villages do face a dearth of certain consumer products that are widely available and enjoyed in cities, but this lack is largely consistent across different economic groups. In cities, however, the deprivations of poverty are very apparent, and this has a bearing on the psychology of the urban poor.

In the past, all poverty has been viewed in a rural light. While rural India remains poorer than urban India, the policies required to alleviate poverty in both sections cannot be the same. The urban poverty problem needs to be contextualised with the appropriate legal and institutional frameworks, employing urban planning measures and overall policy to target this population specifically.

The Union Rural Development Ministry has suggested that the poverty line should not solely be defined by the subsistence level income required by an individual but will need to factor in living standards as well as facilities such as housing, education and sanitation (Jha 2020).

4.6.2. Women

Women are underserved on a number of factors that are related to poverty. Despite making up 48% of the population, they have not benefited from India's economic growth. Men outperform women in literacy rates (80% of men are literate as compared to 65% of women) (World Bank 2019) and labour force participation rates (which have actually declined since 2004-05 at 42.7% to 25.1% in 2021). Women seem to have withdrawn from the workforce. There is also a significant wage gap that exists in regular and self-employment in urban areas. Men earn ₹15996 on average, and women earn less than half with ₹6626. As a result of this wage gap, households where females are the primary breadwinner, tend to be poorer.

Gender equity has a strong positive impact on the labour force and on GDP growth. All across the world, in nations at all levels of development (particularly middle-income countries, according to the IMF). The World Economic Forum estimates that raising women's participation in the labour force can increase India's G.D.P. by 27%. Per capita incomes are estimated to rise by as much as 14% by 2020 and by 20% by 2030 if women's paid employment rates were raised to the same level as men's in 15 major developing economies.

There are clear and overwhelmingly positive benefits to having women in the workforce. In India, the existing social structure has women relegated to household duties and domestic chores that constitute unpaid labour. Most women between the age of 30-50 report that they attend to domestic duties only.

Unpaid labour has been addressed under SDG 5, which focuses on achieving gender equality. Target 5.4 states, 'Recognise and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.'

Women who are multi-dimensionally poor also face a greater deal of intimate partner violence and are at higher risk, facing uncertain living conditions and reduced financial independence within the household (UNDP and OPHI 2021).

Women are also more likely to carry the burden of the pandemic's effects on employment. Despite only 20% of all Indian women being employed, among those women that are employed, 90% are involved in informal employment – and thus face the associated vulnerabilities.

4.6.3. Scheduled Castes

According to the recently published Global Multidimensional Poverty Index 2021, five out of six multi-dimensionally poor people in India live in households whose head is from a Scheduled Tribe (ST), a Scheduled Caste (SC), or Other Backward Class (OBC).

Half of India's tribal people (ST group), 65 million out of 129 million, live in multidimensional poverty. As estimated, 94 out of 283 million dalits live in multidimensional poverty. These groups are disproportionately poor. In addition to issues with chronic poverty, Dalits are exposed to extreme violence and caste-based discrimination (IDSN 2021).

This group is also vulnerable as they are often reliant on low-paid informal jobs that require migrating to urban areas. As per the NSSO, scheduled castes account for the most households dependent on income from casual labour. They are also less likely to have access to public funds. According to one study on this subject, 54% of Scheduled Caste members did not receive any type of cash transfer during the first-wave nationwide lockdowns, which is considerably higher than the percentage for the other socially disadvantaged castes, namely Scheduled Tribes (46%) and Other Backward Castes (44%) (Dang et al. 2021).

4.6.4. Particularly Vulnerable Tribal Groups (PVTGs)

The Government of India has identified certain communities as 'Particularly Vulnerable Tribal Groups' (PVTGs). Often settled in small clusters near forest areas, PVTG groups experience high levels of poverty, low literacy rates, and geographic isolation. These groups are also highly marginalised due to social and legal discrimination, linguistic barriers, and lack of access to agricultural technology and land. They adopt livelihood options based on the ecosystems in which they live, primarily focused on gathering and selling Non-timber Forest Produce (NTFPs) such as Tamarind, Saal Leaves and Mahua. Lacking access to markets and pricing information, PVTGs are often exploited by middlemen and buyers who aim to procure forest produce at very low prices. Tribal communities are unable to equitably benefit from their hard work, and the majority of product profits flow to other members of the value chain. Without productive assets or sustainable sources of income, these tribal communities struggle to meet basic consumption needs and are extremely vulnerable to life shocks, keeping them trapped in the vicious cycle of poverty. The ongoing COVID pandemic has augmented their vulnerability, often resulting in distressed sales to raise much-needed funds for basic needs. Approximately 19,000 PVTG households also live in areas with 'high' or 'extreme' climate vulnerability, further prohibiting their ability to successfully grow produce (Government of Jharkhand 2014).

PVTG women, in particular, experience even higher levels of discrimination and gender-based violence, exacerbated by caste and gender dynamics (Sharma, 2018). Organisations like Trickle Up recognise the unique set of challenges PVTGs face and, in the last decade, have witnessed a growing need to equip landless PVTGs in Jharkhand with climate change adaptation strategies to ensure livelihood development amid the climate crisis. Climate adaptation protocols are already being employed with populations that have access to land, but there is little understanding of how these strategies can be adopted by landless PVTG women to improve their economic and social well-being and climate resilience.

The Jharkhand State Rural Livelihood Mission (JSLPS) is the first SRLM to set up a 'Special Protection Cell - PVTG & Ultra Poor Development'. Trickle Up and other civil society organisations are working to help PVTG populations access their government entitlements, gain economic opportunity and climate resilience, and develop sustainable livelihoods.

4.7. Key Policy Interventions in India

The 2020-21 Economic Survey states that global commentaries have mostly highlighted a potential conflict between economic growth and inequality over time. However, they maintain that the policy objective of focusing on inequality may not apply in the Indian context given the differences in the stage of development, India's higher potential rate of economic growth and the higher absolute levels of poverty. Their view is that focusing on the policy of growth does not imply that the redistributed objectives are unimportant but that redistribution is only feasible in a developing economy if the size of the economic pie grows.

The policy recommendation of the Economic Survey 2020-21 for a developing country such as India is that where the growth potential is high, and the scope for poverty reduction is also significant, the focus must continue on growing the size of the economic pie rapidly at least for the foreseeable future (Press Information Bureau 2021).

There is some merit to this viewpoint; higher levels of income and economic growth have resounding positive effects and correlate with reduced infant mortality, higher primary and secondary school enrolment rates with stronger educational outcomes, reduced occurrence of diseases, greater life expectancy and reduced political, gender and ethnic oppression.

However, economic growth on its own is not sufficient, as many marginalised groups in society do not enjoy the benefits of rapid economic growth, remaining in abject poverty. The UNDP recommends that in order to reduce poverty levels, there must be a greater and specific focus on hard-to-reach groups who are at risk of being left behind. They focus on improving data collection on group-based deprivations in order to efficiently monitor, target and report on inequalities across different groups (UNDP 2021).

There are specific schemes launched by the government of India in order to alleviate poverty in certain key groups - the Mahatma Gandhi National Rural Employment Guarantee Scheme

(MGNREGA) and Pradhan Mantri Matru Vandana Yojana (PMMVY), which specifically target uplifting the rural sector and women, respectively (NITI Aayog 2021).

4.7.1. Financial Inclusion

Priority Sector Lending - RBI

At its inception, the Reserve Bank of India (RBI) developed the Priority Sector Lending as an effort to reach those sectors typically underserved by investors, the objective being 'to ensure that vulnerable sections of society get access to credit and there is adequate flow of resources to those segments of the economy which have higher employment potential and help in making an impact on poverty alleviation' (Reserve Bank of India 2015). The categories under the priority sector include Agriculture, Micro, Small and Medium Enterprises and Export Credit (RBI 2022). According to the RBI., the priority sector lending for scheduled commercial banks stood at 40.54 per cent in 2020-21 (at the end of December 2020). Among bank groups, while public sector banks continued to achieve the prescribed P.S.L. target of 40 per cent, a marginal shortfall was observed for private sector banks and foreign banks. The total trading volume of Priority Sector Lending Certificates (PSLCs) recorded a growth of 25.9 per cent and stood at ₹5.89 trillion in 2020-21 compared with 43.1 per cent growth a year ago. Among the four PSLC categories, the highest trading was observed in the case of PSLC-general and PSLC-small and marginal farmer, with the transaction volumes being ₹2.26 trillion and ₹1.98 trillion, respectively, for the year ended 31 March 2021 (RBI 2021).

Recent revisions of the Priority Sector Lending policy have expanded it to enable better credit penetration to credit deficient areas, increase lending to small and marginal farmers and weaker sections, boost credit to renewable energy, and health infrastructure (Mishra 2020). In order to address regional disparities in credit flow, incremental priority sector credit is weighted higher in districts where this credit flow is lower in comparison.

Social Venture Fund by SEBI

As per guidelines from SEBI, impact investors can adopt a Social Venture Fund (SVF) legal entity under Category I of SEBI's Alternate Investment Fund (AIF) Regulations. A Social Venture Fund (SVF) is an AIF that invests 75% or more of its corpus in unlisted securities or partnership interests of social ventures that satisfy social performance norms defined by the fund. The fund may accept from and give grants to social ventures and may accept restricted or muted returns.

Impact investments have seen a strong response from India. Typically, social venture capital funds in India invest in themes such as financial inclusion, affordable healthcare, clean energy, education and agriculture. These funds invest in early-stage start-ups in this space. They provide start-ups with seed investment, operational and technical support to set up the business and lay down the governance and compliance procedures.

Critics of the programme call into question how limiting the definition of a Social Venture Fund is, arguing for a broader definition that would lead to greater improvement in social sectors. Until 31st March 2022, SVFs have managed to raise just over ₹20 billion, of which ₹5.78 billion have been actually invested. In comparison, other AIFs, such as infrastructure funds, have received about ₹79 billion of committed funds, of which ₹68.21 billion have been invested.

Prime Minister's Rural Development Fellowship (PMRDF)

Every district in India administers its own development scheme. Each scheme has its own rules and reporting, and government bodies are often understaffed. In order to address the capacity and implementation gaps in backward districts, which are isolated and less developed, in 2011, the Prime Minister's Rural Development Fellowship (PMRDF) was launched. (Samji 2014)

Focusing on the reduction in poverty and improvement of lives, the main objectives of the programme are as follows -

- Providing short-term catalytic support to the district administration in IAP districts to improve programme delivery.

- Developing a cadre of committed and competent development leaders and facilitators who are available as a resource for rural development over the long term.
- Engaging with many stakeholders such as the government, public sector institutions, and civil society actors in promoting the efficiency of social protection programmes.

PMRD fellows work closely with the District Collector of the Integrated Action Plan (IAP) districts in improving programme delivery and interfacing with marginalised sections of society. They also work with the State Rural Livelihood Mission in the state in which they are assigned.

This programme has been carried out all across the country. The first batch had 140 Fellows who were placed across 83 districts in nine states, including Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Odisha, Maharashtra, Madhya Pradesh, Uttar Pradesh and West Bengal. In 2014, the fellowship was expanded to include seven more states covering the North-eastern region as well as Jammu & Kashmir (Tata Institute of Social Sciences).

4.7.2. Private Sector Involvement

CSR Rule by Ministry of Corporate Affairs

Section 135 of the Companies Act, 2013 mandates companies to spend at least 2% of their average net profits made during the three previous financial years towards the Corporate Social Responsibility (CSR) in the current financial year (Ministry of Corporate Affairs 2018).

This Act has seen a positive response from Indian companies, with almost ₹88 billion spent in the first reporting year. By March 2019, it was estimated that the total CSR fund investment would cross ₹500 billion, since the Act was formulated.

A large portion of the spend was dedicated to education and skills development projects, as well as healthcare and sanitation projects. This is evident in the Aspiration Districts programme, which was launched to transform 112 least developed districts in India. This programme has been very successful in supporting healthcare and education, but now required a realignment of focus, as other issues require precedence (UNDP 2020).

4.8. The Graduation Approach to Eliminating Poverty

While there has been significant effort towards eliminating poverty from the government of India, these are generalised measures to uplift communities as a whole.

The graduation approach towards poverty upliftment, pioneered by BRAC in Bangladesh has seen tremendous success. It was developed to help address the needs of those who were too poor for microfinance services.

Since 2006, the approach has been pilot-tested in ten sites in eight countries worldwide by organisations, during these pilots between 75 and 98 percent of the participants met graduation criteria after 18 to 36 months. (2018)

The approach takes into account a number of components in order to uplift poverty. While government schemes take into account one lever at a time (e.g. financial inclusion), this approach is more holistic.

As the ADB puts it, the graduation approach deploys a time-bound and well-sequenced set of interventions designed to help people overcome multiple barriers that prevent them from breaking out of extreme poverty. A single intervention, such as education, training, or cash support, cannot tackle poverty in isolation. (Asian Development Bank, 2021)

In participating organisations, households receive multiple support options at the same time-

- An asset to spur income generation, such as livestock or goods to start an informal store.
- Training on how to manage the asset.
- Basic food or cash support to stabilise households and reduce the need to sell the new asset in an emergency.
- Frequent (usually weekly) coaching visits to reinforce skills, build confidence, and help participants handle any challenges.
- Health education or access to healthcare to stay healthy and able to work.
- A savings account to help people put away money to invest or use in a future emergency.

According to Innovations for Poverty Action, research was conducted in India (along with six other countries to pilot the graduation approach. In India, Researchers partnered with Bandhan, a local microfinance institution. The study focused on households with an able-bodied woman that were not associated with any microfinance institution and received below a certain threshold of government aid.

Across all six countries, the program was massively successful in multiple dimensions. Key metrics include greater consumption, more assets and increased savings, along with basic entrepreneurial activities, which enabled the poor to work more evenly across the year. While psychosocial well-being improved, these non-economic impacts sometimes faded over time (Innovation for Poverty Action, 2011). The graduation approach touts that in order to make a lasting impact on poverty alleviation, different measures need to be combined at once. "This multi-pronged approach is relatively expensive, but the theory of change is that the combination of these activities is necessary and sufficient to obtain a persistent impact," (Banerjee et al., 2015).

Thus, this approach when properly integrated can greatly increase the efficiency of other anti-poverty policies.

4.9. Success Stories

4.9.1. Aspirational Districts Programme - Localising the Sustainable Development Goals

Overview

The Aspirational Districts Program (ADP) was launched in order to quickly and effectively transform the 112 most under-developed districts across the country.

The States measure progress by identifying low-hanging fruits for immediate improvement and ranking districts on a monthly basis. The ranking is based on the incremental progress made across 49 Key Performance Indicators (KPIs) under five broad socio-economic themes - Health & Nutrition, Education, Agriculture & Water Resources, Financial Inclusion & Skill Development and Infrastructure.

The Aspirational Districts Programme is aimed at localising Sustainable Development Goals.

NITI Aayog states that this program closely focuses on improving people's ability to participate fully in the economy. Districts are prodded and encouraged to first catch up with the best district within their state and subsequently aspire to become one of the best in the country by competing with and learning from others in the spirit of competitive & cooperative federalism (Aspirational Districts Programme 2022).

Approach

The Program's theory of change is based on three main pillars:

- Convergence – synthesising government schemes and authorities
- Collaboration - partnerships between civil society organisations, philanthropies and government
- Competition – fostering competition and accountability among districts

A big part of the program's focus and progress is achieved through the e-monitoring of real-time data, which is carried out on The Champions of Change (CoC) dashboard, which tracks and measures growth. Most districts also use the portal for basic data analysis, as it displays monthly progress on the indicators and the development goals outlined. This has successfully brought in a culture of accountability and transparency among the districts. (UNDP 2020)

Impact

Since its launch, all 112 underdeveloped districts included in the programme have improved their performance. Some have even surpassed the state averages on key indicators; many aspirational districts are now the best-performing of all districts in their state. (Kant 2022)

The program has also shown significant economic benefits. In Health and Nutrition, for example, the economic impact of reducing Severe Acute Malnutrition (SAM) among children is felt through the effects on productivity and lifetime learning. The overall economic impact for all the states (only looking at Aspirational Districts) of reducing SAM is estimated to be a mammoth ₹1.43 trillion Similarly, the impact of providing household latrines is around ₹4 billion (Institute of Competitiveness 2020)

4.9.2. Grameen Impact Investments India Pvt Ltd. - Alleviating Poverty Through Innovations in Finance

Overview

GOAL (Grameen Outcome Accelerated Lending) SDG Impact Bonds is an innovative financial instrument for Social Enterprises/ NGOs to catalyse additional private capital for their initiatives, incentivise them for impact, and reduce their cost of debt financing.

Traditional Impact Bond structures, both SIBs (Social Impact Bonds) and DIBs (Development Impact Bonds), have taken at least 2-3 years to implement with very high transaction costs (on account of the time taken to finalise the structure via intermediary and implement), which is sub-optimal both from an impact as well as replicability perspective.

GOAL addresses these issues by decoupling the process of the up-front investment and outcome funding.

- The structure requires upfront funding from the investor(s) to the implementing entity/social enterprise to start the project implementation without necessarily on-boarding the outcome funders.
- Specific outcomes and milestones are defined upfront

As the implementation is underway and tractions visible, it is easier to attract potential outcome funders to a 'live' project.

Rationale

- To catalyse blended finance across different pools of risk capital – impact investors/ Capital markets/Foundations/CSR/ International Development agencies – in a Pay for success model
- To enable access of debt financing to newer/ smaller social enterprises & not-for-profits who find it difficult to raise debt via traditional financing models and end up diluting and using equity for working capital
- To incentivise social enterprise/NGOs to achieve predefined and independently measured impact

GOAL SDG Impact Bonds Curated by Grameen Impact Thus Far

1. WHEEL SDG 5 Impact Bond with Child Fund India: To train 2000 women to become poultry farmers and generate additional annual household income.
2. LIFE SDG 8 Impact Bond series: Train 20,000 youth and create employment opportunities,
3. Jobs, Opportunities & You (JOY) SDG 5 & 8: Women's empowerment; Jaipur Rugs Foundation
4. POWER SDG 7 Impact Bond: To tackle the imminent climate crisis by extending finance to renewable, clean energy projects; the Bond has been launched with Fourth Partner
5. SDG 2 Agriculture Impact Bond: Impact Bond launched in March 2020 with Dr Reddy's Foundation to increase farmers' income
6. COVID-19 SDG Impact Bond: Impact Bond launched to provide livelihood support to women artisans, with Industree Foundation
7. SDG 2 Agriculture Impact Bond: To increase farmers' productivity/income and improve the Agri value chain.
8. SDG 3 Impact Bond: To drive a reduction in the cost of medicines and medical care

4.9.3. Trickle Up Foundation - Addressing the 'Last Mile' of the Population

Overview

Trickle Up Foundation recognises that in dealing with extreme poverty, the groups most vulnerable are also difficult to access.

Founded in 1979, Trickle Up is a pioneer of programs to reach and benefit this 'last mile' of the population, most specifically through the Graduation approach, which combines complementary approaches, including elements of microfinance, social protection, and livelihood development into a comprehensive program that spurs a sustainable transition to higher incomes.

The Approach

- The approach offers flexible intervention areas. Tools such as social mapping and poverty wealth ranking are used to identify the poorest families in communities.

- Implementers are assigned to develop long-term livelihood plans. This is supported by financial and technical training and seed capital grants to establish a sustainable income stream.
- Local partners are trained on Self-Help Group (SHG) and Village Savings and Loan methodologies to enable women living in ultra-poverty to establish self-managed savings and credit groups.
- All activities are supported by consistent coaching and regular visits from field staff to help family members apply and adapt their training, troubleshoot issues and build confidence.

M-Powered Program and Impact Created Thus Far

Trickle Up's 'Mobile Connections to Promote Women's Economic Development' (M-Powered) project supported by Tata Communications has seen significant success in communities in the Sundargarh region of Odisha and in Jharkhand in its seven years.

The mobile applications and training tools developed in this project have enabled poverty alleviation programs to reach and serve extremely poor households at scale more efficiently and effectively and increased the transparency and accountability of those programs to participants.

M-Powered has succeeded in reaching 2,800 women and is in the process of scaling to reach an additional 7,000 participants. The most vulnerable and traditionally excluded groups (Particularly Vulnerable Tribal Groups), lower castes, and people living with disabilities also benefited. The program has reached 150 families from the Juang Tribe in Nagada, Odisha.

Trickle Up has worked directly with state branches of the National Rural Livelihoods Mission (NRLM), Odisha Livelihoods Mission (OLM) and Jharkhand State Livelihood Promotion Society (JSLPS) to facilitate social and financial inclusion and promote sustainable livelihoods for the extreme poor through building 'Institutions of the Poor'.

4.9.4. Grameen Foundation-Financial Inclusion to Uplift Poverty

Overview

Grameen Foundation (Grameen) is a pioneer and a global leader in financial inclusion and making remarkable impressions in the Agrarian Ecosystem. Grameen works with disadvantaged and excluded communities, especially women, to enable access to finance, sustainable livelihoods, health, and nutrition.

The Approach

Grameen works for the overall advancement of the farming community and in increasing their income in Purvanchal Uttar Pradesh at a three-tier system, the Individual farmer level, the Collective FPO. level, and the System level through its three projects:

- MANDI (Market Access eNabled by Digital Innovation) aimed at strengthening FPO capacity to connect smallholder farmers, especially women, to market and finance and to improve farmers' incomes and resilience.
- TRAGE UP (Agricultural transformation in the state of Uttar Pradesh) by promoting a food systems-based approach through nutrition-focused crop diversification; innovative women-friendly and climate-smart technology; and agri-market linkages.
- AGRIPATH, Empowering marginal and small farmers' transition to sustainable agriculture through effective and efficient digital pathways. Grameen provides farmers with access to agriculture and allied activities inputs financial and market information through collectives and digital platforms and supports them with the tools and capabilities to adopt a data-based decision-making system.

This bottom-top approach of Grameen aims at empowering marginal and small farmers by enhancing their standard of living and building resilience.

Outreach and Impact

At present, Grameen is working for 40,000 plus farmers by providing technical and extension services through structured training to diversify

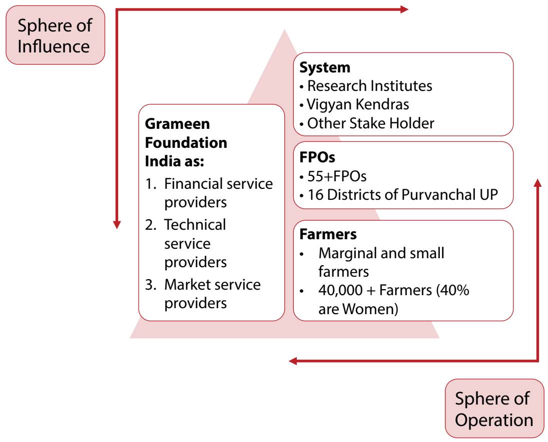

Figure 4.6. The Grameen Foundation Approach

and intensify the cultivational aspects, which would yield them better income and resilience. Grameen aims at sustainable subsistence commercialised farming systems for overall improvement in the standard of living of marginal and small farmer communities. It is working in 16 districts of Uttar Pradesh through 55 FPOs and supports them with the market and financial linkages. Grameen also works for gender mainstreaming by improving women's participation and empowering them. All these efforts have resulted in capacity building of the FPOs and thereby interning the marginal and small farmers associated with them.

Grameen has a footprint in building information and momentum for agriculture amongst government stakeholders, namely, IRRI (International Rice Research Institute), KVKs (Krishi Vigyan Kendra) and other stakeholders through a robust evidence base, networking, and coordination at a system level.

4.10. Recommendations

SOIL

i. S: Save the SDGs
ii. O: Outcome Funding
iii. I: Impact Measurement & Certification
iv. L: Leaving No One Behind

4.10.1. Save the SDGs

In the words of UN Secretary-General António Guterres, at the side lines of the most recent UN General Assembly on 22nd September, the world 'is challenged like never before', but the Sustainable Development Goals (SDGs) still offer a roadmap to get back on track. 'It would be easy to lose hope. But we are not hopeless. Or helpless. We have a path to recovery. If we choose to take it'. (UN Sustainable Development Group 2021).

How can we grab this opportunity, especially in India, as we are on the cusp of hosting what may well be a watershed G20 meeting? Already a lot of work has been done by mapping the Aspirational District Program and other government programs to the SDGs. However, more aggressive and telling steps need to be taken.

I would propose the following radical but practical step if each and every one – policymakers and practitioners alike – need to be in sync and reduce dissonance and information / regulatory arbitrage and asymmetry.

Replace all existing rules, classifications and activities under PSL regulation, CSR rules under MCA guidelines and permitted activities under social venture fund as per SEBI, with the 17 SDG goals and the 169 SDG indicators.

All investors, financers and corporate grant funding would then be incentivised to finance the SDGs and would unlock innovative financing products and structures towards this end. This would reduce the silos in which regulators operate and facilitate a seamless flow of capital, impact investing, grants and blended finance to the projects financing the SDG gap.

4.10.2. Outcome-Based Financing/ Pay-For-Performance

For a long, the focus has been financing for inputs – grants for health programs, budget allocations for education outreach, among others. However, the recent innovations in 'outcome financing' or 'pay for success' seem to be gathering momentum. For example, the 'Educate Girls' program in Rajasthan, India, built on similar successes in the UK and the USA, aims to improve learning outcomes and enrolment in schools in Rajasthan, India. This has tremendous potential as capital market players can collaborate with development multilateral agencies to structure innovative financing vehicles that de-risk the investor and ensure the outcomes are well-defined, measured and achieved, leading to a win-win situation for all. Grameen's SDG, Impact Bonds, has proven to be a potent weapon in the arsenal of achieving Agenda 2030.

The inclusion of SDG impact bonds as 'qualifying' / permitted structures to be listed on the social stock exchange or qualifying for CSR would provide the much-needed scale and catalytic potential.

4.10.3. Impact Measurement & Certification

To supplement the policy/regulatory recommendations provided above, a robust ecosystem for measuring and certifying impact is necessary. Independent agencies and certifiers need to be created/supported as pre-requisite to listing on the Social Stock Exchange or for accessing any corporate or public pools of funding. Over a period of time, this could even evolve to a creation of an Impact Currency and tokenisation of the same using the blockchain, Distributed Ledger Technologies, etc., to facilitate trading and democratisation of funding sources.

4.10.4. Leaving No One Behind

Finally, at the heart of every policy, program or initiative of addressing and ultimately eradicating extreme poverty is the reason why we do what we do – so that no one is left behind and that every human being is treated with respect and care due to them.

I can only imagine the universal euphoria that will erupt when each Sustainable Development Goal is met.

I am sure I will be cheering with my loudest' GOOOOAAAAAALLLLLL!

Acknowledgements

I acknowledge the following people for their contributions to this chapter - Teresa Khanna, Anjum Khalidi and Nathalie Laidler-Kylander (Trickle Up Foundation), Rahul Sinha and Roopa Suresh (Grameen Foundation), and Nafeesa Vasi.

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Climate Smart Agriculture

5

P V S Suryakumar*

5.1. Introduction

All throughout the world, the effects of climate change are being felt. The temperature is rising, rainfall patterns are becoming more unpredictable, sea levels are slowly rising, and extreme weather events are becoming more frequent and intense. Successes in development are at peril due to extended droughts, flooding, and shifting climatic patterns. Climate variability and change often have the most adverse effects on the poor and marginalised, thereby affecting their livelihoods. The sixth Assessment Report of the IPCC observed with high confidence that individual livelihoods have been affected by changes in agricultural productivity, impacts on human health and food security, destruction of homes and infrastructure, and loss of property and income, with adverse effects on gender and social equity (IPCC, 2022).

Surface temperatures in India increased by about 0.7 °C between 1901 and 2018, along with increased humidity levels. Sea surface temperature in the tropical Indian Ocean also increased by about 1°C between 1951 and 2015. Clear signs of human-induced climate change are emerging in the Indian region, due to anthropogenic greenhouse gases and aerosol forcing, land use and land cover changes, contributing to an increase in climate extremes (MoES, 2020).

With a wide range of geographical regions, biodiversity, and natural resources, India is a major emerging economy. Rapid urbanisation, industrialisation, and economic growth are already putting pressure on the environment and natural resources. Climate change could further distort the distribution and quality of India's natural resources and affect people's livelihoods.

As per the Global Climate Risk Index 2021, which analyses the extent to which countries and regions have been affected by impacts of weather-related loss events (storms, floods, heat waves etc.), India is ranked as the 7th most vulnerable country (Germanwatch, Global Climate Risk Index 2021, 2021).

* The author acknowledges the contributions of Shri Sukanta Kumar Sahoo, Ravi Parmar and Muhammed Raneef from Climate Change Vertical, Farm Sector Development Department, NABARD.

54.6 % of the total workforce in India are engaged in agriculture and allied sector activities (Census 2011). Climate change is anticipated to have an impact on the sustainability of agricultural production and livelihoods.

A sub-national level assessment for climate change impacts at the district level for major food crops using the district level climate projections for two time periods was carried out, viz., mid-century (2021–2050) and end-century (2071–2098). Based on this assessment, yields of most crops are projected to decrease in a majority of districts during the mid-century period. The yield impacts are deeper and wider during the end-century period (Rama, Rao et al., 2022) ICAR has projected that yields of wheat and rice would decline by 9% and 12% by 2040 and farm income may reduce by up to 25% by the 2040s.

As per ICAR's assessment of the vulnerability of Indian agriculture to climate change, 109 districts out of 573 rural districts (19% of total districts) are 'very high-risk' districts, while 201 districts (35%) are 'high risk' (CRIDA, 2019).

Vulnerability assessment of Indian states was carried out by the Department of Science & Technology (DST), Govt. of India, for ranking and identification of the most vulnerable districts and states which will help in prioritising the states for adaptation interventions and to formulate climate-resilient policies. Among the indicators were socio-economic features and livelihoods (viz. percentage of the population living below the poverty line (BPL), income share from natural resources, share of horticulture in agriculture, proportion of marginal and small landholdings, women's participation in the workforce) besides biophysical aspects (viz. yield variability of food grains, area under rainfed agriculture, forest area per 1000 rural population, incidences of vector-borne diseases and water-borne diseases), and institution & infrastructure (viz. area covered under centrally funded crop insurance schemes, implementation of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), road and rail network, the density of healthcare workers) vulnerability. The report categorised states in India in terms of the vulnerability index, and as per this report, Jharkhand, Mizoram, Orissa, Chhattisgarh, Assam, Bihar, Arunachal Pradesh, and West Bengal are highly vulnerable to climate change. These states, mostly located in the eastern part of the country, require prioritisation of adaptation interventions.

Significant climate finance is required, particularly for climate change adaptation, in order to make the livelihoods of vulnerable communities more climate-resilient.

5.2. National Initiatives on Climate Change – Policy Landscape

India is a Party to the United Nations Framework Convention on Climate Change (UNFCCC), its Kyoto Protocol (KP) and the Paris Agreement (PA). India launched the National Action Plan on Climate Change (NAPCC) in 2008, establishing eight National Missions to advance action on the country's climate priorities. NAPCC identifies measures that promote development objectives while yielding co-benefits for effectively addressing climate change. NAPCC outlines a national strategy that aims to enable the country to adapt to climate change and enhance the ecological sustainability of India's development path. It emphasises that maintaining a high growth rate is necessary to raise the standard of living for the vast majority of Indians and lessen their vulnerability to the effects of climate change.

The National Action Plan's core is made up of the national solar mission, the national mission for enhanced energy efficiency, the national mission on sustainable habitat, the national water mission, the national mission for sustaining the Himalayan ecosystem, the national mission for a green India, national mission for sustainable agriculture, and national mission on strategic knowledge for climate change. Energy efficiency, natural resource conservation and promoting an understanding of climate change, adaptation and mitigation are the primary focuses of these missions.

Recognising that States have specific issues and local needs to meet the challenges of climate change, State Action Plans for Climate Change (SAPCC) are prepared by the State Governments according to a common and generic framework, incorporating state-specific contexts and situations. SAPCCs are built on the state government's existing policies by considering the ongoing programmes and schemes being implemented at the state level as well as the NAPCC.

India submitted its Intended Nationally Determined Contribution (NDC) to the UNFCCC in October 2015 and further updated its NDC in August 2022. India is on track to meet its NDC, which is compatible with well below 2°C scenarios. Further, the Hon'ble Prime Minister of India, at the 26th session of the Conference of Parties to the UNFCCC (COP26), presented India's vision to achieve carbon neutrality by 2070. Based on the various initiatives and how well the countries are doing to halve their emissions by 2030, India is ranked eighth out of 63 in the Climate Change Performance Index (Germanwatch, 2022).

Apart from this, the Government of India has taken a number of initiatives to combat the challenge of climate change. Recently, PM Shri Narendra Modi launched Global Mission 'Lifestyle for the Environment- LiFE', which calls for coming together with collective participation to take lifestyle for the environment forward as a campaign and as a mass movement for environmentally conscious lifestyle in a manner that revolutionises many sectors and diverse areas. Mission LiFE urges for a paradigm shift from mindless and destructive consumption to mindful and deliberate utilisation. India has also embarked on far-reaching new initiatives in renewable energy, e-mobility, ethanol blended fuels, and green hydrogen as an alternate energy source.

India has launched action and solutions-oriented coalitions, like the International Solar Alliance and Coalition of Disaster Resilience Infrastructure, to foster strong international cooperation. Recently at COP27, India submitted its Long-Term Low Emission Development Strategy (LT-LEDS) document to UNFCCC, which is a crucial policy tool that can help to align short-term climate actions in the context of the long-term structural changes required for the transition to a low-carbon and climate-resilient economy.

5.3. Climate Financing in India

India's financial needs, to fulfil its obligations under the UNFCCC and the Paris Agreement, are enormous and multiplying rapidly in the present-day context. This increases India's financial need to pursue both a low-carbon development pathway, dealing with all development deficits, while simultaneously dealing with the growing impacts of extreme events and other consequences of global warming (MoEF & CC, 2021).

An important factor in determining transition pathways and their pace of implementation is the level of financial resources available. Various studies focus specifically on estimating India's financial needs, with investment requirements provided at different levels of detail. Estimates vary across studies due to differences in approaches, assumptions of growth, technology options, systemic transitions across different sectors and differential coverage of subsectors and technologies. One of the key requirements for a developing country like India is to assess the additionality in terms of financial resources over business-as-usual trajectories of development. This additionality, in relative terms, may be more pertinent, as the overall scale of development may, as one would hope, outperform the business as usual considered as the baseline. While such additionality may not be commensurate with disruptive transformations that may arise, there is currently no way of predicting such transformations or projecting their impact on the financial resource dimension (MoEF&CC, 2022).

Quantification of India's adaptation finance requirements is extremely challenging. On the financial needs of India's NDCs, estimates have already indicated the following financial needs for its implementation (MoEF&CC, 2021).

i. Preliminary estimates indicated that India would need around USD 206 billion (at 2014-15 prices) between 2015 and 2030 for implementing adaptation actions in agriculture, forestry, fisheries infrastructure, water resources and ecosystems.
ii. Apart from this, additional investments will be needed to strengthen resilience and disaster management.

iii. An Asian Development Bank Study on assessing the costs of climate change adaptation in South Asia indicated that approximate adaptation costs for India in the energy sector alone would be roughly USD 7.7 billion in the 2030s. The report also projected the economic damage and losses in India from climate change would be around 1.8 per cent of its GDP annually by 2050.
iv. Mitigation requirements were even more onerous. Estimates by NITI Aayog indicated that the mitigation activities for moderate low-carbon development would cost around USD 834 billion till 2030 at 2011 prices.

India's NDC submission during 2015 also noted that a substantial scaling up of the climate action plans would require greater resources and that a detailed and full-scale assessment of international climate finance needs would be finalised at a later stage. It would depend on the gap between the actual cost of implementing India's plans and what could be made available from domestic sources. Overall, the NDC submission provided a preliminary estimate, suggesting that at least USD 2.5 trillion (at 2014-15 prices) would be required to meet India's climate change actions between 2015 and 2030.

A Sub-committee of India's Ministry of Finance conducted a more recent analysis, estimating that India's cumulative total expenditures for climate change adaptation would amount to INR 85.6 trillion (at 2011-12 prices) by the year 2030 (DEA, 2020). This assessment of adaptation-financing also considers requirements towards the SDGs and basic needs.

The impacts of climate change are expected to be more severe over time. As a result, India's requirements for adaptation need to be intensified, and the costs of adaptation could rise beyond official estimates. The overall trend indicates that the amount of adaptation finance required is significantly higher than the amount of adaptation finance currently flowing. According to the UN Adaptation Gap Report for 2022, the adaptation gap was widening, and estimated adaptation costs in developing nations were five to ten times higher than current public adaptation finance flows. An immediate increase in adaptation finance flows to India is essential to achieve its long-term goals of sustainable development and low-carbon growth (MoEF&CC, 2022).

India is managing its natural resources sustainably and adhering to the principle of sustainable production and consumption in the face of growing developmental challenges. India requires enhanced new and additional financial, technological, and capacity-building support to fully implement the NDC in a timely manner. However, financial and technological commitments by developed countries under the Paris Agreement are yet to be fully transpired. For instance, Green Climate Fund (GCF) finance to India amounts to only USD 528.9 million (since inception), out of which only around USD 82.3 million is grant-based finance. In addition, funds from Adaptation Fund (AF) under UNFCCC to India were only USD 9.85 million (since inception) for concrete adaptation interventions. The country cap of late has been increased by USD 10 million. Present climate financial flows from international sources to India are highly inadequate to meet our requirements.

Climate actions of India are financed primarily from domestic sources, including government budgetary support as well as a combination of market mechanisms, fiscal instruments as well as policy interventions (MoEF&CC, 2022). The eight missions under NAPCC have specific budgetary allocations combined with other sources of funding. Climate Change Action Programme (CCAP) and National Adaptation Fund for Climate Change (NAFCC) are the specific schemes rolled out to address the issues related to the climate change crisis.

India's updated NDC has clearly indicated the need to better adapt to climate change by enhancing investments in development programmes in sectors vulnerable to climate change and highlighted the urgency to mobilise domestic and new & additional funds from developed countries to implement the mitigation and adaptation actions in view of the large financing gaps (GoI, 2022).

RBI recently released a discussion paper on climate risk and sustainable finance on 27 July 2022 to help Regulated Entities (REs) deal with the issues arising of a warming planet. The paper guides on appropriate governance, strategy to address climate change risks and risk-management structure to help REs deal with the given problem effectively. RBI has inter alia suggested that REs, on their own volition, may set a voluntary funding target to increase green funding, green data centres etc.

5.4. Climate Financing and NABARD

National Bank for Agriculture and Rural Development (NABARD), is a 40-year-old Apex Developmental Financial Institution, owned by the Government of India. In consonance with its mandate, NABARD provides leadership to Rural Financial Institutions, State Governments & Central and State Government Owned Corporations, through credit, developmental, supervisory and other functions and a number of innovative products/instruments. NABARD's economic, social, environmental investments through its operations, funds and programmes are aligned to meet most of the SDGs like alleviating poverty, removal of hunger, climate action, gender equality, reducing economic prosperity, health, education, infrastructure etc.

NABARD has been giving priority to livelihood-promotion through sustainable natural resource management as a strategic tool to obviate impact of climate change on the agriculture & allied sector. Since the early 1990s, NABARD has been undertaking various initiatives centred around soil & water conservation, agroforestry/ agro-horti-forestry models, scientific agronomic practices and other on-farm and off-farm livelihood activities that have a bearing on building up resilience to climate change. Weather forecasts and agro-advisory services have been integrated into project activities for risk mitigation.

Key highlights of NABARD's interventions for sustainable livelihoods are presented below in brief.

5.4.1. Supporting Integrated Watershed Development

Watershed development projects are usually implemented to address basic soil & water conservation issues and social capital formation. However, climate change is impacting the agricultural production, productivity, livelihood and income of the farmers severely due to uncertain and erratic changes in weather parameters. Thus, NABARD has integrated a regular watershed programmes with climate change adaptation and climate risk mitigation measures.

NABARD's Integrated Watershed Management approach under Watershed Development Fund, IGWDP, KfW –Soil etc., supports interventions like soil and water conservation, afforestation, agroforestry, micro-irrigation (Drip/Sprinkler irrigation), livelihood generation, and improved land use pattern etc. of vulnerable sections like landless, women and tribal. This approach has been instrumental in reversing land degradation and helped create sustainable livelihoods for the poorer farm communities across the country. A typical watershed project of NABARD comprises of the following components:

Table 5.1. Components of a NABARD watershed project

Project Component	% Allocation of Cost
Soil & Water conservation measures	40-45
Implementation of climate proofing interventions	25-30
Livelihood support for women & landless	7.5
Capacity building and knowledge management	5

Apart from the first two components, which promote sustainable development of natural resource endowment and the livelihood, thereby, 7.5% of the total project cost is allocated to activities specific to livelihood support for women and landless who happen to be among the most vulnerable to climate change.

These interventions have been impactful and sustainable with people's participation in the planning and implementation of the projects. These participatory watershed projects since the 1990s were aimed at de-risking the earnings of farmers in rain-fed farming systems. By the end of FY2022, 3,557 projects covering more than 2.59 million ha across 28 states had been sanctioned with a cumulative disbursement of ₹20.14 billion. These natural resource management projects have benefitted communities through soil and moisture conservation, higher productivity, climate proofing, and by providing alternative livelihoods, besides ensuring the security and sustainability of existing livelihoods.

5.4.2. Securing Tribal Livelihoods

Rural development is not complete without tribal development. The tribal communities are dependent mainly on agriculture, forests and livestock for livelihood. But, the dwindling forest resources, accentuated by the mono-cropping trend, primitive agriculture practices like shifting cultivation, etc., have jeopardised agriculture and livestock productivity and led to shrinking water resources and reduced fuel & fodder supply. This has largely affected the family income leading to rampant migration to peri-urban areas leaving their productive assets idle.

With a view to providing sustainable livelihoods for the tribal households along with promoting environmental sustainability, NABARD instituted Tribal Development Fund (TDF) in FY2004. Tribal Development Programme is pro-environment with the cultivation of predominantly long-duration horticultural crops. The horticultural crops can provide sustainable income to tribal families over a period of 30-40 years. Further, the plantation of multipurpose trees on the boundary of the wadi fulfils the demand for fuel, fodder, timber, green leaf manure and other non-timber forest products

Since its inception, NABARD's Tribal Development Fund (TDF) has touched over 0.58 million tribal farm-dependent families; wadis covering more than 0.55 million acres have been developed for the beneficiaries through 898 projects in 28 states and union territories. Over 28 million trees (~50 plants per wadi) have been planted under the programme, which is estimated to sequester 0.61 million tons of CO_2 per year when fully grown. NABARD partnered with 499 project implementing agencies and cumulatively sanctioned ₹25.41 billion up to FY2022 (₹18.02 billion disbursed) for ongoing and new projects.

5.4.3. Rehabilitating Degraded Soils

NABARD has been collaborating with KfW since 2017 to rehabilitate and regenerate degraded soils, especially in areas with communities vulnerable to climate change impact. The project includes measures for additional soil and water conservation, land reclamation, soil productivity and health, crop resilience, and livelihood and income generation in treated watersheds to ensure food and nutritional security. Phase I was implemented in 123 completed watershed projects of Karnataka, Andhra Pradesh, Telangana, Odisha, and Chhattisgarh, selected on the basis of the severity of drought, the incidence of soil and water degradation, rainfall, and prevalence of rainfed agriculture. Phase II is underway in 55 completed watershed projects of Kerala and Jharkhand, and Phase III is ongoing in 48 completed watershed projects of Bihar, Maharashtra, and Tamil Nadu.

5.4.4. Promoting Sustainable Farm Sector

NABARD provides grant assistance for farm innovations, technology transfer, and capacity building of the farming community towards applying sustainable solutions to complex agri-livelihood challenges. Such activities include

- productivity improvement, aggregation, innovations, market connectivity, dissemination of technologies by research institutions, piloting of innovative technologies, value chain development, natural farming system, hi-tech agriculture, internet of things (IoT) in agriculture, etc.;
- capacity building for the adoption of technology to promote skill-based training of the farmers' clubs through exposure visits;
- programmes for formation, training, and capacity building of village-level farmers' institutions; and
- financial assistance for seminars/workshops/ conferences, etc., to showcase agri-products/ machineries and promote the adoption of innovative farming practices.

5.4.5. Off-Farm Sector Initiatives

Promotion of the Off-Farm Sector (OFS) assumes greater significance in the context of reducing the dependence of our rural population on agriculture, providing alternative livelihood options, arresting migration, leveraging on local resources and doubling farmers' income. NABARD has championed the cause of the off-farm sector and has been playing a crucial role in promoting rural enterprises in the handloom, handicraft and agro-processing sectors. The thrust is on generating local employment through value addition, design innovation and development, processing, brand-building, logistics infrastructure, mechanisation and development of technology, plus strong forward and backward linkages. This ultimately brings sustainable and inclusive development through collectivisation and formalisation by promoting off-farm producers' organisations (OFPO).

5.4.6. Livelihood Focused Interventions

The Livelihood and Enterprise Development Programme (LEDP) and Micro-Enterprise Development Programme (MEDP) together form the fulcrum of NABARD's thrust on skilling women (in mature self-help groups) and youth of rural India for sustainable livelihoods.

The LEDPs take a participatory approach to skill building encompassing the entire value chain. Significant embedded goals such as economic empowerment of women through goat rearing and improvement of menstrual hygiene and health from the 'My Pad, My Right' programme are also being achieved. In FY2022, 357 LEDPs utilised ₹138 million to create sustainable livelihoods for 46,823 members by upgrading their skills and extending support for providing bank credit.

Sustaining micro-enterprises for rural livelihoods can get a fillip with an understanding of rural markets, business dynamics, and enterprise management. In FY2022, 769 MEDPs enhanced these capacities for 25,745 self-help group (SHG) members. They helped members diversify into newer areas and increase their incomes, as revealed by a 2020 impact assessment study across five districts of Tamil Nadu.

Skills enable productive marketable activities, which then require market, knowledge, and credit linkages to convert to enterprises. Micro-enterprises that are modelled on self-employment, as well as those that are a collective of a few co-workers, need knowledge partners who bring on board the 'how to', 'dos', and 'don'ts'. NABARD-supported projects yield noteworthy outcomes by augmenting family incomes that also empower women.

5.4.7. Financial Inclusion

Due to knowledge asymmetry in technology and financial systems, the rural sector seems to be a step behind the urban, resulting in slower economic development. Skilling and livelihood generation initiatives, too, without financial inclusion, remain incomplete. Financial inclusion is a national priority and an enabler of inclusive growth. The rural population does not only need to know its financial rights, dues, and opportunities but also must avoid the dragnet of informal lending that has impoverished it for generations. NABARD supports the creation of financial inclusion infrastructure in banks that helps speedier financial transactions. It also builds digital and payment acceptance infrastructure and drives digital and financial awareness activities.

5.4.8. SHG-Bank Linkage Programme

Pioneered by NABARD in 1992, the SHG-BLP has emerged as the largest microfinance programme in the world, involving organising the rural poor, especially women, into groups and developing savings habits among them and make hassle-free credit readily available to them to meet their financial needs. SHG-BLP has made an indelible mark on the Indian financial landscape with more than 11.8 million SHGs savings linked and 6.74 million credit linked, involving ₹472.4 million deposits and ₹1.5 trillion in outstanding loans. While the statistics themselves are astounding, the impact of the programme in giving voice, identity, and economic agency to millions of marginalised rural women was nothing short of revolutionary.

5.4.9. Core Climate Finance Projects

NABARD continues to ideate, facilitate, fund, and promote a range of measures to alleviate climate change impacts in tune with global and national priorities. NABARD has the unique distinction of being accredited as the National Implementing Entity (NIE) of AF and NAFCC as well as the Direct Access Entity of GCF. As the facilitator for various climate funds, NABARD routed a cumulative aggregate grant and loan assistance of ₹18.53 billion crore for 40 projects. These projects create new pathways of development that maximise future availability of water, agricultural land, and natural resources, including minor forest produce, by supporting arable farming and livestock husbandry and providing sustainable livelihoods.

Table 5.2. Details of Core Climate Finance Projects of NABARD

Funding Window	No. of Projects	Sanctioned Project Cost (₹ million)
Green Climate Fund (GCF)	2	9442
Adaptation Fund (AF)	8	609.4
National Adaptation Fund for Climate Change (NAFCC)	30	8474.7

5.9.1. Green Climate Fund

The GCF, established in 2010, is part of the financial mechanism of the UNFCCC, which aims to make an ambitious contribution to the implementation of the Paris Agreement and its mitigation and adaptation goals. The GCF is currently the world's largest dedicated multilateral climate fund, which supports climate-resilient pathways.

As the Direct Access Entity (DAE) of GCF, NABARD facilitated sanctioning of India's first GCF project on 'Groundwater recharge and solar micro-irrigation to ensure food security and enhance resilience in vulnerable areas of Odisha' with a grant assistance of US$34.35 million in April 2017. The project aimed at water resilience in 15 predominantly tribal districts of Odisha through the augmentation of groundwater resources in 10,000 ponds, along with the installation of 1000 solar pumps. Groundwater recharge shafts can be transformative by demonstrating their ability to recharge the underlying aquifer system, developing long-term groundwater reserves. At the same time, resilient crop planning through irrigation will improve livelihoods and food security in the region, whilst the use of solar pumps for irrigation will increase energy access and contribute to the state's climate-resilient, low-emission crop planning.

Another GCF project is enabling access to long-term, affordable finance for solar rooftop installation projects in commercial, industrial and residential housing sectors in India, including vulnerable communities. This will enable access to long-term and affordable financing for the construction of 250 MW of rooftop solar capacity in India and thereby reduce emissions by 5.2 million tonnes of CO2 equivalent over 20 years. This pioneering private sector-driven initiative will unlock private sector investment in the rooftop solar market and pave the way toward a sustainable bankable model in India and beyond. Further, NABARD is playing a vital role in mobilising proposals and accessing global climate finance for climate-resilient pathways, as well as to secure the livelihoods of vulnerable communities.

5.9.2. Adaptation Fund

The Adaptation Fund was established under the Kyoto Protocol of the UNFCCC in 2001 to finance concrete adaptation projects and programmes in developing countries that are particularly vulnerable to the adverse effects of climate change. NABARD has taken an innovative approach to combat climate change by establishing six small-scale Adaptation Fund projects on the ground in diverse regions of the country across a variety of adaptation sectors. AF projects are taking place from the north-western Himalayas to the central Madhya Pradesh region, to the eastern region, to Rajasthan in the west and the eastern and southern coasts. They are tackling sectors tailored to the local adaptation need, from climate-smart agriculture to food security, fisheries, forestry, managing coastal zones, and collecting and conserving water. The total direct and indirect beneficiaries of the projects are around 0.175 million, by deploying the AF resources in the tune of USD 9.85 million.

AF-funded project in Andhra Pradesh aimed to overcome the consequences of salinisation and other impacts on the coastal area due to sea level rise and seawater inundation due to increased cyclonic storms and storm surges through appropriate adaptation strategies such as restoration of degraded mangroves and demonstration of Integrated Mangrove Fishery Farming System (IMFFS).

In Uttarakhand, the AF project aims to improve the adaptive capacity of rural small and marginal farmers, including hill women in the North Western Himalayan region, by introducing a combination of Climate Smart Farming Technologies along with required social engineering and capacity-building processes. These packages of activities improved the livelihoods of vulnerable hill communities, diversified income-generating activities along with the process of natural resource management.

Meanwhile, another AF project in the semi-arid eastern state of West Bengal is building adaptive capacities and increasing the climate change resilience of small, vulnerable farming families in the Purulia and Bankura Districts. The project focuses on enhancing adaptation capabilities in 5,000 households covering over 22,500 beneficiaries by diversifying livelihoods, adopting climate-resilient technologies and sustainably managing natural resources.

Climate proofing of watersheds in Tamil Nadu and Rajasthan helped to enhance climate resilience and build adaptive capacities of the communities, thereby enhancing their livelihoods which were adversely affected due to the impacts of climate change.

5.9.3. National Adaptation Fund for Climate Change (NAFCC)

The NAFCC was established under the Ministry of Environment, Forest and Climate Change (MoEF&CC) to support adaptation activities in the States and Union Territories (UTs) of India that are vulnerable to the adverse effects of climate change. As the NIE of the fund, NABARD has administrated sanctioning of 30 projects located in 27 states/UTs towards enhancing resilience and building the adaptive capacity of communities in various sectors. The projects related to adaptation in sectors such as agriculture, animal husbandry, water, forestry, coastal management etc., are eligible for funding under NAFCC. The sectoral distribution of NAFCC projects is given in figure 5.1. These projects are aimed at food and water security, building ecosystem resilience, providing climate-resilient livelihoods, and creating awareness and building the capacities of vulnerable communities. Highlights of some of the NAFCC projects are given below:

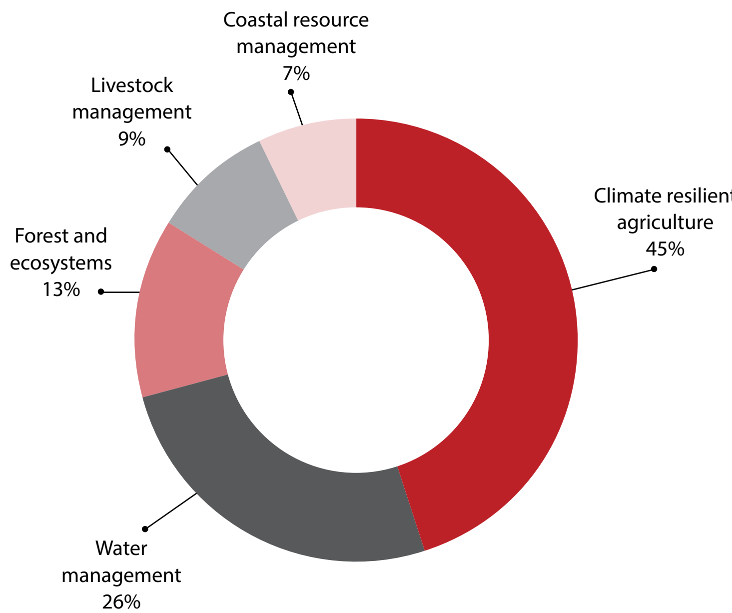

Figure 5.1. Sectoral Distribution of Adaptation Projects under NAFCC

NAFCC project in Odisha aims at the conservation of water through the management of run-off in the river basin to reduce vulnerability and enhance resilience for traditional livelihood in Nuapada, which would benefit the inhabitants along the river basin of Jonk River (a tributary of Mahanadi), affected by both drought and flood.

In Himachal Pradesh, the project envisions to improve the adaptive capacity of small and marginal farmers, including rural women in the drought-prone Sirmour district, by introducing a combination of Climate Smart Technologies along with required social engineering and capacity-building processes, towards securing livelihoods of agriculture-dependent rural communities.

The NAFCC projects implemented in the states of Kerala, Tamil Nadu and Andhra Pradesh include activities relating to coastal areas to secure livelihoods. The project in Kerala is promoting integrated farming system of Kaipad in the coastal wetlands of North Kerala. In Tamil Nadu, a project is aimed at managing and rehabilitating coastal habitats and biodiversity for climate Change Adaptation and Sustainable Livelihood in the Gulf of Mannar. Climate Resilient interventions in the dairy sector in coastal and arid areas are undertaken in Andhra Pradesh.

The project titled 'Management of Ecosystem of Kaziranga National Park by Creating Climate Resilient Livelihood for Vulnerable Communities through Organic farming and Pond Based Pisciculture' aims to rejuvenate available surface water bodies to develop fisheries, practice climate-resilient agriculture and to create opportunities for vulnerable communities to adapt to impacts of climate change through project interventions aimed towards increasing livelihood avenues like organic farming, watershed management and capacity building.

In Nagaland, the project intended to promote livelihood and food security as a Climate Change Adaptation Strategy through Gene Pool Conservation of Indigenous Rice Varieties under the Traditional Integrated Rotational Farming System (Jhum optimisation).

Projects in Punjab, Karnataka and Andhra Pradesh are addressing the adaptation measures in the livestock sector. Indigenous varieties of livestock, along with community-based climate-resilient cattle sheds, are adopted in Andhra Pradesh. In Karnataka, the project aims at conserving and revitalising the native cattle breeds of the state through propagating pure semen and their selective breeding. In Punjab, innovative climate-resilient sheds at the farmer's level and demonstrative sheds at the institution level are constructed to reduce the heat stress on animals due to climate change and to enhance productivity. Further, an innovative weather-linked insurance product has been designed and piloted for compensating the loss in milk yield based on the correlation between Temperature-Humidity Index.

5.9.4. Climate Change Fund (CCF)

NABARD set up its in-house Climate Change Fund in 2016-17 with a corpus of ₹ 50 million, which has been enhanced to ₹ 200 million for promoting and supporting activities aimed at addressing climate change impacts, adaptation and mitigation measures, awareness generation, knowledge sharing and for facilitating sustainable development.

So far, an amount of ₹ 52 million was utilised from the fund towards support to various promotional activities viz; sponsoring training and capacity building activities undertaken by Centre for Climate Change, BIRD, Lucknow; sponsorship of World Sustainable Development Summit 2020, World Water Summit, solar model farm at KVK in Delhi, installing customised Automated Weather Stations in Nagaland, a study on e-waste management in Sikkim, a project on awareness generation of mangroves, coastal ecosystem and livelihood opportunities of local communities in Goa, sponsoring several regional conferences/ seminars on climate change awareness, etc.

5.4.10. Other Initiatives

Keeping in view the need for focusing attention on capacity development in the areas of climate finance among the stakeholders, NABARD has taken the lead in establishing the Centre for Climate Change (CCC) at BIRD, Lucknow. A state-of-the-art Learning Lab and climate knowledge portal have also been established at the CCC. The centre is supported by the Indo-German Cooperation Project on Centre of Excellence on Climate Finance coordinated by GIZ, Germany. Further, trainings on gender mainstreaming, climate resilient agriculture and livelihoods for NGOs, bankable projects for mainstreaming climate financing and climate risk-based planning approach, have also been conducted by CCC, BIRD, Lucknow.

Under the Indo-German project titled 'Climate Adaptation and Finance in Rural India (CAFRI)' commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ), GIZ is supporting NABARD to manage climate risks through better governance models, active participation and innovative finance models in NABARD's development plans. The main focus is on leveraging blended financing approaches to enhance impacts and ensure sustainable livelihoods for farmers.

Through these interventions, as an apex developmental financial institution, NABARD has been pursuing the path of sustainable rural prosperity through the Triple-Bottom-Line approach of people, planet and profit. NABARD is also championing climate change action as the NIE and DAE for major climate funds, thus paving the way for securing livelihoods against the impacts of climate change. NABARD's economic, social, and environmental investments through operations, funds, and programmes are aligned to meet most of the Sustainable Development Goals, like alleviating poverty, removal of hunger, climate action, gender equality, reducing economic disparity, health, education, and infrastructure. The twin challenge is to balance environmental health and profitability, and to alter the transitional pathway from being in a state of conflict with nature to harmonious co-existence.

5.5. Way forward

Despite the fact that India has been successful in gaining access to international climate finance, the quantum is grossly inadequate in comparison to the overall requirements. Apart from domestic public budgets, international public finance and private sector resources need to be mobilised from a variety of sources to meet the emerging needs for climate finance.

Climate change adaptation relates more to vulnerable and resource-poor communities and their livelihoods and thus needs funding support more in the form of grants and initiatives as enabling measures. Blending different sources of finance would be a way forward in this regard. These should be in line with domestic priorities as articulated in the national missions and flagship developmental schemes. Climate literacy and locally-led environment-friendly sustainable practices in the realm of Mission LiFE –'Lifestyle for Environment' will pave the way for climate-resilient and sustainable livelihoods.

NABARD, with its rich experience in livelihood promotion and climate financing, shows promise to lead the way.

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Engendering Farmer Collectives:
Time to Include Women Farmers

6

Girija Srinivasan*

6.1. Introduction

With 86% of Indian agricultural households being small and marginal producers, cultivating small plots and generating an average monthly income of ₹5269 from all sources[1], farming on small plots is increasingly becoming unviable policy-makers are turning to producer collectives as a means for achieving economies of scale for inputs, outputs and value addition, for sharing of knowledge on better production practices, for improving market access and for strengthening negotiation power for better price realisation, thus impacting the income of small farms. In the promotion of collectives, a producer company is the preferred legal form for funders, such as SFAC (Small Farmers' Agri-business Consortium) and NABARD, since institutional functioning and financial performance of cooperatives as business entities have been weak due to multiple factors[2]. Producer companies are seen as better alternatives. In this chapter, the 'Farmer Producer Organisation' (FPO) is used to represent farmer collectives in all legal forms, and 'Farmer Producer Companies' (FPC) is used to describe those registered as companies.

As part of the Union Budget 2019, the Government of India announced the central scheme for promoting 10,000 FPOs in five years. In December 2019, SFAC released a Strategy Paper for the Promotion of 10,000 Farmer Producer Organisations; there was no mention of women in the policy paper. In July 2020, the Operational Guidelines for 10,000 FPOs were issued by the Department of Agriculture, Co-operation and Farmers' Welfare, which mention the need to focus on including women farmers/Self Help Groups (SHGs) as members. The recent addendum by SFAC[3] has a simple addition that 'efforts will be made to form and promote women-centric FPOs.' Except for generally mentioning that women should be included in FPOs and one director should be a woman to be eligible for SFAC credit guarantee, there are no gender-specific targets

* Author acknowledges with thanks the data analysis support from Pallavi G.L. FPRM student IRMA.

for promoting women FPOs or participation of women farmers in mixed FPOs. The policy and funding are gender agnostic. The guidelines do not have a clear strategy for including women farmers. Policy and operational guidelines for FPO promotion by the Government could have been gender transformative.

Azim Premji University has been bridging the gap in reliable data on FPCs in India; based on a two-year study, the status of producer companies in India as of March 2019[4] was published and recently the data has been updated for 31 March 2021[5]. There has been a phenomenal increase in the number of registered FPCs compared to 2019, when the exercise was first undertaken. As of 31 March 2021, the number of FPCs was 15,948; about one-third were registered in the last year alone, 92% were farm-based, and women-only FPCs are only 2.4%. Of the total FPCs registered, there is a reduction in women-only FPCs from 2.7% in 2019 to 2.4% in 2021. While women are members of other PCs, there is little reliable data on the overall mobilisation of women in PCs. Based on data collected on women FPOs, this chapter assesses their performance, compares with general data where available and suggests a way forward for improving the inclusion of women in FPOs based on stakeholder interviews.

6.2. Inclusion and Visibility of Women Farmers

Overall, the purposive inclusion of women farmers in FPOs seems to be lagging behind in spite of the crucial role played by women in farming. As per OXFAM[6], the agriculture sector employs 80% of all economically active women in India; women are associated with the agriculture sector in different roles as agriculture labour, cultivators of their own/family land and post-harvest activities, including value addition. The key factor is women comprise 48% of self-employed farmers. With the growing migration of men, there is a feminisation of agriculture, as acknowledged by Economic Survey 2018. The latest Agriculture census shows that women are more active in operating small holdings than larger ones[7] Table 6.1 which makes the inclusion of women in collectives all the more necessary.

Table 6.1. Women-Operated Farm Holdings

Year	2005-06	2015-16
Of all farm holdings, % operated by women	11.7	13.9
Of small holdings % operated by women	23.7	27.9

Source: Srinivasan N[8].

The gender concerns in farming are well documented; the gender gap in knowledge of agricultural practices is yet to be fully bridged. Women perform the majority of the tasks involved in cultivation, play a limited part in agricultural decision-making, have low involvement in market-facing roles and little control over profits[9]. Many Government and donor-funded projects aiming at climate change adaptation, natural farming for better agroecology, farming for better nutrition etc., target women farmers since these involve behavioural change and adoption of labour-intensive practices; some of these practices entail drudgery, which men do not readily adopt. Historically, despite involvement in major on-field and off-field activities, women have struggled to find a voice or an identity as a farmer in mainstream agricultural policies and practices[10]. The lack of visibility has resulted in disentitlement to benefits as well as a lack of access to secure, good-quality land, access to agricultural extension services and to the inputs women need, thereby reducing their overall income from agriculture. Women are largely under-represented in the FPO universe as well. As more and more government schemes[11] aim at FPOs as vehicles for implementation, unless there is a specific focus on the inclusion of women farmers in FPOs, they are likely to be left out of income and livelihood enhancement opportunities and other benefits.

6.2.1. Exclusive Women FPOs and Women in Mixed FPOs

Aiming to bridge the gender gap and improve women farmers' livelihoods, some resource agencies[12] are forming exclusive women FPOs.

While exclusive women FPC data has been tracked, no reliable data is available on women FPOs registered as cooperative/mutually aided cooperative and Society/trust. Substantial numbers of exclusive women FPOs are reported to be registered as cooperatives/ mutually aided cooperatives for ease of registration and also less compliance load.

Exclusive women FPOs are driven by the following considerations; a) In the local context, women are undertaking the majority of production operations, and hence the formation of FPOs is a step in the right direction, b) Resource agencies have been forming SHGs/ producer groups of women, and FPO is formed as a logical next step for livelihood promotion, c) Past experience in SHG movement and also cooperatives have shown that all women institutions are better managed and are more sustainable and mixed-gender membership in organisations may not be effective given the social norms in India, d) It is easier to work with women than men, especially where behavioural change and adoption of labour-intensive processes are involved.

Many resource agencies are also mobilising women in mixed-member FPOs; there are instances where majority shareholders are women, but the chairperson or the key board members are men from promoting organisation (SEEDS FPO, with 95% women members has only 20% women board members; Chairperson is from promoting organisation[13]). Several stakeholders and practitioners interacted with mention that in mixed FPOs, especially with less than 50% women shareholders, men tend to dominate, leaving little space for women to influence decisions. The community norms and constraints where women do not easily participate in activities outside the village are often cited as the reason for lesser women participation; in FPOs with extensive geographical coverage, participation by board members, especially women, tend to be lower. However, there are few mixed-member FPOs where women are chairpersons and govern the institution well. However, the numbers of such institutions are only very few.

Ramanar FPO is a mixed-member FPO with 2,943 members, of which 72% are female. FPO covers 112 villages in 47 Gram Panchayats in two districts. Nearly two decades of prior work of the SEEDS NGO in the community forming SHGs and JLGs has helped the FPO formation and business stabilisation. Chairperson is a woman from SHG who is playing her role effectively.

Source: Case study of Ramanar Millet Farmer producer company, published in Case studies of FPOs in India, 2019-2021, NABARD research study -25, DEAR, NABARD. Published in 2022.

Resource agencies forming both men and women FPOs report that overall women FPOs, as compared to men FPOs, are better governed, disciplined, stable and sustainable. Women are better planners and executors; they arrive at consensus-based decisions and have fewer disputes. However, in terms of member patronage, not much variance is seen between women and men FPOs.

6.3. Recent Initiatives that Augur Well for Women FPOs

DAY-NRLM is upscaling their three-pronged strategy for promoting women-owned Producers Enterprises[14] (PEs) to provide better market access to their farm produce through aggregation and value addition. a) Since most SRLMs lack technical expertise in promoting PEs, NRLM has centrally procured services of six technical service agencies to support SRLMs in preparing sound business plans, in implementing these plans for business promotion. In all 183 PEs are in various stages of functioning under the value chain development initiative of the Ministry. b) Further, under convergence with the Ministry of Agriculture and Farmers' Welfare under the Central Sector Scheme 'Formation and Promotion of 10,000 FPOs', 6 SRLMs are recognised as Cluster Based Business Organizations (CBBOs). As against the overall target of forming 300 women-owned FPOs for three years (2021 to 2023), 169 FPOs have been promoted[15]. With more SRLMs being roped in as CBBOs, the number of women FPOs under the scheme will increase in coming years. c) Under World Bank-funded National Rural Economic Transformation Project, 25 large format FPOs with high-quality human resources, large memberships (of more than 10,000 members) are being promoted in 10 states. These FPOs are well funded with large grants for CAPEX and one cycle of working capital, thus enabling them to kick start and scale up business quickly. These initiatives of NRLM are expected to provide an opportunity for women farmers to join and benefit from women FPOs.

The Foundation for Development of Rural Value Chains (FDRVC) is a joint initiative of the Ministry of Rural Development and Tata Trusts launched in 2019 as a non-profit company. FDRVC is providing technical assistance to DAY NRLM in setting up large-sized producer companies of women around specific value chains. FDRVC aims to address the usual challenges faced by small-sized FPCs in terms of the scale of aggregation, professional human resources, market linkages, and appropriate technology by working with large-sized companies. Enabling the FPCs to be market savvy, adopting appropriate technologies, hiring professional staff and robust business planning, FDRVC has now established proof of concept of large-sized professionally managed FPCs are ready to scale up.

SFAC has partnered with Samunnati Financial Intermediation and Services to form 100 women-only FPOs with a clear aim of business promotion for improved access to inputs supply, customised crop advisory and Credit and Market linkages. Samunnati will work with select SRLMs of UP, MP, Chhattisgarh, and Jharkhand to form FPOs by leveraging the SHG-cluster level federation network. Following the well-tested AMLA approach[16], Samunnati will handhold FPOs for at least three crop cycles, provide credit from the first crop cycle, connect with Institutional buyers instead of local traders and build the confidence of women in marketing with different channels, demonstrate warehousing capability and also initiate processing and value addition based on business potential.

Credit to FPOs: While there is no gender-disaggregated data on loans to women FPOs, there are positive developments in the lending space which augurs well for FPOs, including women FPOs.

a) Samunnati has entered into a co-financing agreement with SBI for lending to FPOs wherein blended finance of 80% of the credit from SBI and 20% from Samunnati will be available to FPOs. While Samunnati's products and processes are considered FPO-friendly and easy to comply, the rate of interest has been found to be high by FPOs. Being an NBFC, there was limited scope for Samunnati to reduce the interest rate since they were charging a cost-covering rate for FPOs. The co-financing arrangement has the potential to offer credit at a lower interest rate.

b) Kotak Mahindra Bank has launched a product for lending to FPOs at a rate of 7.5% per annum and a reasonable processing fee and is actively scouting for well-functioning women FPOs. Private sector banks such as Kotak Mahindra and HDFC bank entering the space augurs well for the sector, especially since they offer credit at reasonable rates.

c) The number of credit guarantee schemes available for collateral-free lending to FPOs have increased. Apart from SFAC's credit guarantee, NABARD has set up NABsanrakshan (85% for loans up to ₹10 million and 75% for loans above ₹10 million); the Government of Odisha and the Government of Tamil Nadu also offer a credit guarantee of up to 50% for a loan up to ₹10 million.

Agri-tech startups trying to solve the multi-dimensional problems in agriculture are partnering with women FPOs and offering unique solutions to improve incomes. For example,[17], S4S Technologies works with women FPOs to take up processing by offering end-to-end solutions for food processing technology, access to finance and market linkage. S4S is working with eight women FPOs in three states. Borlaug Web Services (BWS) is partnering with women FPOs to digitise their operations, to optimise processes in honey and coffee value chains using a blockchain platform that also offers traceability.

6.4. Is There a Business Case for Women FPOs[18]?

Many studies have been undertaken to analyse the capabilities and performance of FPCs. Previously published papers have highlighted challenges of selected PCs such as low capital base, insufficient external finance, talent gap, operational issues, weak governance, inadequate storage and processing facilities. However, there are no focused studies on women FPO

There are many justifications and perspectives provided for forming women FPOs ranging from equality, equity, efficiency and sustainability. However, FPOs being business entities, there should be a strong business case for forming women-only FPOs. A desk-based study was conducted for this purpose, and a detailed questionnaire was canvassed among resource agencies and FPOs. FPOs that were more than two years old were covered. Data of 75 women FPOs working in 16 states and promoted by 40 resource agencies are analysed and presented. In-depth discussions with 18 stakeholders were also conducted.

6.4.1. Age and Legal Form of the FPOs

51% of FPOs surveyed are young, being two to five years of age. 24 % are aged five to eight years and 25% FPOs are more than eight years old, as seen in Table 6.2.

66% of the collectives are registered as Farmer-producer company, 26% under the cooperatives Act, 5% under the Mutually Aided Cooperative Societies (MACS) Act, and only one FPO is registered as Society and trust. The resource agency promoting the Society mentions that in their nascent years, the agency promoted a society since it was easy to register. Later all the collectives were registered as farmer-producer company or cooperative since the Society form is not conducive for business. Cooperative/MACS is seen as an enabling form with relatively less compliance which women, especially those with less literacy, can manage better. However, the more enabling MACS Act is available in very few states. The cooperative form has not been without challenges; in the case of poultry cooperatives in Madhya Pradesh, the Government superseded the management and appointed a government official as manager[19].

Under the central scheme for forming 10,000 FPOs, the resource agencies follow the guidance of the Implementing Agency – FPC by SFAC, FPC or cooperative by NABARD and cooperative by NCDC; but Company form is preferred as many of the young FPOs are registered as companies.

6.4.2. Basic Mobilisation Units

While 36% of FPOs have formed farmer interest groups, 52% have SHGs as basic units around which members are mobilised. JLGs are the least preferred form, with only 2 FPOs following this model. 7 FPOs have mixed forms of SHGs and farmer interest groups. Overall, many of the farmer interest groups have also emerged from SHGs. All the stakeholders interviewed mention that institutionally women FPOs emerging from well mobilised SHG- federation structure are stronger and also easier to mobilise since women have already been trained in institution management, governance, basic accounts, financial management and discipline etc., The lenders' comfort in financing FPOs emerging out of SHGs is high.

Table 6.2. Age and Legal Form of FPOs

Age of FPO	No of FPOs	% of FPO	Co operative	MACS	FPC	Society and Trust
2 to 5 yrs	38	50.66	4	4	30	0
5 to 8 yrs	18	24	3	0	14	1
>8 yrs	19	25.34	13	0	6	0
Total	75	100	20	4	50	1

6.4.3. Share Capital

The share capital mobilisation by women FPOs has been reasonable compared to the comparable all-India data available for 31 March 2021 which found that the average paid-up capital of all 'active' producer companies was ₹0.8 million, the median was ₹0.1 million, and 57% of PCs had a paid-up capital of ₹0.1 million or less. Compared to that, the women FPOs studied had an average share capital of ₹0.89 million and median is ₹0.5 million. The paid-up capital of the women FPOs and per member share capital is presented in Tables 6.3 and 6.4 below;

The per member share capital mobilised still is low, as shown in Table 6.4; as per legal form, the average per member share capital is ₹438 under cooperatives, ₹377 under FPC, ₹348 by MACS and ₹179 by FPO under society/trusts.

Most FPOs are under-capitalised, which in turn affects their capacity to leverage loan funds, their ability to carry out any significant quantity of business which in turn leads to lesser member patronage and member disconnect. Moreover, considerable capital will be needed if FPOs need to move into value addition. FPOs, under the guidance of resource agencies, are developing methods to augment capital; one practice being adopted is to shore up share capital out of sale proceeds.

Table 6.3. Basic Mobilisation Unit of FPOs

Type of Primary Institution	No of FPO	% of FPO
FIGs	27	36
Mixed	7	9
JLG	2	3
SHGs	39	52

Table 6.4. Share Capital of FPOs

Paid up Capital (₹)	% of Women FPOs Covered Under the Study	% of Total FPCs in the all India Data Study
<0.1 million	0	7
0.1 million	18.2	30
>=0.1 million and < 0.5 million	29.1	19
>=0.5 million and < 1.0 million	27.3	24
>=1.0 million and <2.5 million	16.4	15
>=2.5 million and <5.0 million	7.3	3
>=5.0 million	1.8	2

Table 6.5. Per Member Share Capital

Per Member Share Capital (₹.)	No of FPOs
<100	8
100	2
>=100 to <500	33
>=500 to <1000	10
>=1000 to <2500	0
>=2500	1

6.4.4 Grants Received

Almost all the FPOs have received grant support from different schemes; while certain grants have been substantial for capital expenditure, others have been geared towards subsidising the operational costs, business development etc.; see details in Table 6.5

Table 6.6. Grants Received

Source of Grant	No of FPOs	Average Amount of Grant
SFAC equity grant	10	720,286
Business Development Assistances	11	453,531
Management Fund	7	1,371,938
NABKISAN	3	591,666
Processing Unit Fund	4	2,940,000
Others	40	399,941

Under other sources of grants, funding for Custom hiring centres is common. A few large grants have been received by a few FPOs. A grant from World Bank funded the Johar project in Jharkhand of ₹10 million have been reported. An FPO in Assam has received a grant of Rs 26 million under the scheme of fund for the regeneration of traditional industries.

6.4.5. Access to Credit

All 30 FPOs (40% of total FPOs) have availed credit from various financial institutions; 7 for term loans for investments and all 23 for working capital (details in Table 6.6). While older FPOs of more than five years have availed credit, the younger FPOs have been less successful. One of the reasons articulated by FPOs has been the provision of grants for working capital from different projects for early-stage businesses. The poultry FPOs over eight years old have had grants for working capital; they are largely carrying out output marketing with well-established wholesalers, and hence their requirement for working capital has been low.

Women FPOs founded on the base of SHGs/federations are able to surmount the issue of adequate working capital finance better; credit availed under the SHG bank linkage programme, internal funds of SHGs and federation funds are utilised to bridge the gap in working capital. PRADAN promoted FPOs collect input costs and service charges in advance from members, which provides adequate working capital for the FPOs. The members borrow from SHGs for this purpose.

Many resource agencies are ineffective in facilitating credit linkages since business planning, and credit need assessment are weak areas. Moreover, their own orientation and risk averseness to borrowing and their inability to set up systems within FPOs to ensure repayment of loans are other reasons why credit linkage has been weak.

NABKISAN, Friends of Women's World Banking (FWWB) and Samunnati are the top three lenders to women FPOs. FWWB, which was the first lender to FPOs since 2010, has chosen FPOs with at least 30% women members to lend to; the loan sanction is also conditional to at least two women members on the board of Directors. NABKISAN has differentiated loan products for startup, mid-segment and mature FPOs but does not have any special emphasis on women FPOs in their products or processes. Samunnati has set up an automated lending platform where the entire loan application process is online, and once FPOs upload documents and the preset criteria are met, a minimal amount of credit (₹.0.5 million) is made available to FPOs for working capital. This is a boon to nascent FPOs to build their credit history and also to build their confidence in institutional borrowing. The lenders are comfortable lending to women FPOs that have emerged out of SHG base due to pre-existing cohesion, decision-making ability, transparency and discipline. The lenders do not see any additional risks in lending to women FPOs.

6.4.6. Business of FPOs

Business-related details are presented in table 6.7. Where FPO members grow cereals/pulses/oilseeds, the FPOs deal with multiple commodities. Where FPOs deal with dairy, poultry and vegetables, they are largely single commodity focused. FPOs in millets and oilseeds work in rain-fed areas with largely a single crop and are harvested once a year. The produce marketing requires large short-term working capital, and storage facilities, which FPOs lack, which partially contributes to low value of business and low member patronage. Dairy, poultry, vegetables and fruits are commodities that are dealt with year-round and being perishable in nature makes storage difficult and also price variance is high and processing offers business opportunities for FPOs.

Business mix: Almost all FPOs are dealing with inputs, with few dealings with feed for livestock and the bulk of the FPO business is from inputs as compared to output aggregation and marketing. Input business is less risky, help FPO to get some footage in villages though margins are very low in most of inputs. Other stakeholders, especially lenders, also confirm overall high reliance on input business by FPOs About 27% of the FPOs are in value addition and processing but are in very nascent stages of setting up the facilities. Many FPOs have established tool banks and custom hiring centres, but these are yet to be optimally used, as reflected in the revenue generated by these units.

Table 6.7. Credit Details

Age	Number of FPOs	No of FPOs Availing Credit	Average Credit Availed in Last Cycle	Average Tenure	Average ROI
2 to 5 years	38	11	1,598,379	3.5	9.45
5 to 8 years	18	12	2,045,058	3.9	9.86
>8 years	19	9	4,903,733	3.6	13.75

Member patronage: The study also assessed the patronage of members who buy inputs, sell their produce, and avail other services through the FPO. The ratio of patronage members to total members is high in poultry, dairy, and low in fruits and oilseeds. Members who avail input services are higher than those who sell their produce through FPOs. Resource agencies mention that marketing of outputs is an area to be worked upon. While there are ways to ensure member patronage[20], from insisting on pledging a percentage of input and output purchase by members, linking inputs to output marketing like traders do and also converting a portion of sale proceeds as equity etc., the FPOs have to figure out which will work in their business.

Table 6.8. Business of FPOs

Primary Commodity	No of FPOs	Average No of Villages	Average Total Members	Average Members with Patronage	Patronage Members to Total Members %	Average Business per FPO (FY 20)	Average Business per Patronage Member
Cereals	26	35	3389	919	27	16,669,604	18,139
Dairy	5	35	866	481	56	5,016,800	10,430
Fruits	3	24	1057	70	7	5,933,333	84,762
Goatery	4	20	2703	786	29	2,120,565	2,698
Millets	2	15	1502	370	25	1,099,447	2,971
Oilseeds	4	19	3004	186	6	1,500,000	8,065
Pulses	5	34	4431	1436	32	6,530,940	4,548
Vegetables	7	35	3315	757	23	7,404,029	9,781
Poultry	17	21	587	450	76	100,665,294	227,692

While all FPOs also deal with non-members, these numbers are not tracked by all FPOs and are reported to be low. The per-member business is calculated assuming all business is from members. The average per member business is low for most of the commodities; the poultry cooperatives being the oldest in the sample have stable business and reflect the high potential for business per member. Since low transaction frequency and volume leads to low member loyalty and ownership, this is an area to be worked upon.

Licenses for businesses; 53 FPOs have at least one license to carry out their business of inputs/aggregation/sales, while 4 FPOs have no such licenses (see table 6.8 below). The business licenses are related to FSSSI, Agmark, organic farming-related certificates. Mandi licenses have been hard to come by, and very few FPOs have utilised the e-Nam (National Agriculture Market) platform. Government directions that only institutions with qualified technical personnel will be issued licenses for fertilisers/pesticides etc., is one of the reasons for lower numbers of FPOs with licenses in pesticides and fertilisers. Given the high dependence of FPOs on input businesses, this is a deterrent to business expansion and getting dealerships from large companies.

Table 6.9. Business Licences

License	No of FPO with Licenses
Business Related	27 (47%)
Pesticide	12 (21%)
Seed	17 (30%)
Fertiliser	13 (23%)

Marketing Channel: The current marketing channels utilised by the FPOs are given in table 6.9. All the FPOs have more than one marketing channel. Direct retail is the often-used channel by FPOs dealing in dairy and also by those who have limited aggregation; this includes local shops and also establishments like hotels, hostels, etc. 33 FPOs are having 43% of their total sales through direct retail. Local traders are the next preferred channel, with 30 FPOs selling 27% of their total sales through local traders;

Table 6.10. Marketing Channels

Market Channel	No of FPO	% of the Volume of Sale
Direct Retail	33	43
Local Traders	30	27
Wholesalers	22	56
Direct Sale to Companies	19	36
Commodity Exchanges	5	14
MSP	3	67
Export	0	0

FPOs dealing in perishable commodities seem to prefer this channel. 22 FPOs deal predominantly through wholesalers; they sell 56% of their sales through wholesalers.

19 FPOs are selling to companies directly accounting for 35.94% of their total sale; vegetables and fruits, organic cotton, maise etc., are the commodities sold through this channel. While challenges were faced in the initial stages to organise the supply chain and logistics to meet the specifications of companies, FPOs have developed these skills over the years. However, none of the FPOs has entered into contract farming, and all of them prefer to have flexible pricing. 5 FPOs sold 13.58% of their total sales through commodity exchanges. Many FPOs expressed their desire to sell through commodity exchanges in future for which they desired adequate capacity building.

Only 3 FPOs (two in Telangana and one in Madhya Pradesh) are undertaking Minimum Support Price (MSP) procurement of paddy, which accounts for 67% of their total sale; These FPOs are highly dependent on MSP for their sales. (Since MSP procurement centres are decided by the Government, not all FPOs get to manage these centres). FPOs needed to invest some capital in machinery etc., to manage these centres. FPOs initially had considerable difficulties in account tracking, documentation etc., over time they developed expertise in managing these. The members have benefitted from higher prices (up to 25%) fetched through the MSP mechanism as compared to the open market.

FPOs in profits: Based on self-declared information, out of the 75 FPOs, 69 FPOs reported profit for the year 2021. The data on profits in different ranges is given below in tables 6.10 and 6.11. However, further analysis is needed on grant support received for managing salary and operational costs and their accounting in the books. For example, in poultry FPOs, the staff salary for marketing and key positions are paid by the federation of FPOs. In some FPOs which are more than five years old, promoting institution is still paying for the salaries of CEOs.

Table 6.11. Profits in FPOs

Profit	No of FPOs (FY 2021)
Up to 2 million	51
3 to 5 million	5
5 to 7 million	5
7 to 9 million	2
9 to 11 million	2
11 to 13 million	2
>13 million	2
Total	69

The per-member profit is still small, and 11 FPOs have declared dividend to the members. A key differentiator in FPOs is the per-member gains in prices realised for their sales to FPO or the cost savings on the inputs purchased from FPO. Where these gains are higher, the profits will tend to be low. This should not be seen as low performance as long as the FPO can generate an adequate surplus to be ploughed back into the business and strengthen its net worth.

Resource agencies mention that more innovative ways to retain profits within FPOs in members' names are needed. This will enable adequate capital but at the same time when a member leaves, she will get her share of the profits.

Table 6.12. Per Member Profit

Age	Average Per Member Profit (2021)
2 to 5 yrs	177
5 to 8 yrs	1736
>8 yrs	1371

6.4.7. Capacity Building and Training

While the promoting institutions provide the first round of training, ongoing mentoring and on-the-job training, the staff and board members are also being deputed to specialised training. Over the years, the trainings offered to FPOs has improved with detailed curriculum and training manuals developed by reputed training institutions in the country. Another development has been the lenders offering institution-building trainings. Samunnati, FWWB, and Ananya Finance offer capacity development support through trainings, exposure visits etc.,

The board and staff of FPOs studied have received trainings as indicated in table 6.12 below. Further training needs identified by FPOs include a) refresher trainings on compliances; the compliance requirements have been high, especially for FPCs for which staff have to be well equipped, b) market linkages and negotiation skills, c) value addition especially suitable technology.

Mahila Abhivruddhi Society, Andhra Pradesh (APMAS), a resource organisation, has developed a clear strategy for engendering the FPO movement, which has eight focus areas and measurable actions. Special training modules for integrating gender concerns in FPOs have also been developed. Gender sensitisation trainings have been imparted by APMAS for the FPO board members and producer group leaders, which is considered a game changer in building the self-image of women as farmers and agribusiness owners. Women directors interacted with during the study mentioned that these trainings were instrumental to viewing themselves as farmers and also decision-makers.

6.4.8. Human Resources

FPOs studied are adequately staffed – on average, 2 to 5-year-old FPOs have three staff, 5 to 8-year-old have four staff, and more than eight-year-old FPOs, which are poultry FPOs, have more than 12 staff. 95% of staff are on a full-time basis. In poultry FPOs, more than 90% of the staff are on the payroll of the federation of FPOs. In other FPOs, 55% of staff are paid by FPOs and the rest by promoting institutions.

One of the lessons learnt, shared by the resource agencies, has been the necessity for female staff, especially a female CEO to build the confidence of women farmers. This requires more profound study. In the survey, 13 FPOs (18%) had a female CEO; data on businesses shows that these FPOs are doing equally well as other FPOs. Overall, about 35% of staff are female.

Table 6.13. Trainings for FPOs

Focus	Topics Covered	Number of FPOs
Governance and management	Roles and responsibilities of FPO functionaries, conflict management, Growth ability of BODs, Duties and powers of BODs and CEO	59
Bookkeeping and legal compliances	Maintenance of books, Accountability, statutory compliances, Auditing, MIS, GST filing, vouchering system	57
Business development	Preparation of business plan, business sustainability, demand and supply side analysis, buyer-seller meet, the importance of aggregation,	55
Market linkages and value addition	Understanding the agricultural marketing ecosystem, marketing strategies, Planning and models of marketing, quality assurance, post-harvest management, value chain analysis, Market trend analysis, grading and processing,	43
Gender sensitisation	Importance of women in agriculture, Women leadership and women empowerment	12

6.5. Key Learnings

The key learnings from the desk study and interaction with FPO members and the stakeholders are as under;

a) Women FPOs studied are performing well in terms of mobilisation of members and share capital, have good business volumes, and member connect and patronage though there are scope for improvement. The current business is oriented towards inputs; output marketing is yet to have adequate patronage. Overall, there is a business case for promoting women FPOs.

b) The mobilisation of women in SHGs has provided them with adequate institutional management skills for governing the FPOs. While SHGs are pro-poor oriented, for driving business volumes, it is important to target all women producers and not necessarily only the poor and poorest in the producer groups/farmer interest group. This will require some rethinking of targeting norms.

c) Most Women FPOs are undercapitalised, which in turn affects their capacity to leverage loan funds, their ability to carry out any significant quantity of business which in turn leads to lesser member patronage and member disconnect.

d) If the commodity chosen is the primary income earner for the women, there is greater patronage and business interest. A case in point is livestock FPOs, where the patronage in terms of volume of business and percentage of members using and benefitting from services of FPOs is very high. Regular mandi trade and dealing with traders is a weak area for women FPOs, whereas women find value addition and processing as manageable business opportunities. Women have a comparative advantage in value addition and processing.

e) The lack of land ownership among women is not a deterrent for women to own, manage and benefit from FPO. While SFAC local offices in some states have insisted on Land Titles for releasing equity grants, the resource agencies convinced SFAC otherwise. While access, control and ownership of production assets are important aspects for securing sustained benefits, the resource agencies have tackled the issue of lack of land ownership by sensitising men where needed.

f) Women need more trainings and exposure visits to well-functioning FPOs to build their confidence and also to reduce their dependency on staff in dealings with traders, processors, input suppliers, mandis etc.; additional time and investments are needed to fill the developmental gap in women's decision-making skills, market knowledge, information, financial management skills etc. Trainings related to farming as business and business management skills have been found to be effective.

g) Capacity development has to focus on improving the self-image and confidence of women and reinforce behavioural changes needed to believe in themselves as leaders, farmers and agri-entrepreneurs. Moreover, trainings need to be decentralised considering the livelihood situation, workload and multiple roles of women. Gender sensitisation of men in the households should be in built-in training packages to ensure they support women.

h) A balance between governance and management is delicately poised. Few promoters and FPOs have got this right by systematically broad-basing governance and building their capability. The narrow and hidden self-interests of some leaders/managers of the FPO have the potential to clash with the common interest of the FPO. Promoter acting as chairperson of the board, promoting organisations appointing CEOs with little consultation from members are some practices that can weaken internal governance and undermine the ownership and autonomy of the institution[21]. Governance and management balancing requires continuous effort and reinforcement of good practices. While this lesson is valid for all FPOs, for women FPOs there is an added dimension of promoters citing women's capability and time availability to take management control. There should be definite plans for the withdrawal of promoters from governance and management.

i) While a systematic Impact assessment of FPOs is yet to be carried out, the resource agencies mention a 20% to 30% increase in the income of producers[22] based on in-house assessments, especially where value addition has been undertaken. The discussions with board members and also resource agencies reveal that important gains are a) quality inputs at lesser prices and at door-step resulting in savings on costs, b) more assured regular channel for sales for outputs lessening the uncertainty of sales; increase in prices and income for women differ from FPO to FPO based on commodity and also age, c) increased confidence and self-image of women as farmers and Agri-entrepreneurs, d) greater control of income where the women receive sales proceeds into their own accounts.

6.6. Way Forward

Policy support: We need affirmative action under the current policy framework for the inclusion of women and their balanced representation in FPOs. Despite the mention of a focus on women, the Government's FPO Scheme does not set targets for promoting women-only FPOs, which is essential for the purposes of inclusion, as mixed-gender collectives have a poorer track record than women-only ones. The Government needs to revisit the new guidelines with a gender lens[23]; otherwise, women in the agriculture sector will be left behind in the new initiatives by the Central and State Governments and are likely to lose out at the entrepreneurial level and have their labour restricted to the fields[24].

Some of the possible affirmative actions by the Government can be a) Set specific targets for promoting women-owned FPOs under the policy and operational guidelines. National Association for Farmer Producer Organisations (NAFPO)[25] has advocated sector-wise reservations for women FPOs (based on current proportions of women enterprises in these sectors) and targets specific value chains like livestock with a high incidence of women ownership and participation for such reservations. b) In addition to forming women-only FPOs, strategies need to be developed to promote the membership and leadership of women in mixed FPOs. The eligibility criteria for Equity Grant Scheme require at least one woman to be on the board of FPOs and mention that women shareholders are preferred. However, requiring only a single female board member guarantees little participation of female producers in the company. Instead of a minimum of one-woman board-member, 30% of board positions should be prescribed for women. c) To incentivise women FPO mobilisation, for FPOs with more than 51% women members, provide for additional matching equity grant support and also increase grant amount for any capital expenditure related to business such as value addition/processing. d) Interest rebate of 1 % on loans to women-only FPOs can be considered as an incentive. e) Gender sensitisation for decision makers in Government/funding agencies/ resource agency staff/CBBOs is crucial to change their mindsets and beliefs about women farmers and women's capability to manage collectives. The popular perception is that farmer is a male, whereas most farm activities are carried out by women. Policy and procedures evaluation is necessary to ensure that these agencies reach women. The starting point is collecting and analysing gender-disaggregated data for FPOs, including outreach, member patronage, business transactions, matching grant equity support, guarantees and credit so that women are counted, and corrective measures can be taken. While land ownership is not seen as a major impediment in the functioning of women FPOs, policy impetus for women's ownership of land (singly or jointly) is crucial for their access to several services and also better decision-making on land and income use. The ecosystem needs to be women-friendly. For example, improvements in marketing channels and platforms need to include women-friendly processes rather than continuing the existing conditions that exclude women.

Women FPO formation and nurturing: Women FPO formation and nurturing need a differentiated approach. In geographies where CBBOs/resource agencies have had prior work and where the community is already organised and community connection is high, it is easier to form women collectives; in newer geographies, it requires more time than the current policy allows. When funders pursue deadlines, the resource agencies are constrained to mobilise whoever are ready; thus, women are usually left behind. Though women have been part of SHGs and federations, they need to be convinced in forming a FPO which is a more complex organisation[26], as M.S.Sriram states. Women are hesitant to form a new institution, especially a market-facing one. The documentation requirements and legalities deter their enthusiasm. More comprehensive consultation including men, strong facilitation in explaining the logic of FPOs and involving women leaders in the process of making core decisions take more time but lay a strong foundation. Policy-makers need to allow flexibility to CBBOs for adequate time for mobilisation.

Gender concerns have to be well integrated and addressed at every stage of operations and growth of FPO. It is necessary to build on women's capabilities strengths and choose products and services that women can manage with capacity building. The FPO's core businesses and services should consider not only the market potential of commodities/ value chains but also women's current roles in the value chains and gender gaps that need addressing. The context of women varies from location to location; thus, the opportunities for women collectives also vary. Sectors that traditionally women have been active such as livestock, vegetables, fisheries, value addition etc., are ideal for women collectives. With mobility issues and the non-availability of reliable transport in some regions, women tend to prefer a smaller cohesive area of operation. Where necessary, men need to be coopted in farm operations/transportation etc.; unrealistic expectations that women should carry out all functions should be toned down. However, FPO governance and decision-making should be that of women. Examples are late hours/very early hours harvesting, transporting, etc., where men need to be coopted since Mandis lack basic facilities. Marketing income should flow to women's accounts; this will involve reactivating dormant accounts/opening new accounts. Interventions to address women's drudgery in farming need to be well integrated. All processes in production and value addition need to be examined through a gender lens and rendered women-friendly.

Women need more trainings and exposure visits to well-functioning FPOs to build their confidence and also lessen their dependency on staff in dealings with traders, processors, input suppliers, mandis etc., The developmental gap in women's decision-making skills, market knowledge and information, financial management skills etc., needs additional time and investments. Trainings related to farming as business and business management skills have been found to be effective. Capacity development has to focus on improving the self-image and confidence of women and reinforce behavioural changes needed to believe in themselves as leaders, farmers and Agri-entrepreneurs. Moreover, trainings need to be decentralised taking into account the situation, workload and multiple roles of women. Gender sensitisation of men of the households should be in built-in training packages to ensure they support women. Thus, women FPO formation and nurturing needs a well-differentiated approach.

In conclusion, the fact that FPOs being community-based organisations should include women in substantive ways cannot be ignored. While tokenism for the presence of women in FPOs exists, these do not address the development aspects of redressing gender imbalances. In FPOs, providing adequate space to women not only addresses social aspects but, more importantly, the economic aspects that have a far-reaching impact on the status of women in every sphere. Women in FPOs, as the discussions with the FPOs show, gain functional literacy, financial literacy, market knowledge, livelihood-improving competencies, enterprise skills as also quality-of-life changes. In most other gender development programmes, not all such aspects are addressed together; FPOs are a much better and more effective vehicle for strengthening women's competencies. Policy establishments and planners need to prioritise the inclusion of women and their effective participation in FPOs to harvest various economic and development gains cost-effectively.

Notes

1 NSS REPORT NO. 587: Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India, 2019 (January – December 2019).

2 The functioning and financial performance of cooperatives has come under criticism because cooperatives have not been able to grow into strong member-controlled and self-sustainable business entities. This failing has been attributed to low member commitment, excessive dependence on government funds, political interference, bureaucratisation.

3 http://sfacindia.com/UploadFile/Statistics/Addendum-to-Operational-Guidelines-OG-of-Formation-Promotion-10,000-FPOs.pdf (seen on 16 July 2022).

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7 Srinivasan. N. 2019. Agriculture based livelihoods, State of India's Livelihoods report, 2019, ACCESS Development Services.

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10 Reema Nanavati, 2021, SEWA Transforms over 15000 Smallholder Farmers and Landless Laborers into Successful Entrepreneurs, Leaders and Managers of their Individual and Collective Social Enterprises, Sitaram Rao Livelihoods India Case Study Compendium 2021, ACCESS Development Services, New Delhi.

11 The Agriculture Infrastructure Fund (which allows FPOs to further invest in creating agricultural infrastructure) or 'One district-One product' initiative to boost natural farming.

12 Includes mobilizing agencies called differently under different funding schemes – promoting agencies, Cluster Based Business Organisations CBBOs etc.,

13 NABARD, 2022, Case study of SEEDS producer company, Tamil Nadu published in Case studies of FPOs in India, 2019-2021, NABARD research study -25, DEAR, NABARD.

14 PEs are FPOs registered in different legal forms.

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16 Advisory, market linkages and aggregation - AMLA

17 NAFPO. 2022. State of the Sector Report, Farmer Producer Organisations in India, NAFPO New Delhi.

18 All the tables in this section are from the desk study conducted on Woemn FPOs.

19 The Government appointed manager having an office in district headquarters reportedly insisted on being a cheque signatory involving lot of transaction time and costs for the governing body members in getting his signature in the cheques.

20 Dr Sanjeev Phansalkar. 2020. How Some Farmer Producer Company balloons can become durable flyers? NAFPO.
https://www.nafpo.in/wp-content/uploads/2020/02/How_some_FPC_balloons_can_become_durable_flyers_on_25-1-2020_part1.pdf

21 NABARD. 2022. Case study of Mahasakti Milk producer company, Rajasthan, published in Case studies of FPOs in India, 2019-2021, NABARD research study -25, DEAR, NABARD.

22 SEWA in different staples and spices, Srijan in custard apple processing,

23 Makaam, NAFPO, IRMA, and also individual experts have been advocating such changes.

24 Shilpa Vasavada, 2021, The 10,000 FPOs scheme ignores women farmers, published on 25 February 2021.
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Livelihoods in Millets

7

Dr Sankar Datta*

7.1. What are Millets

Millet is not a crop. Millets are a group of small-seeded grass crops cultivated for human consumption and as fodder. These include Sorghum (*Sorghum bicolor*, also called great millet or Jowar), Pearl Millets (*Pennisetum glaucum* (L.) also known as Bajra), Finger Millets (*Eleusine coracana*. also known as Ragi), Foxtail Millets (*Setaria italica*, also known as Kangni Bajra), Proso Millets (*Panicum miliaceum* L.), Barnyard Millets (*Echinochloa esculenta*), Kodo Millets (*Paspalum scrobiculatum*), Little Millets (*Panicum sumatrense*, also known as Kutki), Brown Top Millets (*Brachiaria ramosa* (L.) Stapf. or *Urochloa ramosa* (L.), among others.

7.2. Some Salient Characteristics of Millets

Millets are one of the first few crops domesticated by humans and have been a staple food for dry regions of Sub-Saharan Africa & Asian communities. In India, millets have been mentioned in some of the old Yajurveda texts, identifying foxtail millet (प्रियांगवा Priyangava), Barnyard millet (अन्नवा Aanava) and black finger millet (ह्यामका Hyaamaka), thus indicating that millet consumption was common, pre-dating to the Indian Bronze Age (approximately 4,500 BCE)[1]. They were a major food grain crop of India until the time of the Green Revolution, which ushered in high-yielding Wheat-Paddy-Maise, and people started looking down upon millets as 'Poor-Man's Food' or 'Coarse Cereals'.

But recent research shows that Millets are also rich in Phosphorus, Potash, various anti-oxidants, Vitamin-A, Vitamin-B, Niacin, Calcium & Iron. These are a rich source of dietary fibre, and benefits include digestion by eliminating bloating & promoting good bacteria growth. In recent years, millets are also being called the Nutri-cereals.

Millets have many traditional characteristics: tolerance to high variations in heat and moisture requirements, pest and disease resistance. Millets, in comparison to other cereals, require relatively fewer inputs and energy; they are Carbon Neutral crops.

* The author would like to express sincere thanks to Dr. Dayakar Rao, Director, NutriHub, IIMR, and his team, especially Shri N.V. Ramana, Senior Advisor to Samunnati Finance Co. Shri Shubham Rawat, who helped with the data. Thanks to the whole team engaged in their millet's intervention.

Table 7.1. Some Recommended Intercropping System and their Row Proportion

State	Some Recommended Intercropping System and Their Row Proportion
Karnataka	Finger millet + Pigeon pea (8:2) Finger millet + Field bean (8:1) Finger millet + Soybean (1:1)
Tamil Nadu	Finger millet + Pigeon pea (4:1) Finger millet + Black gram (6:1)
AP	Finger millet + Pigeon pea
Odisha	Finger millet + Pigeon pea (8:2)
Maharashtra	Finger millet + Black gram/Matki (4:1/8:2)
Jharkhand	Finger millet + Pigeon pea (2:1)
Uttarakhand	Finger millet + Soybean (90+10% proportion)

Source: B. Dayakar Rao, B Venkatesh Bhat and Vilas A Tonapi (2018); '*Nutricereals for Nutritional Security*'; IIMR Publication No. 16/2017-18.

Box 7.1. Why Millets got Dishonored as 'Poor-Man's Food' or 'Coarse Cereals'.

In the 1950s, given the stagnation in food production and growing population, the World was apprehensive about the imminent food scarcity. Major research on Mexican Wheat offered a solution to World Hunger. Later with research in IRRI, the Philippines, Paddy got added. With these two crops came the new production technology for High Yielding Varieties (HYV). As this HYV methodology involved the application of Fertiliser, Pesticide, both of these crops have huge industry backing. Even post-harvest processing, such as Bread Cake Milled Rice, emerged. These industries supported the research for these two crops. The Governments looked at these as a solution to the food shortages. These two crops with improved HYV cultivation methods were rigorously pushed. Governments also got substantial tax revenue from the growth of these industries. Millets got pushed to the corner.

Later came maize. This was primarily used to feed the animals, which supplied food for human beings. Just looking at the body-weight gain ratio, It can be concluded that maize performed better than millet. Therefore, the feed industry preferred Maize over Millet. This got further aggravated in the last decade, with the MSP for millets soaring as a part of the Government Millets Mission.

So, now it makes no sense to use millet for animal feed unless pushed to a corner..

Source: B. Dayakar Rao, B Venkatesh Bhat and Vilas A Tonapi (2018); *'Nutricereals'*

Most millets have water requirement of less than 450 mmpa, and thus, they can be utilised as a livelihood option for farmers in rainfed areas. The millets have also shown promising results for inter-cropping with several other less water-consuming pulses. This, with low tillage requirements, helps restore soil health as well.

Recent research has also found that millets requiring little moisture can also do well in areas with rainfed paddy. These areas are usually single-cropped areas. After harvesting the paddy, millets can thrive fairly well in whatever residual soil moisture is available. As millets can tolerate long dry spells, they can withstand high fluctuations in temperature and are carbon-neutral, they have been also called climate-smart cereal crops.

With both nutritional qualities and climate adaptability, millets provide nutritional security in the face of the imminent water crisis due to global warming, not only for dryland smallholder farmers but for humanity in general.

7.3. Multi-Dimensionality of Livelihoods

Let us start with a quick recapitulation of what is livelihoods. We all know that though income generation and asset creation are important elements of livelihoods, these are not sufficient to sustain people's livelihoods, especially the weaker sections of society.

Livelihood is a system of making a living where different members of a household as a whole, and not just an individual, engage in a set of activities, some social, some political, and some economic, which often together build up and gets influenced by their culture, performing diverse functions, like production, exchange, conservation, and managing relationships with others in the economy and the society, for a means of living. They adopt different strategies to best utilise their capabilities and various resources they have access to, mitigating the risks faced by them, especially those who are vulnerable. This way of looking at the livelihoods of people recognises that the various factors affecting their livelihoods, including the resources, and their capabilities which are formed on the basis of their aspirations and the needs that what they produce caters to (or the demand for them), are dynamic and is changing over time.[2]

In addition to generating income, it necessitates the management of risks and vulnerability to risks. As livelihoods involve improving their quality of life, nutrition plays a significant role in augmenting livelihoods. Livelihood outcomes are what household members achieve through their livelihood strategies, such as levels of food security, better levels of income and income security, better health status, improved well-being, more sustainable use of the natural resource base, recovered human dignity, especially of women, asset accumulation and high status in the community.

7.4. How Millets Contribute Towards the Livelihoods of People

Even now in the 21st Century, rainfed agriculture occupies about 51 percent of country's net sown area and accounts for nearly 40 percent of the total food production.[3] Often these areas also do not have a good top-soil cover, rendering them unsuitable for the cultivation of most crops[4].

It is now widely recognised that large dam-based large irrigation systems leave strong environmental impacts, with very high social costs to benefit. Therefore, there is increased attention to enhancing rainfed farming, making many highly vulnerable to both short-term dry spells and long-term droughts. However, such vulnerability to risks and shocks affects the livelihood choices of people. Moreover, changing precipitation patterns resulting from climate change will compound this issue for many small farmers. Under these circumstances, millets provide an alternative for smallholder farmers, which can help them augment their income. According to a report of the Indian Institute of Millets Research (IIMR), India currently has around 14 million hectares of land under millets cultivation and produces around 14 million tonnes a year with Rajasthan, Maharashtra, and Karnataka leading in millet farming.[5] Though widely varying across agro-climatic zones, for different millets, it can be safely assumed that 1 hectare generates about 50 person-days of employment.[6] Thus, it can be estimated that as of now, millets are generating employment of at least 700 million person-days, contributing to the income of millions of farm labour.

Box 7.2. Nutricereals for Nutritional Security

Augment Income
Mitigate Risk
Feed for livestock: Support Diversified Livelihood Portfolio
Mechanism of Savings
Healthy nutrition for family
Healthy Soil: Minimum tillage
Water conservation: More crop per drop
Carbon Neutral
Enhanced Engagement

Source: B. Dayakar Rao, B Venkatesh Bhat and Vilas A Tonapi (2018); *Nutricereals for Nutritional Security*; IIMR Publication No. 16/2017-18.

Millets are tolerant to high fluctuations in rainfall and temperature; these also help mitigate the risk of farming under rainfed agriculture conditions.

Most Wheat-Paddy-Maise varieties after the Green Revolution have focused on their grain yield. This may have been the need of the hour to address the food security being faced at that time, but as a consequence, they have affected fodder availability. This has had a serious implication for the farming system prevalent in countries like India. This has increased the dependence on factory-made animal feed. In resource-poor areas, where average land-holding is often not adequate to support the livelihoods of a household, they have to resort to a diversified portfolio of livelihood activities. And animal husbandry is the most prominent among them.[7]

Therefore, millets add to the income of the household not only from the sales/ consumption of grains but also from fodder for their animals. Animals not only add to their income but also help mitigate their risks. It also works as a savings mechanism for poor households.[8]

But not only on the economic front. Millets also have several other non-financial influences on the livelihoods of rural households.

First among these is human nutrition. India, where Over 3.3 million children are malnourished and more than half of them fall in the severely malnourished category with Maharashtra, Bihar and Gujarat topping the list, the Women and Child Development Ministry has said in response to an RTI query, millets could really be a boon. Millets are low glycemic index foods, i.e., they are digested slowly. They are a good source of:

- Phosphorus, Potash, Calcium & Iron
- Rich in anti-oxidants, slow digestive starch and dietary fibre, which are good for gut
- Phytochemicals such as phytates, polyphenols, tannins & other phenolic compounds
- Vitamin-A, Vitamin B, etc

Especially in rainfed areas, where the availability of other sources of nutrition is limited, millets have played an important role. With the introduction of the Management Intensive Cropping System following the Green Revolution, Wheat-Paddy-Maize has replaced them from the diet of the common man. This introduction of management-intensive cultivation techniques, replacing traditional crops with Wheat-Paddy-Maize has also contributed towards malnutrition among children in these areas. This cannot be attributed to the relative poverty in rural areas, as Maharashtra and Gujarat are among the top few states in terms of their income, though they also lead the list of malnourishment.[9]

The second non-financial benefit to livelihoods from millets is their contribution to the health of the soil. As the enclosed table shows, millets require far less water as compared to other crops. This not only leads to less depletion of

Box 7.3. Rainfall Requirement (in mm) for Different Crops

Sugarcane	2,000-2,200
Banana	2,000-2,200
Rice	1,200-1,300
Chillies	600 - 650
Cotton	600. - 650
Maize	500. - 550
Groundnut	450. - 500
Sorghum	400 - 500
Bajra	350 - 400
Ragi	350 - 400
Pulses	300 - 350
Sesame (Til)	300 - 350

Source: Adopted from e-Krishi Shiksha, UG Course on Agriculture Engineering, Module 5 Soil –Water – Atmosphere – Plants Interaction: Lesson 26 Crop Water Requirement soil water but also lesser use of power, rendering millets much more carbon-neutral.

Furthermore, a research review shows that millets respond well to 'conservation tillage' if appropriate varieties are chosen.[10] Planting depth control and soil contact are the greatest challenges to getting a good yield from millets. Appropriate row spacing and weed management also contribute towards better yield from millets: both grains and fodder. It has also been reported that soil carbon and nitrogen increased with no-till pearl millet.

All these factors together, with little or no application of chemical fertilisers, improve soil health many folds. Though immediate benefit from this cannot be observed, especially in single-cropped rainfed areas, the overall benefit to the farming community (and all other Earth residents) is enormous.

One non-financial benefit from the millets to the livelihoods come from the engagement of women in the farm, pre-production, during production and post-harvest operations. Most millets are self-pollinated crops; their seeds can be retained from home production and used for the following season. A research study conducted jointly by DHAN Foundation for Enhancing the Status of Small Millets in Mainstream Diets in South Asia found that the women were much better at collecting and conservating the seeds and applying them across seasons. On top of that, rainfed millets require very little external inputs which are usually purchased by men from agro-input traders. This again enhances the scope of involvement of the women in the cultivation of millets. Though no major field-based study substantiates such an assertion, it can be argued that millet provides a much larger scope for the involvement of women in farming operations.

Improving the nutrition of the family, especially the children with a millet diet, is also an area of involvement of millets. However, we must remember that millet grains are harder than Wheat-Paddy-Maize. This necessitated hand grinding at home before they could be served to the family. Now, these grinding wheels (also known as चक्की or Chakkis) have become close to extinct. Nor do the women today want to use these wheels.

Scholars looking at nutritional security have also raised concerns about whether a shift to millet affects overall cereal security for the country. As reported in http//farmer.gov.in,

at present, the country is producing much more excess Wheat than the requirement, and often, warehouses are over-flooded with Wheat. India's rice production also rose to a record 130.29 MT in the 2021-22 crop year crossing the required limits of self-sufficiency. Therefore, even if we shift to millets, there is unlikely to be a cereal shortfall. In addition, millets are recommended to be eaten with a mix of multi-grains (especially with rice for dosa, with Wheat for porridge, cake etc.) to an extent not exceeding 20-30%.

7.5. Impact on the Livelihoods of the Poor

As shown in the discussion above, there are multiple ways in which the promotion of millet can impact the livelihoods of the poor. A report from the Ministry of Agriculture shows that even in the 21st Century, more than 50% of Indian Agriculture is rainfed.[11] Given that most of the well-endowed cultivable land has been put to full use by the not-so-poor farmers, the poor smallholder farmers are left primarily with less productive land in water-scarce areas. As these lands do not give adequate returns to sustain the livelihoods of the whole household, the poor are left with little options but a reduction of consumption (having one meal a day, no meals for the elderly, women) or the sale of assets (land, livestock, jewellery) or sinking into seasonal bondage, small thefts and crime, sex work, starvation, chronic sickness, or even suicide.[12] Though no exact statistics of people living under such conditions are available, according to *Global Multidimensional Poverty Index Reports* 2019 and 2020, 21.9% of the Indian population was poor in the country, or the number of poor was pegged at 269.8 million, out of whom roughly 86.8 million are living in extreme poverty.[13] Given that about 40% of them live in rainfed agriculture areas, one possible way to augment their income with low risk is to re-introduce millet cultivation in these areas.

As mentioned earlier in this chapter, millets were one of the earliest recorded cereal crops in this country. They were part of our regular diet till the recent incursion of the high-yielding Wheat-Paddy-Maise in the 1950s. However, revitalising millets cultivation and consumption could open new possibilities for this large segment of the Indian population.

This can also open new possibilities for the engagement of women in farming and post-harvest non-farm activities. The last three decades have also witnessed the significant organisation of women in rural India. Many of them have built a substantial capital base from their savings through Self-Help Groups and other related organisations. Many of these savings can also be used for building up a decentralised millet processing infrastructure at village or cluster levels. This will not only create new employment opportunities but will also help deploy the savings better.

This local-level primary processing of millets at the village level will also make these nutritive products available for domestic consumption. (See discussion on the development of appropriate technologies in the subsequent section)

The other significant way in which people's livelihoods will get affected is by enhancing the availability of fodder, where women spend a large part of their time collecting fodder for their animals.

With the increasing biodiversity and better health of the soil, discussed above, farm households are also expected to reap a better harvest in subsequent seasons[14] with increased returns and higher days of employment in the field.

7.6. Major Bottlenecks in Livelihood Promotion Through Millets

To understand some of the major bottlenecks in livelihood promotion through the propagation of millets, let us start with what the farmer is looking for. A farmer has a piece of land, which is more or less a fixed asset. Therefore, the farmer is trying to maximise the return from a unit of land. From the following table, we can see that the current productivity of millets being what they are, return from millets does not compare well with other cereals, especially with maise and barley, which are also grown primarily in rainfed conditions.[15]

Table 7.2. Comparitive Return for Farmers - Millets vs. Other Cereals

Crop	Average Yield T/Ha		Median Price 20-21	Return for Farmer
	India	Global	in ₹/T	In ₹/Ha
Sorghum/ Jowar	0.97	1.41	18,000	17,460
Finger Millet/ Ragi	1.21	1.66	30,000	36,000
Barley	2.69	2.95	20,000	53,800
Maize	3.03	5.92	20,000	60,600
Paddy	2.66	3.42	18,000	47,880
Wheat	3.43	3.71	23,000	78,890

But the ruling price of most of the millets is comparable with other cereals. It can also be seen in the following table that the policy support for millets in terms of their Minimum Support Prices (MSP) has not been lagging behind. In the last decade, while the MSP for Wheat and paddy has increased only by 76% and 98% only, the MSP declared for millets has gone up by 241% and 213% for Ragi and Jowar, respectively.

Table 7.3. Minimum Support Price - Millets vs Other Cereals

Crop	Minimum Support Price In ₹/T		Percentage Increase
	2010-11	**2021-22**	
Sorghum/ Jowar	8,800	27,580	213%
Finger Millet/ Ragi	9,650	32,950	241%
Barley	7,800	16,350	110%
Maize	8,800	19,620	123%
Paddy	10,300	20,400	98%
Wheat	11,200	19,750	76%

Source: Compiled from Website of GOI Minimum Support Prices *https://farmer.gov.in/mspstatements.aspx*

This policy support to enhance the Minimum Support Price (MSP) of millets has had not-so-desirable consequences as well. Already I have indicated three challenges posed by high MSP. (i) Feed industry is not willing to use millet, which has become expensive. (ii) The government is unwilling to introduce millets in their PDS or MDM programs, as they will have to shell out huge subsidies. (iii) Villagers have stopped consuming millets @ ₹30-33/ kg when from the PDS, they are getting Wheat @₹3/kg and rice @ ₹2/kg in most states.

But despite receiving such policy support, millets do not appear to be an economically attractive proposition for the farmers. However, this does not take into account the non-commercial benefits derived from the fodder they produce and the ecological sustainability the millets contribute towards.

The second major constraint in promoting the cultivation of millets is its waning markets. As mentioned earlier in this chapter, with the promotion of high-yielding varieties of Wheat-Paddy-Maize in the wake of the Green Revolution, millets took a back seat in the minds of the consumer as a poor man's crop. This was coupled with the difficulties of including them in Indian culinary habits. As millets are 'gluten-free' cereals, their malleability is low. Therefore, they did not gel well with most common Indian dishes.

In addition, the demand at the local level also diminished with the reduction in the popularity of the grinding wheel. It has also been affected by the availability of Wheat and rice through Public Distribution System (PDS) at nominal prices. If the rural consumers could get wheat-rice at ₹2 or 3 a kilo, why would they buy/ use their home-grown millets at market prices of ₹25-30 per kilo? The reverse of this argument was also used by some government officials to question why millets are not supplied through the PDS. Mid-day Meal Scheme and PDS are mechanisms for making subsidised food available to the needy. If wheat-paddy are available in the market for ₹19-20 per kilo, what would be the justification for any government to supply an expensive grain at a price of ₹25-30 per kilo? This additional subsidy burden also poses a severe limitation for expanding the market.

However, in recent years there has been an improvement in the consumption demand for millets.[16] But this growth is primarily driven by the urban-educated segment of the market, who have become health-conscious and conscious about the degradation of the environment. This market, though small, is willing to pay a higher price. But the quality standards required by this market are fairly high, and post-harvest processing expenses, including material lost due to poor quality, take away most of the additional price the consumer is paying. Therefore, this growth in market demand does not leave the farmer any better. Several new initiatives in millet processing have also come up to cater to this market.

In terms of the increasing, the productivity of millets several research projects have also been launched. As per records of IIMR, 125 new millet have been released, including sorghum (59), Finger millet (25), Foxtail millet (15), Pearl millet (14), Little millet (8) and Proso millet (4). Most of these varieties have tried to address some specific growing conditions of some specific agro-climatic areas. But no major breakthrough in the yield has been reported.

There has also been research to explore if the residual moisture of Kharif crops like paddy can be used to cultivate millets in the subsequent Rabi season. Long-term results for such trials are awaited.

Another constraint in the field (Anantapur District) is the slowly disappearing aptitude for millet cultivation. With significant drive from the government about promoting wheat-paddy and also improved varieties of commercial crops like groundnuts, for more than three decades now, the local farming community has lost their ability to produce rainfed millets. Barring some aged farmers, most young farmers could not spell out the package of practices for millets.

7.7. Way Forward

Though millets provide an opportunity for nutrition security in the face of imminent climate change, there are two sides to this problem. On the one hand, there is not an adequate incentive for the farmers to produce millet and create a supply push. On the other hand, there is not adequate demand from consumers to create a market pull. Therefore, any attempt to promote livelihoods with enhanced use of millet will have to work at both ends: (i) enhance productivity and (ii) improve the market linkages.

The Government of India has made several efforts to enhance millets production. The Directorate of Millets Development was set up as a part of the Ministry of Agriculture, and it came into existence on 1st March 1971. Several pre-release varieties of Coarse Cereals were included in the Mini-kits Programme. Millets were also included in the central scheme 'Special Food Production of Maize' launched in 1987, under which a large number of demonstration plots were set up for training and exposure of farmers.

Another centrally sponsored scheme, Integrated Cereals Development Programme in Coarse Cereals-based Cropping System Areas (ICDP-CC), was launched in 1994. Following this, a GOI-UNDP Food Security Programme was launched funded by UNDP, which emphasised millet-based farming system was implemented in three States viz: Bihar, Rajasthan & Uttar Pradesh for four years, w.e.f. 1999-2000. After that, millets were included under Integrated Schemes of Oilseeds, Pulses, Oil palm and Maise (ISOPOM) from the IX Plan. A centrally sponsored scheme on macro management of agriculture evolved into Integrated Cereals Development Programmes in Coarse Cereals (ICDP-CC) focused on the development of cropping systems.

The Initiative for Nutritional Security through Intensive Millets Promotion (INSIMP) was launched during 2011-12. As a part of this initiative, three National Centres of Excellence (CoEs) were established at CCSHAU, Hissar for pearl millet, at Directorate Sorghum Research, Hyderabad for sorghum and at the University of Agriculture Sciences, Bangaluru for small millets, in 2011-12. The government also started the programme, Initiative for Nutritional Security through Intensive Millets Promotion (INSIMP) under the National Food Security Mission. It also accelerated Fodder Development Programme for Millets and Maize in 2011-12.

A pilot scheme for establishing Nutri-Farm was launched during 2013-14 in 100 districts of 9 States for the cultivation and promotion of micro-nutrient-rich cultivars of cereals, including Pearl Millets, Maize and Finger Millets. Coarse cereals got included under Food Security Bill: The National Food Security Act, 2013 (also the Right to Food Act).

However, despite such efforts by the Government production of millets shrunk. There was a marginal increase in productivity, but the fall in the area under cultivation was too large to compensate for this little increase in productivity.

Therefore, an alternate approach for enhancing the production of millets will have to be thought, other than just varietal improvement, which we learned during the Green Revolution.

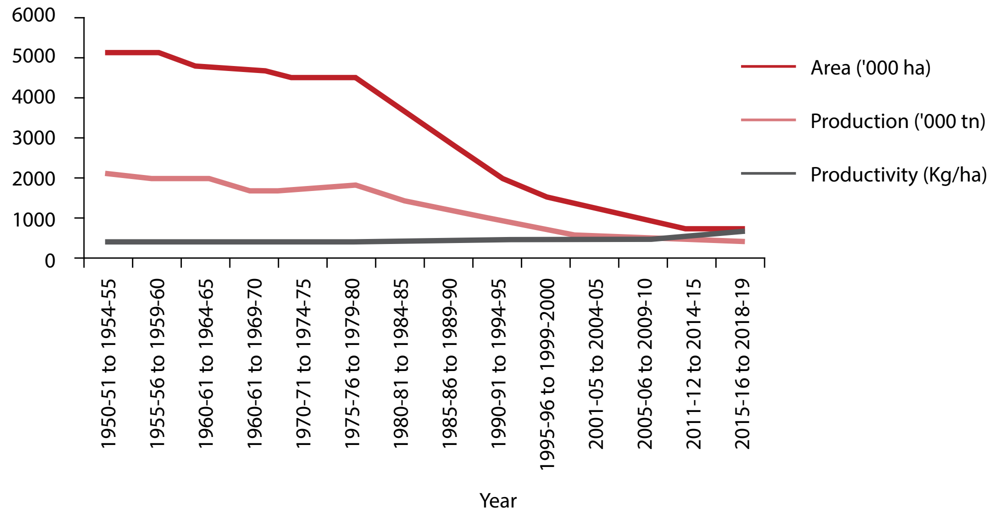

Figure 7.1. Trend in Area, Production and Yield of Millets India (1950-51 to 2018-19)

Source: M. Uma Gowri* and K.M. Shivakumar, (2020); *Millet Scenario in India,* Economic Affairs, Vol. 65, No. 3, pp. 363-370, September 2020

Some research by IIMR shows the possibilities of taking up millets production in the paddy fields after their harvest in the Kharif season.

Research has also shown that though most millets are grown as a rainfed Kharif crop, the return to farmers would be significantly better if millets are taken as a Rabi crop, with no additional irrigation, as these give better yields as well as fetch better market prices.

Research has also been conducted to cultivate millets in the favourable agricultural eco-system, with High Yielding cultivation practices. Though these experiments show marginally better productivity, one loses out on the eco-friendly advantage of the millets. On top of that, in such a condition, millets are competing with Wheat-Paddy-Maize.

Therefore, more significant research is required to enhance the productivity of millets, not only in varietal trials but also in exploring alternate farming systems. But there are two constraints: (i) funds for research in millets were really limited, having its own implications on the kind of talent it could attract and (ii). most of the people who came to millet research were heavily influenced by HYV thinking. So, most of these researchers have focused on changing the fertiliser dose, irrigation application and so on. Though incremental benefit has not been significant in rainfed areas, millets lose their

Table 7.4. Ratio of Kharif to Rabi Acreage - Millets Vs. Other Cereals

Crop	Autumn	Kharif	Rabi	Summer	Weighted Average Yield	Ratio of Kharif to Rabi Acreage
(2019-20)	Yield T/Ha					
Jowar	0.52	1.1	1.35	1.7	1.23	0.61
Bajra		1.44	2.15	2.03	2.02	225.86
Ragi	0.68	1.47	2.38	1.44	1.95	13.01
Maise	2.45	2.79	4.13	2.94	3.37	2.01
Paddy	2.36	2.45	3.37	2.84	2.75	8.57
Wheat		0	2.72	1.5	1.81	

Source: Compiled and computed from the data from https://eands.dacnet.nic.in/

natural ability to remain carbon-neutral or a source of livelihood for the really backward area.

Now, the second area of intervention required is in terms of marketing. As mentioned earlier, in the recent years, there has been a higher level of awareness about the potential benefits of millet in our diets. But to tap this market, we need to make what the 'consumer wants' available to them and not 'just sell' what the farmers produce. This market segment is looking for 'convenience' in cooking, not just nutrition and eco-friendliness. Therefore, some of the small eats, like cookies, ready-to-eat products or ready-to-cook products, are being absorbed in the market. But we are not yet there. In terms of their taste, their miscibility with other culinary practices is a long way off. Though some work has been done in mixing millet flour with Wheat or paddy flour to make Idli-Mix, and Multi-grain Atta have been made, they are still at an experimental level. This is where more research is required for the processing of millets into products that the consumers want.[17]

This is where there is a role that needs to be played by a marketing agency. They understand the desires of the consumer. These will have to be translated for the technology developers. These Marketing Agencies will play the critical role of linking the two sides of the value chain: Suppliers must deliver what the consumer Demands.

Another area of technological development will be on a small scale. As I have pointed out, many rural consumers have shifted out of millet due to difficulties in its primary processing. The old-style grinding wheels have become untenable in the present-day context. But an alternate technology that can be used at the domestic level has not come up. Therefore, people are rejecting the grain along with the technology.

Here again, the technology developers will have to develop some technology that can be used at domestic or village levels. This will facilitate developing local consumption. People will not have to carry the whole grains for hulling and milling to some urban centres and bring them back for home consumption. This will also improve the economics of the millet sector. Only dehulled excess produce will have to be transported for further value addition, optimising the transport costs.

With the increasing concerns about the ecological sustainability of our cultivation processes around the world and growing concerns about nutritional food, the demand for millet in different parts of the world is also growing.

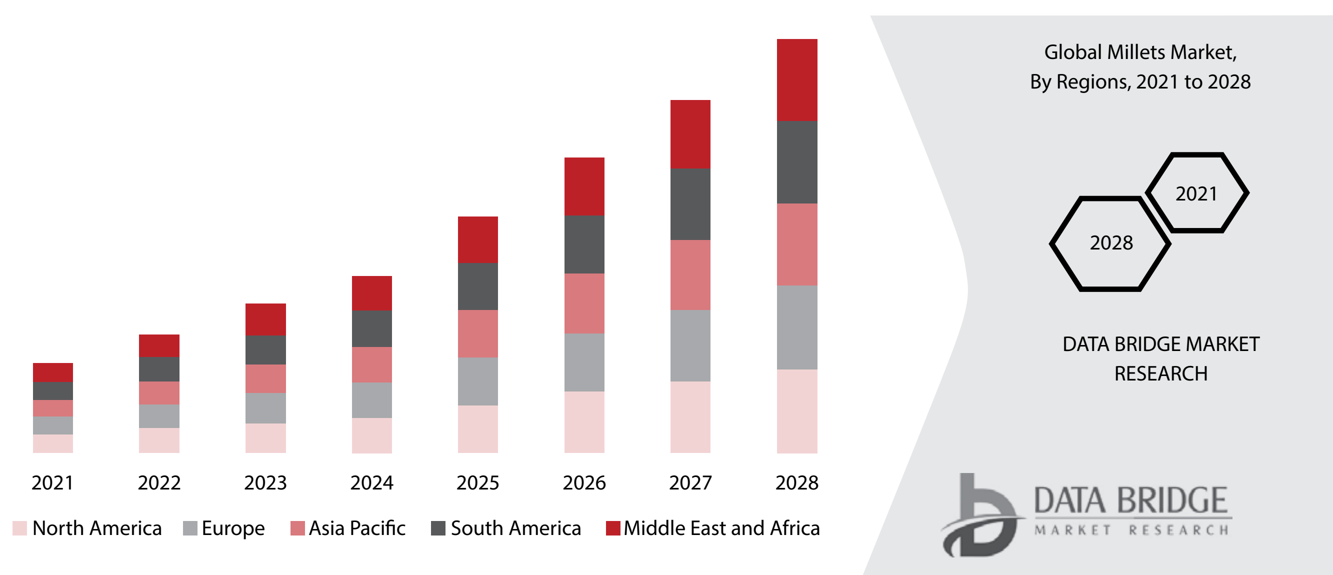

Figure 7.2. Global Millets Market by Regions, 2021 to 2028

Source: Adopted from the report by Data Bridge Market Research. An editable version is also available on payment of USD 4,000 (approx). Also available at https://www.marketresearch.com/DataM-Intelligence-4Market-Research-LLP-v4207/Global-Millets-14890420/

Detailed market research by Data Bridge Market Research shows that the millet market is expected to grow at CGAR of 4.76% in different parts of the world, including Countries (U.S., Canada, Mexico, Germany, Sweden, Poland, Denmark, Italy, U.K., France, Spain, Netherland, Belgium, Switzerland, Turkey, Russia, Rest of Europe, Japan, China, India, South Korea, New Zealand, Vietnam, Australia, Singapore, Malaysia, Thailand, Indonesia, Philippines, Rest of Asia-Pacific, Brazil, Argentina, Rest of South America, UAE, Saudi Arabia, Oman, Qatar, Kuwait, South Africa, Rest of Middle East and Africa).

Therefore, all attempts should be made to tap this effervescence demand for eco-smart nutria-cereals. To tap this market effectively, we not only need encouraging & enabling policies to support the market players but also need to develop a cost-effective certification system, which assures the distant consumer in other countries about the carbon neutrality of the crops and their nutritional advantages. Various certification systems have evolved in the last decade, including organic certification, good-agricultural practice (GAP) certification, non-pesticide certification, and fair trade certification, among others. The government needs to take a lead role in certifying the Indian millet as suitable for the growing global demand.

It seems that millet, to come back to our regular diet, a concerted effort from various agencies, from research to breeding, to seed production, crop inspecting, and decentralised and large-scale processing with appropriate market linkages, would be required.

Notes

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[8] Neela Mukherjee. 2010. 'Alternate Models to Microsavings for the Bottom-of-the Pyramid in Rural Areas' in Sankar Datta S.L. Narayana, S. Srinivas, (ed.). Savings of the Poor: How they do it, Bangalore, Books for Change

[9] See discussion on nutritive value of millets in Issoufou Amadou, Mahamadou E. Gounga, Guo-Wei Le (2013); Millets: Nutritional Composition, Some Health Benefits and Processing - A Review; Emirates Journal of Food and Agriculture; VOL 25, ISSUE 7, 2013; DOI https://doi.org/10.9755/ejfa.v25i7.12045

[10] '*Improving Conservation Tillage Practices for Pearl Millet*' J.P. Wilson1, T.C. Strickland, C.C. Truman, D.M. Endale, H.H. Schomberg, W.K. Vencill, and B.W. Maw Available at: https://www.a₹usda.gov/ARSUserFiles/66120900 Integrated Farming Systems EndaleSchombergSCASC2008.pdf

[11] Op. cit. https://agricoop.nic.in/en/divisiontype/rainfed-farming-system#:~:text=Rainfed%20agriculture%20occupies%20about%2051,highly%20diverse%20and%20risk%20prone.

[12] SRADH Framework Five Coping Strategies with or without Migration discussed in details in Resource Book for Livelihood Promotion (Fourth Edition); op.cit.

[13] https://www.theglobalstatistics.com poverty-in-india-statistics-2021/

[14] S.R.Singha, PoonamYadava, Dinesh Singha, M.K.Tripathia, Lal Bahadur, S.P.Singh, AradhanaMishra https://www.sciencedirect.com/science/article/abs/pii/S1161030120301593 - ! Sanjeev Kumara: (2020); '*Cropping systems influence microbial diversity, soil quality and crop yields in Indo-Gangetic plains of India*'; European Journal of Agronomy; Volume 121, November 2020, 126152

[15] See details in IndiaAgroNet https://indiaagronet.com/indiaagronet/crop%20info/maize.htm and in Barley Cultivation in India (ICAR) https://iiwbr.icar.gov.in/wp-content/uploads/2018/02/EB-53-Barley-Cultivation-in-India-Pocket-Guide.pdf

[16] This is reflected in the data presented by Kondala Lokesh, Chetan R Dudhagara, Ashish B Mahera, Sathish Kumar M and HD Patel (2022); 'Millets: The future smart food'; *The Pharma Innovation Journal*; SP-11(4): 75-84; ISSN (E): 2277- 7695, though that is not specifically for India, it does reflect the trend.

[17] Variety of the technologies developed and are beixng used have been displayed in the website: Technology Diffusion in the Millet Processing Industry, CFTRI, DSIR, Ministry of Science & Technology; Government of India; available at: https://cftri.res.in/Millets/

Digital Agriculture:
Is this the Future of 'New' Agriculture in India?

8

Dr Ajit Kanitkar and Isha Wadekar

8.1. Introduction

Agriculture has been and will continue to remain a bricks-and-mortar activity, from preparing the land to harvesting crops and subsequent harvest transport to the end consumers in distant cities and towns; several physical activities must be performed. Several phrases such as farm to fork, plough to plate, producer to consumer through value chain are in vogue to indicate the range of activities involved in farming. Some of the terms in trend for the last few years are 'smart agriculture', 'Agritech', 'AgTech', 'precision farming' etc. In this chapter, we present the use of digital and other technologies that have the potential to transform Indian agriculture. The chapter begins with an overview of agriculture in India and major policy initiatives in the last ten years, such as the doubling of farmers' income. We then discuss global trends in the use of digital technologies in agriculture. We then present major government policy initiatives in Digital Agriculture (DA), including important initiatives such as collaboration with ten private sector organisations. In the remaining part of this chapter, we briefly provide an overview of the technologies and their deployment in the value chain from farm to fork. The sector is vibrant, with many new entrepreneurs entering this space with innovative solutions using the latest technologies. There are a large number of start-ups supported by venture funds. We provide a quick overview of the flourishing ecosystem. The concluding part of the chapter summarises some of the opportunities and concerns raised by stakeholders on claims about successes and perceived risks of digital agriculture in overcoming some of the structural constraints of Indian agriculture.

Before this chapter begins, we present a base definition of our understanding of digital agriculture (DA). This would be helpful for the readers to draw a boundary around what is meant by DA. Does a computer-controlled drone used for spraying pesticide qualify as an application of DA? Is the use of drone photography to assess crops and diseases considered DA? Is satellite technology for assessing crop area in given geography considered DA? Collecting and disseminating market information, sharing pricing data, building a database for aggregation of farmers' requirements of farm inputs, and providing weather advisories on cell phones are examples of the marriage of digital and brick-and-mortar activities involved in agriculture. Do we include these in the scope of DA? How does one distinguish between a traditional sprinkler that is mechanically controlled and a 'smart' one with sensors built into it to regulate water discharge depending on the soil condition and crop? Is the latter an example of DA?

8.2. Digitisation vs Digitalisation

In this chapter , Digitisation has been understood as transferring the existing data from a paper format into a digital format. A typical example of Digitisation would be a revenue department of a state government, all land records in a physical format, like, in a register and or in files of paper; Digitisation is transferring these paper records into a digital format (hence paperless). Then subsequent changes, additions or deletions can be made electronically or digitally. A similar transfer of paper to digital format can happen when crop sowing records kept in physical formats are stored in digital mode.

For instance, in the Bhumi Project of the Karnataka Government, digital records and accompanying digitalisation processes are used to ensure accuracy and transparency in land transactions. Most states today have digitised land records along with written records. However, they are not handled efficiently, i.e., they are not updated timely. The time for a digital record to get updated with a change may vary across states – sometimes even months.

If any farmer sells a part of his land, which part of his land sold is not explicitly recorded. For this purpose, the Karnataka government makes a pre-mutation sketch. It is a sketch of the land being sold with the approval of a government-appointed licensed surveyor and agreed-upon buyer and seller, who must sign on it. This brings clarity to land records and helps solve disputes faster.

Digitalisation is deploying digital technology to enhance both efficiency and effectiveness of the entire business operations in any sector. It thus involves collecting data, analysing it, making inferences from it, establishing trends and making better business decisions based on collected data/information. In the above example, digitising land records will enhance the ease of transactions for farmers and the revenue department. For instance, the government is always concerned in change in the usage of land from agricultural to non-agricultural purposes, mainly land being converted from agriculture to construction or other activities. The digitalisation of such information will enable the government authorities to observe trends in the conversion of land. In Digitalisation, there is active usage of digital information for improving efficiency across the value chain. Another term that is also used in Precision Agriculture (PA). It is an approach to farm management that uses information technology (IT) to ensure that crops and soil receive exactly what they need for optimum health and productivity.

8.3. Overview of Indian Agriculture in 2022

Indian agriculture largely consists of small farmers spread across the country. Except for a few states that benefitted substantially from the intensive interventions and resultant supportive ecosystem promoted during the Green Revolution, farmers in the rest of the country still practice what is termed as dry land or rain-fed farming. Productivity gains are stagnant across all crops. The Public distribution system (PDS) and Minimum support price (MSP) mechanisms include only a few crops, such as wheat and rice though the PDS officially comprises more than 20 crops. Women are the silent and invisible labour force in Indian agriculture, and often this phenomenon is described as the feminisation of agriculture. Except for BT cotton, genetically modified seeds in other crops are not yet permitted by the government regulatory authorities. Reforms for agricultural markets are still not fully completed. The country witnessed massive turmoil on the promulgation of the farm bill in 2020 that the government subsequently withdrew after a year, heeding farmers' protests. The research and extension system of the public sector has lost its eminence and edge, which was once visible during the Green Revolution. A vast network of research and field institutions continues to operate but probably has lost its relevance. While India is food secure, concerns are raised about the unsustainability of resources such as groundwater, over usage of inorganic chemicals and the nexus between unhealthy food and its possible manifestation in health conditions. Nutrition and agriculture are another complex set of interactions. Small land holding, lack of clarity on the legality of arrangements that involve contract farming and land consolidation mechanisms, market failures and inconsistent policies for the import and export of agri commodities have made the policy space of Indian agriculture even more complex, fluid and challenging. Risks of climate change are visible. Since the focus of the chapter is on Digitalisation, we have presented a very brief summary of the current state of agriculture in India. This summary is thus about trends and not a nuanced analysis.

Many publications of the government and other organisations discuss the state of agriculture in the country, including a 2017 report[1] by the Ministry of Agriculture and Farmers Welfare[2] and The Dalwai committee report[3] of 2018 on doubling farmers' income. The Dalwai committee report is an essential document of the government in recent years, pointing towards a clear shift from productivity enhancement to gain in revenue for farmers. NITI Aayog, the country's highest policy advisory institution, has a dedicated vertical on Indian agriculture that lists several initiatives happening in the country. For instance, the NITI Aayog website[4] mentions details about a meeting of private-sector experts that NITI Aayog convened to draw a roadmap for the digital transformation of India's agriculture sector. In the session captioned as 'Farm-to-Table: Driving India's Agriculture Sector Digitally'- the group, led by ITC, presented its ideas and a roadmap for the implementation of 'Krishi Neev' to the Honourable Prime Minister in August 2020. Four pilots are currently underway and expected to be completed soon. The pilots include farm-advisory services, price prediction and blockchain for quality certification. Another working paper[5] published in 2022 by NITI Aayog reviewed the future directions that Indian agriculture should take.

A short review[6] of the state of agriculture is provided in the August 2022 publication to mark the 75th year of India's independence. This news report discusses using machine learning and artificial intelligence to ensure better agriculture practices. A May 2019 writeup[7] of a large consulting company shared their perspective on the growth possibilities riding on the wave of technology.

8.4. Central Policy Directives of the Government

The government of India has initiated several initiatives that attempt to bring in digitalisation for the benefit of farmers. Some of those initiatives are listed below.

8.4.1. National e-Governance Plan in Agriculture (NeGP-A)

NeGP-A aims to achieve rapid development in India through the use of Information & Communication Technology (ICT) for timely access to agriculture-related information for farmers. Its objectives are to bring farmer-centricity and service orientation to the programs, to enhance the reach and impact of extension services, to improve access of farmers to information and services through the outcrop cycle, to build upon, enhance and integrate the existing ICT initiatives of the centre, and States. To further strengthen the efficiency and effectiveness of programs through process redesign, promote a common framework across states and ensure more effective management of the Department of Agriculture, Cooperation & Farmers Welfare India schemes.

8.4.2. Digital Ecosystem of Agriculture (IDEA)

IDEA aims to keep farmers at the centre of agroecology by promoting accessible digital technologies. This is to be achieved through creating 'AgriStack' (a collection of technology-based interventions in agriculture), on which all the other services/platforms can be built. The IDEA would serve as a foundation to build innovative agri-focused solutions leveraging emerging technologies to contribute effectively in creating a National Digital Agricultural Ecosystem in India. This ecosystem shall help the government in effective planning towards increasing the income of farmers in particular and improving the efficiency of the agriculture sector as a whole. Its objectives include:

- Increasing farmer income through timely access to the relevant information.
- Keeping policies, programmes, and plans of the federal and state governments, business sector and Farmer Producer Organisations (FPOs), in sync with one another.
- More efficient use of resources by making information more accessible.
- To provide location-specific and customised extension services across the agriculture lifecycle while also protecting personal data privacy.
- Capacity building in various areas, including digital agriculture and precision agriculture.
- Encourage agricultural R&D and innovation by providing high-quality data.
- Adoption of standards to ensure interoperability and information flow across ecosystems.

8.4.3. Unified Farmer Service Platform (UFSP)

UFSP combines Core Infrastructure, Data, Applications and Tools that enable interoperability of various public and private IT systems across the country's agriculture ecosystem. UFSP is envisaged to play the following role:

- Act as a central agency in the agri-ecosystem (like UPI in the e Payments)
- Enables Registration of the Service Providers, public and private
- Enables Registration of the Farmer Services G2F, G2B, B2F and B2B
- Enforces various rules and validations required during the service delivery process
- Acts as a repository of all the applicable standards, API and formats
- It shall also act as a medium of data exchange amongst various schemes and services to enable the comprehensive delivery of services to the farmer.

The Department of Agriculture & Farmers' Welfare aims to create a Federated Database of farmers across the country, around which Government Schemes can be anchored and socio-economic benefits can be delivered to farmers.

8.4.4. Farmers Database

For better planning, monitoring, policy-making, strategy formulation and smooth implementation of schemes for the farmers, a nationwide Farmers Database linked with land records is being created with the following objectives:

- Develop a national database of farmers
- Keep a record of unique farmers
- Unique farmer ID (FID) to uniquely identify a farmer
- To know the benefits availed by a farmer under various schemes

This shall be used for various activities like issuing soil health cards, disseminating crop advisories to the farmers, precision farming, smart cards for farmers to facilitate e-governance, crop insurance, settlement of compensation- claims, grant of agricultural subsidies, community/ village resource centres etc.

8.4.5. Farmer Portal

Farmer Portal is a one-stop-shop for meeting all informational needs relating to agriculture, animal husbandry and fisheries sectors. Its agriculture segment provides information regarding inputs, crop management, storage, MSP, market price, drought management, soil fertility, contingency plans and hailstorm and Agri Export Zones. Farmers can also acquire soil health cards and apply for PM Fasal Bima Yojana through this portal. It also has detailed information on animal husbandry, a veterinary centre, a diagnostic laboratory, livestock census, disease and symptoms segment, advisories, biosecurity guidelines, and publicity material[8].

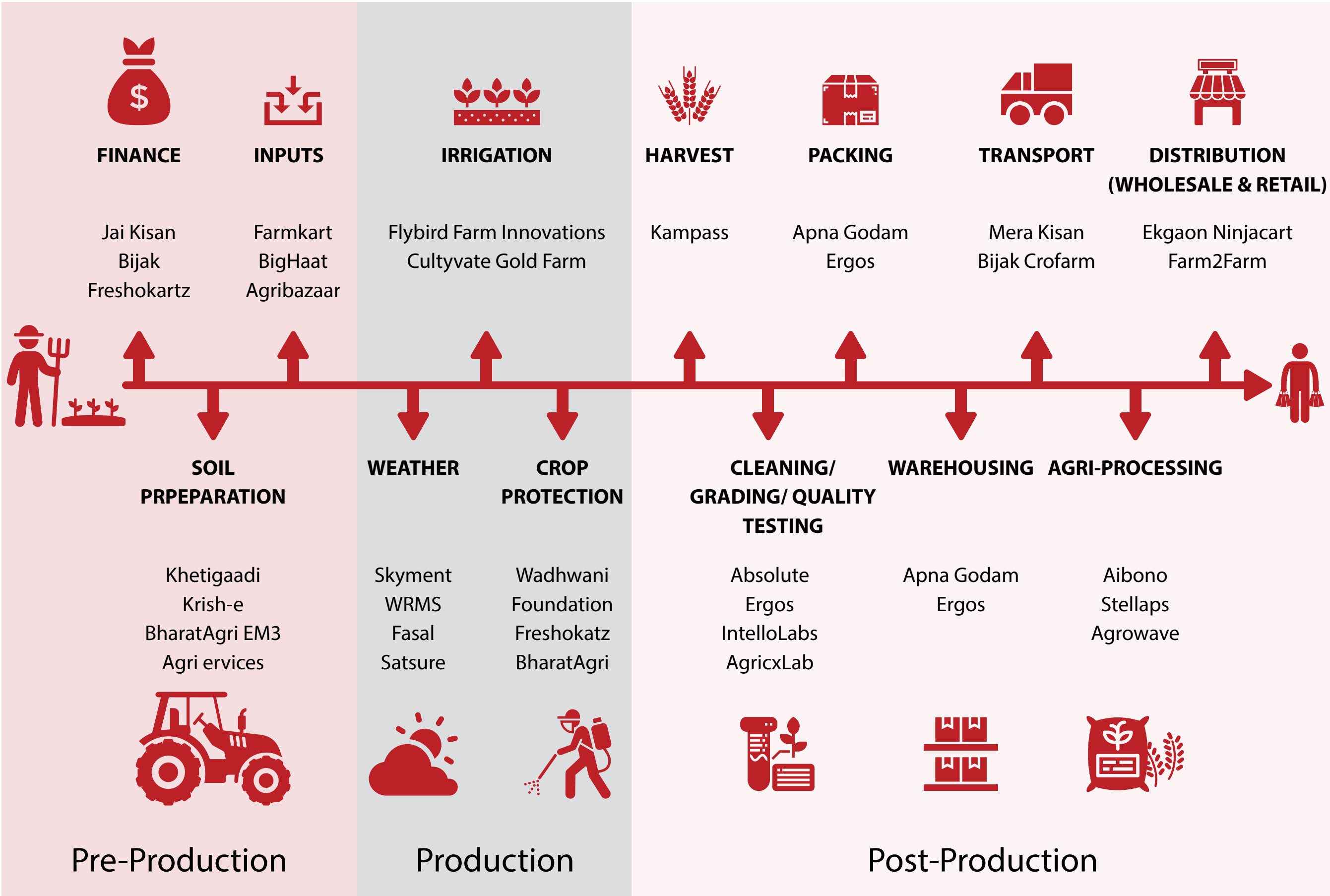

Figure 8.1. Value Chain and Digitalization of Agriculture

Source: Author

8.4.6. Value Chain in Agriculture and Digitalisation Efforts

We have presented below a typical value chain and how opportunities exist on the entire value chain spectrum for both digitisation and subsequent digitalisation. Each of the actors involved in aiming at large data sets is given small landholdings. Thus, aggregating information about farmers, their resources such as land, cropping patterns, inputs used in the production process, provision of credit, insurance and other advisory services such as weather and price information are some critical inputs that digitalisation can offer to farmers.

In the following paragraphs, we present some illustrations of its applications. Several enterprises are making a foray into the ecosystem.

- Flybird Farm Innovations is a social enterprise in Karnataka that makes irrigation control systems and helps in water conservation and fertigation control. Its digital motor starter can be programmed to start and end at pre-specified timings and protect the motor/pump by high and low-voltage cut-offs. Its sensor-based irrigation helps control irrigation and fertigation automatically and considers temperature, humidity, soil moisture, soil temperature and rain sensors. It also enables farmers for pre-specified volume-based irrigation. Farmers can remotely control and monitor irrigation/

fertigation/ fogging over web apps/ mobile apps with high-end kits. The incorporation of technology in irrigation makes it possible to implement precision irrigation. Precision irrigation is the customisation of irrigation based on real-time moisture, crop, stage, field size, availability of electricity and other factors. This helps prevent over-irrigation, which may lead to crop damage and reduces the risk of loss. This reduces water and electricity consumption.

- Pests and diseases are a grave concern for all farming communities. For instance, around 70% of all pest damage in cotton is caused by bollworms. Every year, 50% of all pesticide is used, yet 35% of crops are lost to pest attacks. The average yield in India is 487 kg/ha, much less than the world average of 768kg/ha. Countering these pest attacks is not easy. Manual data collection, analysis and advisory dissemination make the process of countering error-prone, unverifiable, difficult to scale, and time-consuming. Lack of awareness among farmers regarding appropriate pesticides for specific pests and frequency of spraying makes it harder for individual farmers to deal with the problem. Indiscriminate pesticide use fails to protect crops and harms the environment and farmers' health. AI for Social Impact, an initiative by Wadhwani Foundation, is currently working on pest management for cotton farmers. It has developed an AI-based solution, CottonAce, for pest management. Pheromone traps are laid on the farms of lead farmers. Lead farmers are farmers trained for pest infestations by CottonAce. There are around 5,00,000 to 10,00,000 lead farmers across the country, guiding ten cascade farmers.
- In case of a pest attack, lead farmers upload two images of the moths captured in those traps in the app and intimate the CottonAce team. CottonAce isolates the types of pests, detect them and counts the number of every kind of pest. It then decides whether pesticide spraying is recommended or not and generates an advisory. It uses a geospatial overview to analyse spread patterns, and the advisory can be shared with concerned farmers to take timely precautions. The app also works offline. The app's first impact assessment was done over the Kharif season in 2020 by Agricultural University, Dharwad. It reported better yield quality and increased net profit.
- Weather is an essential factor and affects decisions regarding sowing time, irrigation, crop to be sown, harvest time etc. Getting accurate weather predictions on time can prevent crop damage, help estimate costs, and reduce the risk of loss. The government provides weather forecasts through electronic media, IMD, Agricoop and eNam websites, and mobile applications Meghdoot and Mausam. Skymet is an old private player in the weather forecasting market of India. Established as a weather service provider to news channels, it now offers services such as risk mitigation in banking, agri-insurance, agri-reinsurance, crop surveillance and monitoring, and forecasting renewable energy supply. It first ventured into agriculture weather forecasting when it designed and supplied a weather forecasting app for Nokia Asha phones. Soon, its services were also included in Reuters Market Lite (RML), which provided information to end-user farmers. Skymet has expanded its services and uses uncrewed aerial vehicles (UAV) and automatic weather stations (AWS) for accurate data. It has a network of 6500 AWS installed across the country, providing input for its weather forecasts. After mapping the growth stages of crops and monitoring specific to each growth stage, it issues timely advisories to farmers. UAVs help to assess nutrient deficiency in plants using parameters like changes in soil colour, detect stunted growth in plants using digital surface models and detect the early onset of disease in plants.
- In the area of warehousing, Apna Godam is a Jaipur-based agri-tech firm providing warehousing facilities, financing and

commodity trading across the country. It enables farmers/businesses to book storage space online and track inventory in real time. Its integrated inventory management allows tracking goods across the business supply chain. It has online tracking logistics to track drivers, shipment of goods, client operations and vehicles. It also has a qualified team of experts for quality testing of agri-commodities.

- Ekgaon, another agri-tech start-up, entered the market of microcredit services in 2002. It later ventured into mobile-based advisory services (using phone calls and SMS) for advanced farming systems, diversification to value crops, climate-resistant farming practices, information about procurement agencies and data provision in advance on crop prices. It provides advisory services to farmers regarding sowing time, crop, appropriate inputs etc., and promises to buy full/ partial produce at pre-decided prices. This provides assurance to farmers. Produce is then procured at the farm gate. This saves transportation and selling costs for the farmers. Farmers get more value at the farm gate as well as after in-store sales. They benefit from an increase in income and farm productivity. Cultivation costs also decrease due to the implementation of precision agriculture. Ekgaon also plans to venture into luxury food segments such as flaxseeds, hence aiming at higher profits for Ekgaon as well as farmers.
- Several organisations such as AgroStar, FreshoKartz, BharatAgri, CropIn, BigHaat are active in advisory services. These firms provide farm advisory. Irrigation and weather-related advisory help know when to sow, how much to irrigate, etc. Soil advisory helps with fertilisation and soil nutrition decisions. Pest attack information helps know which pesticides may prove helpful in countering pest attacks. Advisory on the quality of produce and pricing information helps determine an optimal pricing strategy for FPOs. In Soil Testing, BharatAgri provides soil testing facilities and provides advisory on the quantum of fertilisers to be used on the farm. It also offers a water testing facility to determine water sustainability at the farm.
- In equipment renting, firms such as Krish-e, EM3 Agri Services and Khetigaadi rent farm equipment online. This helps in the efficient utilisation and mobility of resources among farmers, helping reduce disparities. Krish-e hires tractors on rent, and its Smart Kit helps owners track and manage equipment via a mobile app. It helps stop fuel theft and the unauthorised use of rented equipment. Khetigaadi, another firm, also provides finance and insurance support.
- Multiple firms provide market linkage services and provide information on current and nearby trading prices for a particular crop.
- IntelloLabs does a quality assessment of food products and uses the data to sort, grade, and package produce accordingly. This helps in better realisation of margins. The farmer can track this process online. Agricxlab provides a quality assessment of products through regular smartphones. Absolute is another agri-tech that provides actionable insights and advisory on optimal growing conditions for crops and disease resistance by application and research in multiple fields of life sciences.

8.5. MoUs With Ten Corporate Sector Companies

The Government of India had invited major technology and agritech players to create Proof of Concepts (POC) for demonstrating use case scenarios on the Farmers Database. In 2021, it signed MoUs with ten corporate sector organisations. Following is a summary of their proposed activities. It is to be noted that the MoUs were signed only for a year. The details of the proposals are presented in Annex 1.

Table 8.1. MoUs for Proof of Concept

	Corporate	Proposed Intervention
1	JIO	Providing digital and IT services through its own 'JioKrishi' Platform. Jio Agri Platform
2	ITC	Build a Customised 'Site Specific Crop Advisory' service to transform the conventional crop-level generic advisory into a more customised site-specific crop advisory. This advisory would be based on location (latitude and longitude), weather (current and near-term forecast), soil characteristics, crop growth stage etc. integrating multiple data points from varied sources using a digital crop monitoring platform
3	CISCO	Develop Agriculture Digital Infrastructure (ADI) solution, which includes hardware and software components for better farming and knowledge sharing. A common software platform – Smart Agriculture Platform integrates the sensors and information available from Department and Satellite Data processing solutions into one single dashboard providing real-time status.
4	NeMIL	Build a digital marketplace for inclusive development in the agriculture sector.
5	Ninjacart	Develop and host the Agri Marketplace Platform (AMP), which will bring together all the participants in the post-harvest market linkage.
6	Microsoft	The Agri Platform for Farmers, hosted on Microsoft Azure based Data & Analytics services, is built to consolidate the agri-ecosystem across the value chain (farm to fork) to empower the farmer. The AgriStack will have provision for partners to build a solution on the Microsoft Azure workbench as the data pool (owned by Agri Ministry
7	Patanjali	Develop an app for farmer advisory on nutrient profiling of soil, demographic details of farmers through digital support mechanism with advanced features of geo-tagging and geofencing, automated weather-based alert services to farmers on soil reports and fertilisers, accurate quantification of the farmer crop and yield, organic, non-organic and mixed fertiliser recommendations and its optimisation as per crop types
8	Agribazar	Data sanitisation for AgriStack, land cover mapping, soil degradation mapping, crop identification and acreage estimation, crop yield modelling and production estimation, past and current weather data analysis
9	Amazon	Amazon Web Services (AWS) will assist in the design of the National Agri Data Stack, identify solution providers to build the platform, offer AWS services and provide inputs on potential PPP model
10	ESRI	ESRI India proposes to execute the establishment & launch of 'Nation Agriculture Geo Hub', the creation & collation of farmer and other agriculture data/ services on the GIS platform, GIS-based locust crises monitoring & response system, configuring data and services to create a GIS-based web-enabled application

Source: Website of the Ministry of Agriculture

8.6. A Vibrant Emerging Ecosystem

While the use of digital technology in agriculture is a recent phenomenon, the ecosystem is quite vibrant, especially with the entry of a large number of promoters of social enterprises trying bold ideas, a new group of incubators and investors supporting innovations and other existing stakeholders such as the corporate and the public sector venturing into this frontier. Many information technology professionals are proposing IT-enabled solutions and Apps to tackle inefficiencies in the value chain. A supportive policy environment and the emphasis of the present government on the Digital India Mission have encouraged experimentation and innovation almost unprecedented in the agriculture sector so far.

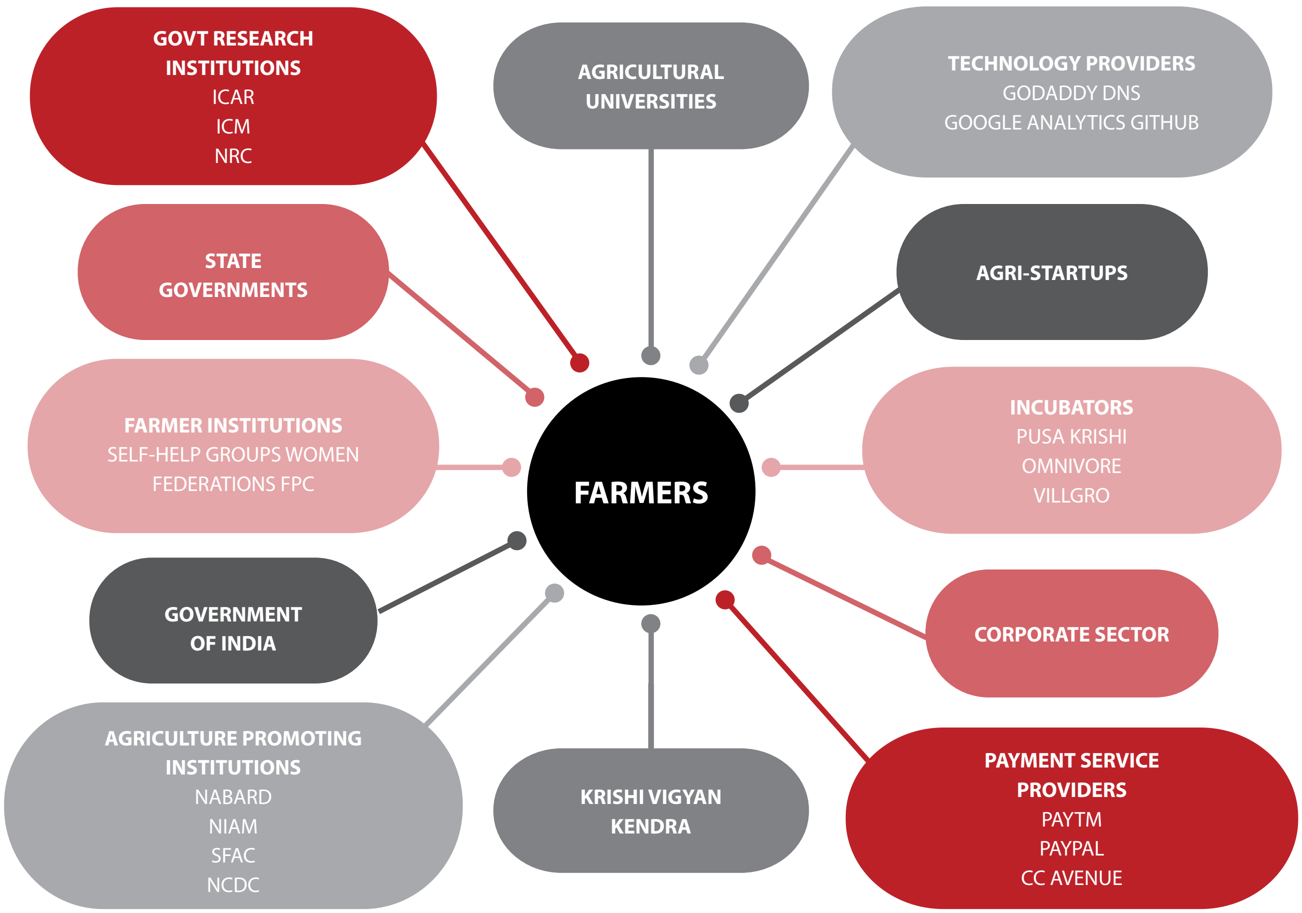

Figure 8.2. Thriving Ecosystem and Digitalisation of Agriculture

Source: Authors' compilation

Following is an illustrative (not exhaustive) list of enterprises in the ecosystem.

Table 8.2. List of enterprises involved in the Digital Agriculture ecosystem

Value Chain Activity	Start-Ups
Irrigation	Flybird Farm Innovations
	SunCulture
	CultYvate
	Gold Farm
Pesticides	AI for Social Impact, Wadhwani Foundation
	FreshoKartz
	BharatAgri
Weather advisory	Skymet Weather
	BharatAgri
	Weather Risk Management Systems
	SatSure
	Fasal

Value Chain Activity	Start-Ups
	CropIn
	Farmguide
Warehousing	Apna Godam
	Ergos
	Star Agriwarehousing and Collateral Management
Market Linkages	Ekgaon
Price discovery	Ninjacart
	Aibono
	Agrowave
	WayCool
	FreshoKartz
	AgroStar
	Arya
	Reshamandi
	SFarmsIndia
	Stellaps
	Bijak
	Licious
	Fresh to Home Foods
	Jai Kisan
	Mera Kisan
	Dehaat
	Crofarm
	Clover Venture
	Farm2Fam
Equipment renting	EM3 Agri Services
	Krish-e
	Khetigaadi
Soil Testing	BharatAgri
Crop Advisory	AgroStar
	CropIn
	FreshoKartz
	BigHaat
	BharatAgri
Finance	Jai Kisan
	FreshoKartz
	Bijak
Bioscience	Absolute
	IntelloLabs
	AgricxLab

While there is certain euphoria about this new agriculture, the field has also invited some caution and criticism largely emanating from a group of citizens and civil society actors, cautioning against misuse of data, the concentration of critical information in the hands of few corporates and eventually encroachment on the individual decision-making capacity of farmers. Fears also arise about the misuse of data to predict and speculate prices based on crop estimates obtained from collecting large data on crop outputs.

8.7. Arguments Against DA

a. Agri start-ups taking over local businesses, agritech start-ups involved in supplying agricultural inputs such as seeds, fertilisers and pesticides will directly compete with traditional input supply channels such as local pesticide and fertiliser stores. The influx of large investments in such a start-up might make it impossible for these local input dealers to compete, potentially creating a situation of an oligarchy at the village level.

b. Data ownership and control of the amount of data generated by digital agriculture tools are also of concern due to the lack of clarity on who will own the data. Large corporates will have access to massive amounts of data. If large corporates become owners of the data, they get the rights to sell it to other stakeholders, including input suppliers, commodity trading firms, insurance firms, large retail firms etc. This could become a zero-sum game for farmers. Will the farmers get compensation for selling their data? Will the consent of farmers be taken after explaining to them the consequences of using their data? Will they be asked/notified before selling their data to each and every third party it is sold to? Will farmers have the power to withdraw consent whenever they want?

c. Data availability may lead to malpractices in trade, such as hoarding for speculation. Commodity trading firms can use data for future harvest and resultant price projections. Data on crops sown and the area of land on which the crop is sown can be used to determine the yield (supply) of a particular commodity. Projected supply data can be used to project prices and hence can impact trading decisions to a great extent. Insurance firms can use the data to mix prices more suited for private interests.

d. Data security Collection and storage of such large amounts of data also means increased exposure to cyber and other vulnerabilities. It could be a target for hackers. Intentional theft or unintentional data leakage to third parties is a possible consequence. Deliberate publishing of confidential information, such as confidential pricing or market data of farmers from within the industry, may have a catastrophic impact on the supplier as it would destroy trust and cause customer loss. A foreign government having access to sensor collection from a UAS provider based out of that country can give it access to data of Indian farmers, leading to national security issues.

e. Rise in Inequality Tools of digital agriculture is expensive, and not all farmers can afford them. Small and marginal farmers dominate Indian agriculture. However, only large farmers operating on large farmlands can afford it. Small and marginal farmers with small pieces of land, would not benefit from the spread of digital agriculture. This could widen the income gap between large and small farmers and increase inequalities.

f. Data Integrity Intentional falsification of data can disrupt the agricultural sector and have real impacts on food security. An unapproved genetic modification or fake forecasts of an impending crop disease published to pursue profits for specific firms can cause economic disruption. It would take months to bring the situation back to normal and repair the damages caused to yield mix, soil health etc., by decisions taken due to asymmetry of information. Faulty sensors could result in wrong decisions like over/under watering of the crop, excessive use of pesticides, use of the wrong pesticide etc., causing crop damage. Machine learning techniques are beginning to be tested and deployed in advanced precision agriculture applications. Insufficiently modelled algorithms, data outliers, and inherent biases in the data creep into the predictive models can all have unintended and adverse effects.

g. Fear of domination by a particular firm over the entire value chain makes it impossible even for the government to control monopolistic behaviours. This is applicable to certain commodities where India's dependence on imports is high. Any price fluctuations have the potential negative impact on domestic prices in terms of food security and consumer interests. If a few actors in the value chain have access to sensitive information as a result of vast data they have, there is fear that those players can manipulate prices of the commodities.

8.8. Way Ahead: Challenges and Concerns

a. Small Crop Size, Hence Customised Application Required

86.08 % of total landholdings in India are small and marginal. Small landholdings mean limited harvest and even less marketable surplus for a large number of farmers. This calls in for customised application of inputs as well as technologies. Technology developed keeping in mind large landholdings will be an unaffordable and unviable option.

b. Massive Data to Store, Compute and Process

There are 14,64,53,741 total operational landholdings in India, and each landholding may have multiple crops sown on it. If data of various parameters of all these harvests are collected, it makes up huge data to be stored and operated on. India needs massive development in technological infrastructure to be able to handle this efficiently.

c. Digital Solutions are not Affordable and Need Cost-Cutting

Currently, digital solutions have not become affordable for the average Indian farmer who tills on marginal landholding. Solutions for irrigation, weather forecasts and warehousing are expensive high-end services. Although some state governments have collaborated with agritech firms to provide solutions in an affordable manner, using these services is still a distant dream for most farmers in the dry land region.

d. Rented Farms, Hence Portability and Easy Reinstalment of Hardware Solutions is Necessary

Not all farmers in India own land. Around 35 % of India's agricultural land is cultivated by tenant farmers. Digital solutions, apart from being software-based, also need on-ground apparatus for the execution of services. For example, micro-controllers for irrigation, weather stations for weather forecasts and pheromone traps for pest management solutions. Hence, they not only have to be affordable but also portable. Easy reinstalment of apparatus is necessary for tillers to continue using the solutions and agritech firms to retain customers.

e. Access to Smartphones in the Rural Area

32.4% of farmers do not have access to smartphones, and not all who have can operate them efficiently. This hampers the reachability of digital solutions as well as the penetration and expansion of agritech firms in rural India. It is next to impossible to digitalise agriculture without access to devices.

f. High Capital Costs for New Entrants, Including Social Enterprises

Setting up an agritech firm in India is a difficult decision. India is in its early stages of digitalisation. Not all farmers have access to devices. Digital solutions have not become affordable yet, and not many farmers are ready to accept them. With a small customer base and high capital costs, it is risky for businesses to enter this market. Agri-businesses also attract the least amount of investment. All these factors reduce the feasibility of sustaining and growing an agri-business firm. With low incentives to enter this segment, it is hard to digitalise agriculture in the country.

Finally, bypassing the existing supply chains that are displayed often interlocking inputs and credit is not easy. It is observed that farmers are indebted to local money lenders and have purchased inputs on credit from the person who governs the sale of produce. He may even prevent farmers from selling products online or to Agritech companies. Even if the deal is struck through e-Nam or other online portals, goods and money have to move through the supply chain where there might be a stranglehold of traders/intermediaries.

g. **Communication Issues**

India has 21 official languages, and providing data for specific crops/microclimates in the local language is a big task. Translation of data involves high costs. Increases in costs and unavailability of data in the local language hampers reachability.

8.9. Conclusion

In the earlier paragraphs, we presented a canvas of digital technologies deployed in Indian agriculture. We do not claim this is an exhaustive list of all technologies and their applications. Our purpose in presenting these technologies was illustrative and to indicate the future trends in Indian agriculture. The government of India is also actively pushing the use of digital technologies in agriculture. The results of the ten partnerships need to be studied in detail as those were aimed at establishing proof of concept. While the proponents of digital agriculture are excited about the potential and the possibilities, there are also critics of this trend whose arguments we summarised in the earlier section. We suggest a middle path. Whenever new technology enters the market, it is projected as a panacea, a magic wand that can address all the sector's deficits. At one point in time, self-help groups and, subsequently, microfinance institutions were seen as a magic wand for financial inclusion. What banks could not do in many years, one thought that MFIs and SHGs would achieve in a shorter period. It did not happen. Still, the number of unbanked persons accessing mainstream financial institutions is significant.

In a diverse country like India, it has been observed over time that a 'one size fits all' solution does not work either for reasons of crop variety or varied attitudes of farmers or state of infrastructure of institutions and, most important fundamental differences in agroclimatic conditions. In the same spirit, we would argue that while digital agriculture does provide many potential opportunities to overcome some of the deficits in Indian agriculture, there are genuine concerns about access, assurance and affordability of such technologies. In the earlier paragraphs, we mentioned some of the arguments, mainly from the civil society actors, against data usage and data security at the core of the digitalisation of agriculture. Added to that is the fear of other exclusionary practices that such technology can bring.

Also, to be noted with emphasis is that agriculture is a brick-and-mortar activity. A farmer has to be in the field for sowing, weeding, watering, harvesting and undertaking several physical operations in the life of a crop cycle. While technologies such as a tractor will reduce some labour and crop advisories that inform farmers about weather conditions might reduce uncertainties arising from erratic climate behaviour, a crop must be harvested, packed and transported physically! Thus, while some struggles can certainly be reduced by introducing traditional, new and now digital technologies, there is NO substitute for the basics of work involved in the entire agri-value chain activities starting from ploughing right up to the plate, the end at the consumer side. An App or a digital platform can be an enabler but cannot be an end-to-end solution provider that substitutes labour in agriculture.

A recent publication on technology and development has sharply articulated that technology interventions are not neutral and tend to have an inherent bias towards persons with resources, those with resources and capacity endowments. A similar trend is likely to happen if one is not cautious in adopting digitalisation. To conclude, while digitisation of agriculture and the entry of a large number of new stakeholders is a welcome sign, a possibility that can revive a stagnant sector for many years, we do hope that digitalisation does not lead to new challenges which we can anticipate in hindsight given the many experiences of technologies adopted during the green revolution of the seventies in agriculture and other sectors of the economy.

Annexe 8.1

An Overview of Proposals From the Corporate Sector and the Government of India

1. JIO

Jio and its Affiliates are in the business of providing digital and IT services and own and control the JioKrishi Platform. Jio Agri Platform is built to digitise the Agri ecosystem across the value chain to empower farmers. It is designed to bring major participants of the Agri value chain on a common integrated platform and drive efficiencies in all agricultural activities. The primary intervention modules (i.e. advisory services) which will be deployed include digitising farm activities and transactions through the value chain, precision farm advisory based on weather, irrigation, nutrition, pest & disease forewarning alerts, installation of IoT devices on croplands and on cattle to provide personalised advisory using data, integration with various knowledge resources, query management services through the creation of a discussion forum and a panel of experts and information & applications for government schemes. The primary intervention module, i.e., advisory (basic as well as advanced) service, will be taken up in the first phase as the pilot in 2 districts of Maharashtra, viz. Jalna and Nashik.

2. ITC

ITC Limited is engaged, inter-alia, in agri-business through one of its business divisions, the Agri-Business Division. It has proposed to build a Customised 'Site Specific Crop Advisory' service with the objective of transforming the conventional crop-level generic advisory into a more customised site-specific crop advisory. This advisory would be based on location (latitude and longitude), weather (current and near-term forecast), soil characteristics, crop growth stage etc., integrating multiple data points from varied sources using a digital crop monitoring platform hosted on ITC's e-Choupal 4.0 and supported by an on-ground handholding ecosystem. The proposal will be implemented in identified villages of Sehore and Vidisha districts of Madhya Pradesh and support Wheat crop operations.

3. CISCO

Cisco, along with industry partner Quantela, has developed Agriculture Digital Infrastructure (ADI) solution, which includes hardware and software components for better farming and knowledge sharing. A common software platform – Smart Agriculture Platform integrates the sensors and information available from Department and Satellite Data processing solutions into one single dashboard providing real-time status. Proofs of Concept (POC) have been implemented in select districts in target states. Key information pertaining to insights on crop forecasting, weather patterns, plant disease patterns, soil quality, moisture content, etc., are being gathered through the POC, which is either completed or underway. The insights will be critical in creating the data pool under the National Agri Stack. Cisco will conceptualise a Proof of Concept in effective knowledge sharing between farmers, administration, academia and industry in two districts in India, viz. Kaithal (Haryana) and Morena (Madhya Pradesh).

4. NeML

NCDEX e Markets Limited (NeML) is India's leading National Spot Exchange. The company has pioneered initiatives like Mandi Modernization Program (MMP), e-Pledge, and e-marketing. NeML proposed digital marketplace would inclusive development in the agriculture sector. NeML's four services, namely market linkages, aggregation of demand, financial linkages and data sanitisation, will serve as a foundation to build agri-focused solutions by leveraging technologies to contribute effectively toward an overall goal of Doubling Farmers' Incomes (DFI). The project will be rolled out in three Districts / States, viz. Guntur (Andhra Pradesh), Davanagere (Karnataka) and Nasik (Maharashtra).

5. Ninjacart

63Ideas Infolabs Private Limited, operating under the brand name Ninjacart, is a technology-based fresh produce supply chain company. Its mission is to improve the efficiency of post-harvest logistics of agricultural produce using technology and thereby create value for all stakeholders.

Ninjacart will develop and host the Agri Marketplace Platform (AMP), which will enable bringing together of all the participants in the post-harvest market linkage. Ninjacart will design, develop and deploy AMP in phases, provide technical inputs to entities that enable linkages like FPOs, Mandis etc., look after project management towards building and execution of AMP, implement algorithm process to facilitate market making, bring efficiency by using image recognition, ML etc., take marketing and operations initiatives to run the platform and conceptualise PPP model with ministry, states and other stakeholders for entities that are part of the linkage ecosystem. AMP platform will digitally enable and orchestrate coordination between multiple players involved in this linkage, bringing efficiencies in the overall market linkages. The locations where Proof of Concept (POC) will be conducted are Chindwara (Madhya Pradesh), Anand (Gujarat) and Indore (Madhya Pradesh).

6. Microsoft

The Agri Platform for Farmers hosted on Microsoft Azure based Data & Analytics services are built to consolidate the agri-ecosystem across the value chain (farm to fork) to empower the farmer. The AgriStack will have provision for partners to build a solution on Microsoft Azure workbench as the data pool (owned by Agri Ministry) will be created with an end-to-end scope of farm management and farmer advisory services (powered by Azure Agri platform). For this project, Microsoft has joined in with its local partner, CropData. This project will carry out various tasks for the betterment of farmers in the selected 100 villages in 10 districts of 6 states (Uttar Pradesh, Madhya Pradesh, Gujarat, Haryana, Rajasthan and Andhra Pradesh) which will enhance their income.

7. Patanjali

Patanjali will develop an app for farmer advisory on nutrient profiling of soil, demographic details of farmer's through digital support mechanism with advanced features of geo-tagging and geofencing, automated weather-based alert services to farmers on soil reports and fertilisers, accurate quantification of the farmer crop and yield, organic, non-organic and mixed fertiliser recommendations and its optimisation as per crop types (organic/non-organic/mixed), e-commerce linkage opportunity for farmer's produce and consumer purchase. farmers will be trained to use the app. It will help the Department of Agriculture by creating a single dashboard for the summarised information, accurate quantification of the farmer crop and yield, measuring the crop changing patterns of the farms over a period, suggestive measures to promote specified crops of the farmers, accurate estimates of farmer's income and suggestive measures to double the farmer's income, precise digital information of socio-economic landscape of farmers across India, a single concise data warehouse with easy access as per needs of government departments, subsidy schemes, and their executions, farm enterprise resource planning (ERP) and warehouse linkage and gap analysis for existing government schemes. Apart from this, changes in cropping patterns will be identified using historical data studies. First, POC on farm management and farmer services in 3 Districts, Haridwar (Uttarakhand), Hamirpur (Uttar Pradesh) & Morena (Madhya Pradesh), will be prepared.

8. Agribazaar

Agribazaar will help with farmer data sanitisation for AgriStack, land cover mapping, soil degradation mapping, crop identification and acreage estimation, crop yield modelling and production estimation, past and current weather data analysis,

It will also provide pre-harvest advisories on weather, soil and crop management practices, and assessment of crop health conditions. It will also have current best practices for individual crops at the backend platform. Post-harvest advisories on APMC yards and distance, arrival and price trends of commodities, rates on commodity exchanges, list and locations of delivery centres for commodity trade, list and areas of warehouses with capacity and storage charges and information about e-market centres will also be provided.

Integrating digital marketplaces for agri-commodities with single login for farmers and enabling them to participate in listed/non-listed trade will also be a contribution from Agribazaar. On-boarding FPOs for buying inputs or produce will be done.

It will develop a platform to connect farmers directly to financial institutions that can generate e-KYCs with verified data and provide financial products.

9. Amazon

Amazon Web Services (AWS) will assist in the design of the National Agri Data Stack, identify solution providers to build the platform, offer AWS services and provide inputs on potential PPP model with ministries, states and other stakeholders. It will extend the AWS Start-ups program to the ministry, provide technical training to identified start-ups and connect potential and existing start-up ecosystem members.

10. ESRI

ESRI India proposes to execute the establishment & launch of 'Nation Agriculture Geo Hub', creation & collation of farmer and other agriculture data/ services on the GIS platform, GIS-based locust crises monitoring & response system, configuring data and services to create a GIS-based web-enabled application for information sharing and spatial analytics and will share outcomes of spatial analytics in the form of open services & apps (web apps, mobile apps integrated with dynamic dashboards for planning, monitoring, decision making and advisory).

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Producers Organisations in Non-Farm Sector

9

Dr Sanjiv Phansalkar and Nimisha Katakee

9.1. Introduction

The non-farm sector in India is a major source of livelihood for the rural population. Non-farm income was the single largest source of income for Adivasi households in Jharkhand and among the largest sources for Adivasi households in Odisha (PRADAN 2022). Typically, wage income and income from farms together account for about half the income of a typical rural poor household; the balance needs to come from the collection economy, non-farm occupations and remittances. With the decline in the size of operational landholdings continuing to unabetted and the terrible experience of income from migration for work during the pandemic, it is not surprising that the non-farm sector would become more important in future. For the purpose of this paper, we will include in the 'non-farm sector' all 'ancillary' activities, including petty trade, animal husbandry, craft, handlooms, and cottage industries for the production of a wide range of items, services as well as gathering produce from forests and common lands. Activities such as running petty shops are typically run in a self-employment mode by individuals. In several places, at least some of the other non-farm activities can be seen to be practised in or through a collective entity. This paper is focused on identifying challenges faced by producer collectives in the non-farm sector.

This paper is based on observations of the authors over a fairly long period of time, supplemented by some specific interviews conducted by the authors with a number of non-farm collectives. An effort is made to give an example of as many comments or inferences drawn in each case.

After a brief summary of the inferences of social and economic theories relevant to them, this paper goes on to suggest that collectives in the non-farm sector can be seen in 7 groups. Characteristics of each group are then discussed. Challenges faced by them, as well as their potential for generating and enhancing livelihoods, are then taken up for each category. Rather than focusing on statistical information, we have preferred to focus on hard business issues that the collectives in each category need to tackle in order to become vibrant economic entities.

9.2. Of Ideology and Realism

Producer Companies, cooperatives and Mutual Benefit Trusts are different legal forms in which collective economic organisations are registered in India. They all have the same underlying economic structure. We shall use the words ‘collective organisations’ or simply ‘collectives’ to represent them irrespective of their legal form. Collective organisations for helping their members achieve economic ends have existed for a long time. Globally, the history of formal economic collective organisations can be traced to the Rochdale Cooperative, established as a consumer cooperative in England in the middle of the 19th Century. In India, the history of formal collectives can be traced to the 1904 Cooperative Societies Act.

The performance of economic collectives has been a subject of much scholastic interest (Olson 1967; Baviskar and Attwood 1992; Shah 1995; O’ Williamosn, 1990; Srinivasan and Phansalkar 1985, 2003). The key takeaways from the literature can be summed up in Box 9.1.

Despite this rather gloomy prognosis about collective economic organisations, there is a strong ideological belief in their merit in defending the economic interests of the poor. Such a belief has tended to encourage policymakers to support them. The Indian State has had a long history of investing in the creation and nurturing of cooperatives in a wide range of economic activities. The scheme of setting up

Box 9.1. A Quick Summary of Economic Theories of Collectives

All collective organisations produce common goods. When faced with a situation that creation of such a common good offers relief from current economic environment they face, rational individuals join them for collective action. However, once such a collective comes into being and provides the common good, a hiatus between individual rationality and ‘what is good for the collective’ appears. Members are often concerned with maximising their own gain and do not find an incentive to continue to act in a manner which would preserve and strengthen it (the organisation). They have an even smaller incentive to take up additional tasks to manage it. Collective Economic Organizations are Member Oriented Firms (MoF) as opposed to Investor Oriented Firms (IoF). IoF is possibly more commonly encountered in the economy of any nation. The chief difference between these two classes of firms lies in the facts that (a) in MoFs, members are primarily interested in the range of services provided by the firm, while investors in IoF are primarily interested in maximising their wealth from the IoF and (b) that all economic surpluses left after meeting external obligations belong to investors in IoF and to Member-Investors in MoF. The ability of MoFs to aggregate both members’ demand for input and members produce for the market is seen as a major economic advantage in reducing costs and improving returns to members. Thus, while the returns to investors in an IoF arise solely from the profits that the firm makes, the returns to member-investors in an MoF arise both from gains from services received as well as from profits made by the firm. Since investments in the firm per se give less, and at times legally restricted returns to them, members of an MoF have no incentive in investing in the firm beyond what they must in order to receive the services they need. When each member does this, the net impact on the MoF is its perennial low capitalisation. This low capitalisation influences the quantum of money available for carrying their business. Quite often viewed as being ‘socially responsible businesses’, MoFs tend to adopt business practices that are less extractive than their IoF competitors and hence have comparatively a higher cost structure. Also, self-imposed requirements of transparency and good governance make their operations more unwieldy than those of their competitors. This puts pressure on their profit margins and hence on long-term stability. Thus a high probability of stagnation and failure appears to be built in the very economic structure underlying the rationale for forming collectives.

10000 Farmer Producer organisations announced by the Central Government in 2020 should be seen as the continuation of this policy preference.

The ideological belief is predicated on the assumption that aggregation of demand for inputs and services, as well as aggregation of the produce of a large number of producers creates an economy of scale and a bargaining power for producers and which tilts the economic power balance in their favour. The same economic philosophy is at the foundation of producer organisations in the non-farm sector.

9.3. Producer Collectives in Non-Farm Sector

It is possible to group Producer Collectives (PC) in the non-farm sector in categories based on specific groups of produce/activity. Some of them are formed and work for artisans of handicraft products. A relatively larger number is engaged in working for artisans in handloom or other textile products. Some are engaged in collectivising producers of food products. There are some producer collectives in animal husbandry activities. Some formal and informal collectives can be seen working in providing services. Precise data on the number of producer collectives in each category is difficult to come by. A brief narration with some examples is given for each of these categories below.

Handicraft: India is home to a wide variety of handicrafts (for the purpose of this description, handloom and textile products are kept out of the meaning of the term 'handicraft'). Several of these craft products are specific to a geography (e.g. Madhubani paintings specific to the Mithila region of North Bihar, Dwakra craft of Jharkhand, carpets from Bhadohi-Mirzapur, rugs from Kashmir, Bidri stonework of Telangana / Karnataka, Kolhapuri footwear of Kolhapur, Maharashtra, Sankheda wooden items from Saurashtra etc.). The State authorities as well as social workers in such geographies, have made efforts to set up producer collectives there. Artisans engaged in the production of some of these products are full-time engaged in them, while some others offer only a part-time occupation to the artisan.

Handloom and Textiles: Handloom sector had traditionally been among the largest employment provider after agriculture. However, with the advent of power looms and increased wage opportunities elsewhere, handloom weavers have generally found it unattractive. In consequence, the production as well as livelihoods generated in the sector have been on the decline. The sector does survive in Assam, where the practice of weaving has become intricately woven in the life pattern of the people. However, in Assam, handloom weaving is seldom a full time activity of the household, but only one among many activities and often having greater cultural and lifestyle significance than income. Handlooms also survive in the very high-value product sector (Maheshwari or Banarasi silk sarees etc.). On the other hand, the handcrafted garment and textiles product lines continue to exist, and some are thriving, usually on the back of geo-specific or style-specific appeals (Lucknow Chikan work for instance). A fair number of collective organisations exist in such specialty textiles as we shall see below.

Collectivisation of Food Products: Lijjat Papad is perhaps the most reputed of the producer collective engaged in the production of food products, but there perhaps are a large number of relatively less known products (for instance, BAIF have promoted the Vasundhara FPC, which markets mango pulp as well as pickles, amla candy, processed cashew and similar foods based on horticultural produce.) Collectives (both in cooperative and in Company format) in the dairy sector come in the intersection of food and animal husbandry categories and are considered in the latter.

Collectives in Animal Husbandry Related Products: With the leadership of NDDB and Amul, producer cooperatives of milk producers have become prominent as well as economically dominant. These collectives themselves number a few hundred, even if one counts only their district or sub-district level Federations (such as Amul, which federates about 900 village-level producer collectives). The National Small Poultry Development Trust based in Bhopal has been instrumental in establishing and nurturing collectives of poultry producers in the deep-litter decentralised poultry production pattern.

Either informal groups or a few formal and registered producer cooperatives also exist and have collectivised goat breeders.

Collectives in Forest Produce: Sponsored or nurtured by Forest departments in different States as well as by NGOs working on forest or tribal issues, there are quite a few efforts to collectivise gatherers of forest produce. These collectives help the members process and/ or market the inor forest produce in raw, semi-processed or processed form. Raskum in Vadodara district markets, for instance, Mahua flowers and downstream products from it. There are many efforts (e.g. Keystone Foundation's effort) to market wild honey. Somewhere between pure forest produce gatherers and produce grown on non-farm are collectives such as the Tamul Leaf Plate Company in Barpeta, Assam (the Tamul Sheaths come from private lands but fallen sheaths are at times gathered as though they were free). Bamboo, both from the forest as well as in on-forest areas, can be processed to make a wide range of products, and collective efforts towards this end have been observed in many locations.

Service PC: Though relatively rare compared to the producer collectives in the above categories, some entities do exist in pure service lines. Kudumbashri runs, for instance, the Kudumbashri Café and many equivalents under the name Didi Café run in Jharkhand and Bihar, essentially serving freshly cooked food. Service collectives of gardening or housekeeping staff do exist in many places, for instance, supported by SEWA in Ahemdabad.

9.4. Common Features in Rural Non-Farm Collectives

The constraints emerging from the theoretical considerations discussed above apply to collectives in the non-farm sector as well. To be specific, these are (i) a propensity for low capitalisation resulting in paucity of working capital, (ii) a propensity of members to seek to maximise their individual gain rather than the gain of the collective, (iii) the absence of concrete incentives for 'member loyalty' and (iv) insufficient incentives for taking leadership and directing the collective to a path of strong business performance. Constant efforts are needed to overcome these constraints in-built into the structure of the collective. We shall not discuss these or their manifestation in specific forms for the non-farm collectives to be discussed below. What follows is a discussion on constraints connected with and emanating from the business rather than the forms of organisation.

Box 9.2. Production Activity as a Part of Overall Life Pattern

A household in rural Assam typically has a farm on which they grow paddy as other crops, a backyard which has Tamul (arecanut) trees and an assorted animal herd comprising pigs, ducks and goats, perhaps a small Pukhur which may be used to rear some fish and a handloom on which the lady weaves her Sador-mekhala and the Gamocha, of which some handloom products may be sold. When she joins a handloom collective, she does not give up the rest of her household chores but tries to fit her weaving activity within her overall schedule of life. The collective may experience a large demand for handloom products around Bihu and hence may wish to build a large inventory before the Bihu season in April. However, the producers may engage in intense activities connected with harvesting and threshing paddy, planting of Ahu paddy and a host of other production activities, as well as in their social life in the months preceding the Bihu season. They may therefore be unable and unwilling to increase production even though the collective demands more quantity. Such a thing does routinely happen for Muga silk fabrics and products for sale during the Puja period since, in months prior to the Puja period; it is hard to put meet the production

9.4.1. Blending the Production Activity in Overall Scheme of Life

Non-farm production activity of a rural household is often not its exclusive economic activity. Please see Box 9.2 for an illustration of this phenomenon and its impact on the collective.

This phenomenon manifests itself differently elsewhere and in other production lines. The point is while the collective may wish to adjust its sales, inventories and hence procurement of produce from members to suit its interface with the market, the members of the collective have different priorities as the production activity is but one of the many things they do. This tension can be contrasted with a 'centralised' production unit such as a factory which follows strict work timing and producers are workers rather than member-investors.

9.4.2. Limitation on Quantity

Rural collectives in non-farm activities face a constraint on quantities of produce they can put out in the market for three prominent reasons. In the first place, the above 'blending of production activity in life pattern' puts a limit on quantities which they can put out in the market. Even though there is a huge demand for Eri silk garments, so long as the member spinners of Eri silk are the sole suppliers of the yarn and their production is restricted because it is only one of the many activities they do, Grameen Sahara (the promoting NGO) can hope to achieve only so much turnover. The second restriction comes due to availability of the base materials from which the product is made. For instance, the volume of sales by a collective of Siali leaf plate makers in Odisha is restricted by the quantum of Siali leaves their members can obtain from the forest. Such restrictions operate more severely on the collectives in forest produce or those based on some kind of gathering activity. The third restriction comes from the limitation on the number of members who can be trusted to produce goods of high or acceptable quality. This restriction weighs heavily on the mind of producer collectives engaged in textiles and garments.

9.4.3. Variation of Quality

This largest challenge on this front is experienced by collectives in craft and textiles. One of the authors was associated with an NGO which worked with Madhubani painting artistes. With perfectly good intent, in 1979, a Government agency placed a large order on the NGO. The producer collective had to deliver the order before the due date, so that the paintings could be sent by the Government agency as a new year gift . They had to deploy many more women to make these paintings than those who were good artistes. As a result, the quality of paintings dropped, and the collective, as well as the NGO, lost a great deal of goodwill.

9.4.4. Absence of a Professional Behaviour Pattern

A fair number of collectives of rural producers suffer from this challenge. There are two dimensions to this challenge. The first is in sticking to timelines, and the second is to ensure that not only the product quality but aspects of presentation, including packaging etc., are well looked after to meet the expectation of the buyers in the market. A food product collective in Gujarat supplies sweets and snacks made out of Mahua, a novelty to most urban consumers. The product quality is good, but the packaging in which the goods are sold is poor. This fails to enthuse any buyer to talk about the product favourably with his neighbours and help the collective enhance its reach. Inability to stick to time lines is also fairly common and this arises because of the firs facet that the production activity is only one among many things which a household does.

9.5. Common Challenges Faced by Urban Producer Collectives

The term 'non-farm' applies only in relation to the rural population. Although one cannot classify them as 'non-farm' sector entities, there is a merit in commenting on the situation faced by urban producer companies. Producer collectives in urban areas have stronger sets of challenges. In part, it may be stated that rural producers engage in production partly because it can be a spare-time activity in which they engage when they get time from 'more pressing matters'. Such discontinuous blocks of time at home cannot find them more remunerative employment, and so they engage say in weaving or spinning or making craft products. However, urban areas offer higher opportunities for using discontinuous blocks of time for an income. Also, in general, urban wage rates are higher than in rural areas. As a result, collectives in urban areas must try to match the returns to producers to the higher opportunity cost of their labour. The second challenge faced by urban producer collectives arises out of their relatively better connectivity. Aggregation of demand or of produce makes greater economic sense in rural areas because of their relatively poor road and information connectivity . Poor connectivity and distance mean that whether to buy inputs or to sell and produce, a rural producer will have to make efforts and spend time and money going to the market town for the transactions. But there is no such infirmity in urban areas and hence no cost savings. The only aggregation advantage would be arising out of commercial deals for a large volume of purchases. As a result, relatively speaking, collectives hold less appeal to urban producers.

Table 9.1 sums up the specific challenges faced by producer collectives in different lines of business discussed earlier.

Table 9.1. Challenges Faced by Rural Non-Farm Collectives

Aspect	Craft Collectives	Handloom and Textiles	Food Products	Animal Husbandry	Services
Meeting variable quantities of produce demanded	This becomes a problem due to the fact that production is one among many activities of the producers	This is a major challenge since demand tends to peak at festival times, and production can not keep pace. Also, styles and patterns demanded can vary quickly	Usually not seen as a challenge except when the products are based on an activity which needs much incubation (e.g. honey)	This can be a major challenge and needs significant advance planning for saleable animals to be ready when demanded. For instance, goat demand for the Bakar Id is difficult to meet. Also, animals ready for sale when market is non-receptive leads to losses. This happens in the poultry industry during the month of Savan and during Navaratri.	Demand peaks can be challenging as trained manpower capable of providing service may not be available.
Quality of produce	A major problem due to variable skill sets among producers	A major problem since quality consciousness, as well as variable skill sets, both interfere	A major challenge due to indifferent hygienic conditions in rural areas	Usually, a smaller problem in regard to living animals than in other cases. Ensuring milk quality is a challenge	This is a challenge as buyer expectations can be diverse
Timing of supply	This is less of a challenge so as craft products are durable	This can be a huge problem, and hence intermediaries can not commit to big orders	Less of a challenge than in other categories	It can be challenging as animals are considered profitably ready for supply only after a certain stage.	A challenge during periods when workers tend to go on leave.
Merchandising	A major issue* since there is a major difficulty adhering precisely to products displayed in catalogues or websites	Again a major challenge since even obtaining volumes of fabrics and threads etc., matching those in prototypes is difficult	Less of a challenge as adhering to proto-types or samples is relatively simpler	Usually not an issue	NA
Proper professional transactions	Intermediaries face less challenges as there is less post-production activity needed	Post-purchase issues related to fastness of colours etc., keep arising and pose a challenge	A major issue as rural producers seldom can stick to sound packaging and presentation practices	Usually not an issue for live animals. This can pose a challenge in milk supply where timing, quality and managing proper packaging all are important.	This perhaps tends to be the most contentious issue in service collectives.

* It may be argued that variations around the theme as displayed in a catalogue reflect more on the creative originality of the artisan rather than a failure to stick to a set pattern, but this needs buyer education.

Source: Authors' compilation

9.5.1. Challenges Specific to Collectives in Individual Lines of Activity

The issues and challenges described in the above Table have got to be faced by an individual enterprise in the sector. Different collectives devise their own ways of coping with these challenges. Often the viability and success of enterprises depend on the effectiveness of this coping behaviour. In this section, we now address challenges common to enterprises and collectives in each individual line of activity. These challenges affect the ease or difficulty of scaling up the collective mode of working in that line. As very few collectives in service line work in rural areas, we have been unable to obtain their problems.

9.5.2. Challenges Faced by Collectives of Craft Producers

Handicraft products produced in rural areas have tended to shape the cultural mosaic of this country and reflect its rich cultural history as well as diversity. Practically for every class and type of handicraft, efforts have been made by the Government as well as by social workers to preserve the tradition and the cultural heritage it represents. The incomes and hence livelihoods of craftsmen producing these craft products, however, depend upon the size of the market and the prices they receive for their produce. In a large number of instances, one sees twin efforts at providing such market support while yet preserving the cultural content of the craft . In a manner of speaking, this twin effort also manifests the dilemma and a challenge from purely a livelihoods perspective. The major challenge for scaling up in the craft sector is that several craft products are brought for ornamental rather than use value. Hence, they have limited replacement demand. Corporate, as well as individual gifting, is among the largest segment of the market for such craft products, but both segments demand inter-year diversity (so easily available in the craft sector) rather than continuous replacement demand for the same craft product. The subset of craft products that were meant as specific products for their utility value faces the challenge of competition from substitutes or from products made in mechanised, commercialised and hence cheap manner. Complete replacement of the craft by a modern substitute has also happened (for instance, products meant for grinding or paste making of food ingredients, made earlier from stone by craftsmen, have got completely replaced by food processors). The utility craft of pottery has been almost completely swept away by the aggressive marketing of plastic substitutes, just as traditional leather footwear has been swept asunder by moulded or mechanised footwear produced from synthetic leather. The second class of challenge arises from the fact that an evolved skill that can produce handicraft products of beauty and appeal is not very widely distributed. There are many second or lower-grade producers within the same community. They also become suppliers to the collective. Differentiating between them and offering skilled producers an incentive large enough to ensure that the skilled producers stay with the collective is a major challenge. This becomes much more of a challenge if the promoting agency tries to impose 'share and share alike' principles on the producers.

9.5.3. Challenges Faced by Collectives Dealing with Handlooms and Textiles[1]

The most significant challenge faced in this line of activity lies in merchandising. The products of this segment have been widely known for their patterns, materials, designs and colour combinations. The high-end buyer in this segment tends to be keen to obtain something of artistic beauty and quality. Product displays and hard copy brochures were the traditional methods of marketing in this segment, and in part, they have been replaced by digital platforms. The trouble arises when repeat and bulk demands are placed based on these prototypes or samples. The fabric and materials available for bulk production are seldom available precisely in the same colour and texture scheme in large quantities. As a result, products made from them often fail to match exactly with the sample or the prototype. (please see the footnote to the Table above) This leaves the consumer dissatisfied and negatively affects the collective's reputation. It is possible to argue that the logic of forming a collective is precisely to facilitate such merchandising. While this may be so, these challenges in merchandising are narrated by collectives as being pressing.

The second challenge comes from ever-changing fashions and styles in textiles. Garment and textile demand are influenced by these. Matching these changes when the basic production asset or skill remains more or less unchanged is a huge challenge for the sector as a whole. Due to unpredictable fashion changes, a humongous problem of inventory management and of profitable disposal of unsold stock faces all garment makers, as also the collectives. The third challenge comes from the often rather indifferent finishing of textiles and garments made in and by the collectives. In the mass consumption low-end segment, handlooms and textiles, in general, have been swept asunder by the aggressive proliferation of the power-loom sector. This has resulted in a cataclysmic decline in the handloom sector and the livelihoods it supported.

9.5.4. Challenges Faced by Collectives in Animal Husbandry[2]

We take a look at situations faced by collectives in three different lines in the animal husbandry sector. The chief constraint faced by producer collectives in the poultry sector is due to rapid and definite changes in the structure of the poultry industry per se. There is intense competition in the broiler poultry line. The minimum size of a viable poultry unit is rapidly rising. Collectives managing decentralised production units (each with 400-700 birds) have to compete with integrated, large-scale units with unit sizes of 100000 birds or more. There are major challenges arising out of this situation. Secondly, stand-alone poultry units are not viable, and integrated operations combining a feed mill, hatchery and a parent farm all under one management are needed. The net margin available per bird even with best management has reduced so much that a small poultry shed owner with flock size of 400-700 simply cannot earn enough money to justify the activity. The best management practice involves reducing mortality of the chicks to a minimum and ensuring high feed conversion ratio. The situation with layer birds poultry is even more competitive. Given the intense competition and rapid changes in the structure of the industry, there are major constraints for scale-up in this sector.

Goat rearing in captivity has not worked well despite numerous efforts. Goat is best reared in (at least partial) free browsing/roaming practice. This has tended to protect the small herd owners against a similar possible shift in the structure of the goat/lamb meat industry. At the producer collective level, key tasks are to ensure optimal kidding rates and reduce mortality rates of the goat kids. Relatively simple interventions like the construction of a goat shed with a raised platform often yield very good results towards this end. As of now, most goat is reared with near zero bought-in inputs save for vaccination. This is the reason why goat rearing is much more prevalent in those rural areas which are close to degraded forest lands, to revenue wastelands etc., on which free browsing is possible. The key challenge to growth comes from the issues connected with the entry into the downstream meat and product market. For the reasons of orderly and hygienic management, increasingly strict regulations are coming into force in all urban consumption areas. This has tended to heighten the entry barriers for any producer collective entering the meat market.

The dairy sector is perhaps the least constrained among animal husbandry activities and has been showing rapid growth. This growth is happily shared by the producer collectives in the dairy sector. For successful management, the collective essentially needs to manage the business processes well.

9.5.5. Challenges Faced by Collectives in Food Products[3]

Producer collectives have come up in food products, mainly in tribal hinterlands. The typical products produced and attempted to be marketed are the food or herbal products from minor forest products such as honey, tamarind, Mahua, amla etc. Collectives such as Vasundhara, promoted by BAIF, have been working with produce from wadis and horticultural plots of smallholders. Challenges faced by producer collectives in these lines arise from very short harvesting periods of the forest produce and the short shelf life of the produce. Mahua season, for instance, lasts less than a month. The Mahua flowers gathered must be procured dried. Dried flowers have to be properly stored for effective production and marketing of food products based on them. Mahua pods tend to be used for oil extraction, and oilcake serves as materials for agri-inputs. Discussions with Raskum Mahila Producer Company, Deogarh Baria in Gujarat reveal that the challenges in this Mahua product line arise from (a)as yet not perfected processing technology, (b) the need for high working capital for procurement of large quantities, (c) need for proper storage facilities, (d) strong popular perception about Mahua being essentially an ingredient for making liquor and (e) a need for expensive equipment for processing the Mahua flowers properly.

9.5.6. Challenges Faced by Collectives Based on Gathered Produce[4]

Producer collectives which need to use materials gathered from forests, common lands or others face the challenge of non-uniform quality of raw materials. Discussion with Tamul Leaf Plate Company reveals that the major issue in ensuring smooth and high-quality production is the variable quality of the areca nut sheaths from which dinnerware is manufactured. The ideal raw material has to be of the right degree of softness and dryness and needs to be clean. Often materials are brought in an undesirable form, and this causes rejection. This material needs to be washed. The variable quality of raw materials is also a major issue in other forest-based production activities.

9.6. Reflective Assessment

The above discussion points to general as well as activity-specific challenges to scale up in the non-farm sector. It appears important to recognise that policy and programmatic support can come to partially address only the general challenges, such as low capitalisation and paucity of working capital. The Central Government policy on Farmer Producer Organization and the scheme of 10000 FPO announced in 2020 have indeed attempted solutions to these problems. However, so long as poor rural households feel the need for a diversified portfolio, the constraints caused by the necessity of blending their relevant production activity in their pattern of life will remain much in force. These constraints (specifically the inability to match commitments of quantity and managing time of supply) are often as pressing challenges to scale up as the absence of working capital.

It may be noted that for managing these issues as well as for managing the aspects related to compensating members for their production, it is optimal to devise a clear business process. Such business process design must make specific choices about what stage of the process is to be collectivised. For instance, in dairy production, management of feeding, breeding and management of animals and milk production is left to individual initiative. Processing and marketing of milk are the activities in the fold of the collective. Clear rules regarding the volume of milk that needs to be supplied to the collective each year, as well as clearly specified rules on quality assessment, are in force and incentivised. Failure to design clear and effective business processes gives rise to occasions for member dissatisfaction and conflict, resulting in challenges in the viability of a collective. This then feeds into making these as strong issues in scale-up as well.

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Notes

[1] We thank Seema Shah, Smriti Kediya and Vikram Das for the sharing many of the points in this sub-section.

[2] We thank Mr. Anish Kumar, MD, TRIF for sharing the points in this sub-section.

[3] We thank Ms. Geeta Oza of Anandi, Vadodara for sharing the points in this subsection.

[4] We thank Mr. Arindam Dasgupta for sharing points made here.

The New Corporate Social Responsibility: Rules and Challenges

10

Alka Talwar

10.1. Preamble

According to World Business Council for Sustainable Development (WBCSD), Corporate Social Responsibility is defined as 'the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large.'

When it comes to Corporate Social Responsibility (CSR) and development of communities, there has been a whole range of responsiveness across the corporate world, just like a normal distribution in any other field. This has ranged from evolved corporates that have contributed immensely through systematic processes, to reluctant participants for whom care for communities and the environment does not come intrinsically, and a vast range of responses in between. In India, some corporate houses have looked at the social and environmental relevance of their activities and have adopted the concept of giving back to society for several decades. Their efforts have contributed to and supported programs across various development sectors, including education, health care & nutrition, poverty alleviation, drinking water & sanitation, women's empowerment, affirmative action, biodiversity and nature conservation and the establishment of various premier institutions in the country for education, research and development and medical & health care. However, these corporate houses have constituted a small percentage of the total number of corporates in the country.

Looking at this fact, the Government of India, through the Ministry of Corporate Affairs (MCA), opined that not everyone understood the concept of responsible business conduct and wanted to help companies integrate this thinking as a part of their core business philosophy. In 2009, they released the first set of corporate voluntary guidelines. In 2011, India endorsed the United Nations Guiding Principles on Business & Human Rights. Incorporating these into the responsible business conduct philosophy, the Ministry of Corporate Affairs, Government of India, released a set of guidelines called the - National Voluntary Guidelines on the Social

Environmental and Economic Responsibilities of Business, which was expected to provide guidance on what constitutes responsible business conduct.

In 2012, SEBI mandated that the top 100 companies with respect to market capitalisation release an Annual Business Responsibility Report (BRR). This was formalised through the enactment of the Companies Act -2013, and Section 135 of the Companies Act, 2013 on Corporate Social Responsibility (CSR) came into force. The Provisions in Section 135 of Companies Act, 2013, makes it mandatory for companies to spend a part of their profit (a minimum of 2%) on national development priorities, including community development initiatives.

In 2015, the Ministry of Corporate Affairs undertook a process of revising the National Voluntary Guidelines with the objective of incorporating key national and international developments in the field of sustainable business responsibility that had occurred since the release of the initial guidelines. This included the development of the UN Guiding Principles on Business and Human Rights, the UN Sustainable Development Goals, the ILO Core Conventions 138 and 182 on Child Labour, the signing of the Paris Agreement on Climate Change, the SEBI mandates on BRR, and the updates to the rules, regulations, and guidance governing Section 135 of the Companies Act of 2013 concerning CSR. This process culminated in the release of the - National Guidelines on Responsible Business Conduct in the year 2019. Since then, the process of revisions has continued with new sets of guidelines and rules being released by the Ministry from time to time, the latest being the changes made in the CSR act and rules in 2021. These developments have had an impact on the types of CSR programs and the overall approach towards CSR adopted by Corporates in India.

This chapter reviews the impact on CSR practice in India as a result of the requirements of Section 135 of the Companies Act, 2013 (CSR Act) and its amendments. It starts by understanding the scenario of CSR prior to the act, the key requirements of the act, the changes that took place immediately after the first enactment and subsequent changes due to the most recent amendments to the Act. Based on in-depth interviews, discussions and surveys with both CSR practitioners and NGOs, challenges being faced both by corporates and their implementing partners for delivering CSR programs that have a greater impact on national and international development goals are understood. Lastly, the way forward is suggested, recommending key actions that need to be taken both by the government and the corporates themselves.

10.2. Corporate Social Responsibility in India

'The resources and power of multinational corporations (MNCs) have the potential to make a major contribution to development, and society increasingly expects them to take account of their impact on society in the ways that they do business' (WBCSD 2000).

10.2.1. Sustainable Development and Corporate Social Responsibility

The concept of the Triple Bottom Line of economic, environmental, and social sustainability linked with Sustainable Development has been around since the 1990s. As awareness about this concept has increased many folds, there has been increased pressure on corporates to embrace it in their practice. In recent times, concepts like Environment, Social & Governance Rating / Ranking or ESG Rating in which companies are rated basis their performance on these non-financial factors, are coming to the forefront. More and more stakeholders are asking the companies to disclose their performance basis the triple bottom line.

For any business, economic sustainability is crucial as no business can survive in the long run if expenses are higher than income. Social sustainability tackles issues such as health and safety, disease and access to health care, access to clean water and sanitation, education, training, diversity and inclusion and issues of poverty and economic inequality. Environment sustainability considers the impact of business on nature and ecology. It includes issues like climate change, use of resources, waste, energy and pollution management. The triple bottom provides a comprehensive view of the organisation and its engagement with factors both internal to the business environment as well as its externalities.

In developing countries, where the need to address poverty is very real, initiatives to benefit communities are also seen as a part of doing business, creating stable markets and ensuring better risk management. Corporates do have the potential to play an important role in enhancing economic development, poverty alleviation and in promoting environmental sustainability, and in doing so, they further the concept of sustainability and corporate social responsibility.

There are clear indications that these three pillars of sustainability are closely linked and interconnected. The collective action that needs to be taken to address the three pillars was clearly encompassed in the Millennium Development Goals of the United Nations (UN, 2006) and in the 17 Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development (UN, 2016). Many corporate houses have adopted these goals by aligning their CSR efforts with them.

10.2.2. CSR Journey: India

As mentioned in the introduction, Corporate Social Responsibility is not a new concept; it has been a part of the ethos of many business houses in India who believe giving back to society as an essential part of doing business. Historically in India, religious traditions of *daan* or *seva* have operated for centuries and for a long-time vast majority of philanthropy has been to religious, medical and educational institutions. Immediately after Independence, when the need of the hour was to 'build India', many institutions were promoted and set up by various large and small corporations. Some industrialists launched the practices of corporate giving via trusts and endowed institutions controlled by members of business families. Examples of such institutions include the Indian Institute of Science, Tata Memorial Hospital, Tata Institute of Social Science, Birla Institute of Technology & Science, B M Birla Heart Research Centre, Jindal Global Business School, Tata Institute of Fundamental Research, Bajaj College of Management & Technology, Nirma University, and The Energy and Resources Institute. This process has continued to the present day, with corporates continuing their support to various institutions in the country.

With liberalisation in 1991, India moved towards rapid growth and globalisation. While this opened up the economy benefiting a large number of people, it also led to stark inequality in the country. The rising gap between the haves and the have-nots pushed the more sensitive corporates to take up innovative social development programs targeting communities across both rural and urban India. Continuing from there, some government and non-government organisations nudged them to consider participation in national programs and missions such as the Integrated Watershed Development Programs (IWDP), the water mission, adult literacy missions, to name a few. Examples of some of the innovative programs taken up directly or through NGO partnerships, which have continued to recent times, are - Mansi Project For Health & Nutrition and 1000 School Project for education by Tata Steel, the World on Wheels program on digital literacy by HP, Nanhi Kali Project by Mahindra & Mahindra, Parivartan program by HDFC, Saksham program for persons with disabilities by Spark Minda, Adult Literacy Program by TCS, Okhai Centre for Empowerment & the Save the Whale Shark project by Tata Chemicals, and mangrove restoration and conservation by Godrej, to name a few.

10.2.3. CSR Approaches

While there have been a number of impressive social and environmental programs and initiatives, the depth of involvement has varied across both the sectors and the corporate houses. Through time, the very nature of CSR has evolved, with organisations adopting a host of different approaches. These approaches cover the whole spectrum - starting with the basic approach of philanthropy, i.e. writing a cheque to a cause, to a welfare-based approach, to a more strategic approach that is linked to the business and core competency of an organisation, to organisations that work with all stakeholders at the grassroots level for the development and empowerment of communities. It has been a common approach across many organisations to work in partnership with either the government or NGOs, leveraging the skills, expertise, technology and funds of all partners for the benefit of the communities. The location of the companies' main operations has also played an important role in deciding their CSR approach. Companies can be divided into two types: a) those that have manufacturing plants that may be located mainly in industrial areas, rural areas and/or backward districts, such as a steel or a cement plant, and b) those that are essentially involved in providing services or are more urban in nature such as a technology or a finance company.

Companies With Manufacturing Plants: Companies with manufacturing plants generally have a defined community or area of work in their neighbourhood. Varied approaches are being followed to engage with and support these communities. Some companies have focused on a simple management of expectations of communities along with a welfare-driven approach, with support being provided as and when required. As part of this approach, relief activities may be taken up, or educational, medical facilities, and mobile clinic services etc., provided to the communities. On the other hand, some companies have moved towards deeper engagement with communities, with a focus on sustainable development and community empowerment. Under this approach, comprehensive and integrated methodologies are taken up. Programs may range from the adoption of villages, watershed and agriculture growth programs, quality of education in village schools, apprentice and other skill training, capacity building of community resources to provide doorstep services and working with Panchayati Raj institutions and community-based organisations like self-help groups, water management committees, etc.

Companies With Operations in Urban Areas: Approaches at the urban areas, mainly by non-manufacturing, services-oriented companies, vary, from infrastructure support to government schools, to support to medical facilities, slum development, and skill building. Some corporates focus on a specific theme for their CSR intervention, such as education, disability, skill training, and health & nutrition, to name a few. In some cases, skill-building programs are directly linked to their business imperative, for instance, establishing and running driving schools, training of roadside mechanics by companies in the automobile sector, training of electricians and Aabha workers in various JJ clusters by discoms to training on computer literacy by IT industries.

Involvement of Board & Senior Leaders: The level of engagement and involvement of Board members and the senior leadership of companies in CSR varies across the spectrum: from highly engaged to almost zero engagement, with a higher percentage titling towards lower engagement. Most often, the engagement and oversight of CSR programs are by Local or plant-level leaders.

10.3. The CSR Act, 2013

India is the first country in the world to create a legal framework and statutorily mandate Corporate Social Responsibility (CSR) following an amendment to the Companies Act, 2013 in April 2014. In order to understand the impact of the CSR act, it is important to understand the provisions of the act. A summary of the provisions is detailed below.

Section 135 of the Act contains the provisions regarding CSR, which include eligibility, spending criteria, formulation of CSR policy, Role & functioning of the CSR committee and disclosure requirements. The schedule seven of the act provides the list of areas or subjects that can be undertaken by the company as CSR activity. Companies (CSR Policy) Rules, 2014 provides the operational framework and the manner of compliance with the act. The Act Applies to every company, including foreign companies doing business in India, having a net worth of ₹ 5 billion or more, or a turnover of ₹ 10 billion or more, or a profit of ₹ 50 million or more in the preceding financial year.

Every firm that meets the requirement of the Act must devote at least 2% of its average net profit over the preceding three financial years to corporate social responsibility. Eligible CSR activities as per the schedule VII have been amended from time to time, and the summary of these activities is as follows: (Refer to CSR compendium – MCA)

1. Eradicating hunger, poverty & malnutrition, promoting health care and sanitation
2. Promoting education& employment enhancing vocational skills.
3. Promoting gender equity, empowering women, providing facilities for senior citizens and measures for reducing inequities faced by socially and economically backward groups.
4. Ensuring environmental sustainability, ecological balance, conservation of natural resources and maintaining the quality of soil, air and water.
5. Protection of national heritage, art and culture; promotion and development of traditional arts and handicrafts
6. Measures to benefit armed forces, veterans war widows and their dependants.
7. Training to promote rural sports, nationally recognised sports.
8. Contribution to the PMs National relief funds and other Govt. Funds set up by central govt. for socio-economic development and relief and welfare of the marginalised communities.
9. a) Contribution to incubators or research & development projects in the field of science, technology, engineering and medicine. b) Contribution to public funded universities, IITs, DAE, DBT and such institutions
10. Rural Development Projects
11. Slum area developments.
12. Disaster management, including relief, rehabilitation and reconstruction activities.
13. In March 2020, the Govt. issued a circular including expenditure on COVID-19.

10.3.1. Recent Amendments

Recent Amendments to the Act took place in January 2021. These amendments changed the overall approach from 'Comply & Report' to 'Comply & Penalty' This one change has made compliance the number one agenda for companies. A summary of these amendments is as follows:

a. CSR Activities

Six activities have been explicitly excluded. This includes activities undertaken in the normal course of business, activities benefiting employees, activities undertaken outside India, contributions to political parties, sponsorship activities which help derive marketing benefits, and those carried out to fulfil statutory obligations.

Exception to the above point are activities related to COVID-19: 'any company engaged in research and development activity of new vaccine, drugs and medical devices in their normal course of business may undertake research and development activity of new vaccine, drugs and medical devices related to COVID-19 for financial years 2020-21, 2021-22, 2022-23 subject to the conditions that-

(a) Such research and development activities shall be carried out in collaboration with any of the institutes or organisations mentioned in item (ix) of Schedule VII to the Act;

(b) Details of such activity shall be disclosed separately in the Annual report on CSR included in the Board's Report.'

b. CSR Implementation

Responsibility for the implementation of the CSR activities has been placed with the Board. The Chief Financial Officer is tasked with the responsibility for ensuring that CSR funds are utilised as approved by the Board. The amendments have also specified the elements of the CSR policy. CSR policy has been defined as a statement containing the approach & direction given by the Board and includes the guiding principles for formulation of the annual plan, selection of CSR programs, implementation and monitoring of CSR activities.

The CSR committee has been given the job of formulating and recommending to the board an annual action plan that is aligned to its CSR policy. The requirements of the annual plan include a list of CSR projects, manner of execution, modalities of utilisation, monitoring and reporting mechanisms and details of the need and impact assessments.

Companies during the implementation of the CSR program are required to consider the following:

- Implementation is to be done either directly or through implementing agencies that are registered with the central Government. Eligibility criteria for implementing agencies are as follows:
  a) A company established under section 8 of the Act, or a registered public trust or a registered society, registered under section 12A and 80 G of the Income Tax Act, 1961 established by the company or jointly with any other company
  b) A company established under section 8 of the Act or a registered trust or a registered society, established by the Central Government or State Government, or
  c) Any entity established under an Act of Parliament or a State legislature; or
  d) A company established under section 8 of the Act, or a registered public trust or a registered society, registered under section 12A and 80G of the Income Tax Act, 1961, and having an established track record of at least three years in undertaking similar activities.
- International organisations can be engaged for designing, monitoring and evaluation of the CSR projects or programmes as well as for capacity building of the company's own personnel for CSR.
- Collaboration with other companies is possible as long as the CSR committees of respective companies are in a position to report separately on such projects or programmes.

There is greater scrutiny of the implementing agency due to mandatory registration with the Ministry of Corporate Affairs. The Ministry also maintains a record of all implementing agencies.

c. CSR Expenditure

Responsibility for CSR expenditure rests with the Board of the Company. The recent amendments with respect to expenditure are as follows:

- Administrative overheads should not exceed five per cent and shall include expenses incurred for 'general management and administration 'of the corporate responsibility function. Expenses directly incurred for designing, implementing and monitoring and evaluation of programs have been excluded, which can form a part of the program itself.
- Any surplus arising out of the CSR activities should not form a part of the business profit of the company, and it should be ploughed back into the project or transferred to the unspent account, or transferred to a specified Schedule VII fund.
- Any unspent CSR amount should be transferred by the company to a specifically designated 'unspent corporate social responsibility account' opened by the company. These need to be utilised within the next three years and if they are still unspent, they should be transferred to any fund included in the schedule VII of the Act.
- In any company that has spent an amount in excess of the requirements, this excess amount can be set off against the requirement to spend up to three succeeding financial years. This excess should not be from a surplus arising out of CSR activity.
- Impact assessment through an independent agency has been mandated for every company having an average CSR obligation of ₹ 100 million or more in the three preceding financial years, for projects having outlays of 10 million or more, and which have been completed not less than one year before undertaking the impact study. The cost of the impact assessment can be booked as part of CSR expenditure, and it should not exceed five per cent of the total CSR expenditure of fifty lakhs, whichever is less.

d. Governance & Transparency

The following actions have been mandated for improving governance and transparency:

- Annual report of CSR Activities should form a part of the Board's report and should contain particulars specified under the Act. Detailed formats have been made for this report.
- The company should disclose on the website/public domain the composition of the CSR committee, its CSR policy, and the projects approved by the board. Other annual disclosures in the annual reports include

data on impact assessments done, details of programs undertaken, including the year's CSR spending as signed off by the CFO of the company.

- Departing from the previous philosophy of 'name and shame', the amendments have introduced monetary penalties for the company and every officer in default for non-compliance.

10.4. Impact of the CSR Act, 2013

The CSR Act was notified in 2013, and implementation under the Act began in April 2014. Over the next seven to eight years, the impact of this Act is clearly visible. These impacts are detailed below:

a. **Increase in Number of Corporates and the Total Fund Outlay for CSR:** One of the immediate impacts of this notification was that many corporates who had earlier not taken up serious CSR work were compelled to join the movement, although seriousness about CSR varied across different corporates. Currently, more than 17,000 companies are taking up CSR, as reported through the MCA's CSR portal. Corporates who were already doing exemplary work continued to do so, and as reported by most of them, the availability of funds for CSR has largely increased. Some have also reported that while previously, funds were given as per programs and long-term plans, now the budgets are increasingly dictated by the 2% cap. The overall expenditure on CSR has more than doubled in the last seven years. The average spending on CSR in the last three years is more than ₹ 230 billion.[15]

b. **Involvement of Senior Leadership:** The second most important impact has been on the involvement of senior leadership, mainly to address compliance to the provisions of the act. Whatever the reason, this has ensured increased sensitisation of the Board members, including independent directors, towards social and environmental concerns. Conversations on social and environmental development have now become part of board meetings.

c. **Formalisation of CSR Approaches:** The third most important aspect was that all eligible companies made an effort to write a CSR policy, helping organisations to formalise their approaches with better structure and rigour. Organisations have reported activities such as offsites and workshops to understand the CSR Act and its implications and work out modalities and SOPs for compliance and implementation of programs.

d. **Focus on Compliance:** Some of the first reactions have been on how to be compliant, and many corporates, especially the new entrants, have focused on doing this with

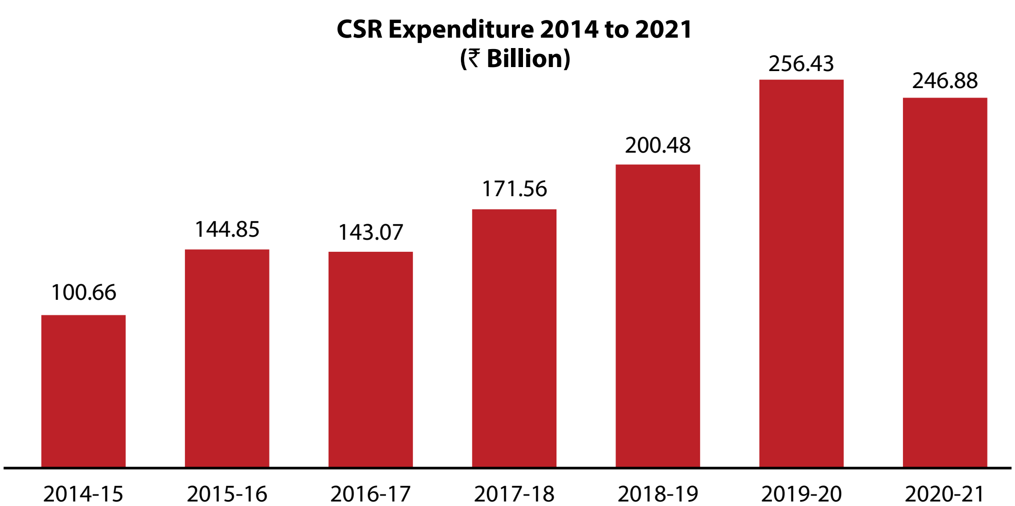

Figure 10.1 CSR Expenditure From 2014- 2021

minimal effort. Writing a cheque to NGOs has been the easiest option for compliance, and mainly short-term programs such as programs on health, education, and skill training are being looked at to ensure compliance.

e. **Major Funds Inflow Towards a Few Selected Sectors:** Currently, the top five corporates in terms of CSR expenditure are Reliance Industries, ONGC, TCS, HDFC & Indian Oil Corporation[16]. The most favoured sector is education, followed by health, rural development, environmental sustainability and poverty alleviation. In the sixth place are programs for livelihood. Looking at which SDG is addressed the most, we can see that SDGs 4 & 3 (Quality Education & Good Health and well-being) take up about 50% of CSR funds. This is followed by SDG 10 (Reduced inequalities) and an integrated approach across various SDGs. At number five is SDG 8, which targets Decent work and economic growth. For Livelihood enhancement programs, the CSR outlay is approximately between 4 to 5%. The total expenditure on these programs has increased by at least three times since the rules were notified. The largest amount being spent is by the BFSI sector[17].

f. **Concentration of CSR Spending in Already Developed Industrialised Areas:** While CSR funds are spent across the country, the largest amounts are spent in the west and the south, with Maharashtra getting the biggest piece of the pie - 14% of total funds, followed by Gujarat at 6%, and Karnataka close behind with 5% funds. This comes as no surprise since these are the most industrialised areas. The least amount of funds are spent in North East and Central India, which are areas that probably need more effort and funds for development.

g. **Use of Existing Human Resources vs Bringing in Expertise:** In terms of human resources, one would think that more people from the development sector would get involved in the design and development of CSR. However, many corporates have taken the path of least resistance by giving additional responsibility for CSR to existing employees instead of employing people with the required background or making separate divisions/ departments to handle CSR programs and their outcomes. The involvement of departments such as HR, company secretary's team, finance in CSR efforts has increased.

10.4.1. Impact of Recent Amendments 2021 and Identified Challenges

As mentioned earlier, recent amendments to the CSR Act have moved the focus from 'comply & report' to 'comply or penalty'. The changes are also more prescriptive/directive in nature, rather than being facilitative. Some of the key impacts, as reported by organisations, are as follows:

a. **Increased Focus on Compliance:** With these recent amendments, the focus on compliance and reporting has increased tremendously. The accompanying paperwork has increased. Various forms and formats are required to be filled, and implementing agencies need registration. With this, there has been increased scrutiny of NGOs/ implementing agencies and their track record. Most organisations have mentioned the amount of time taken by both implementing partners and the companies for compliance, thereby reducing the time required to design and implement programs on the ground.

b. **Involvement of New Individuals Not Connected With the Development Sector:** With the requirement of sign-off by the Chief Financial Officer and other compliance requirements, the involvement of company secretaries, auditors, and finance teams has increased and has brought in spending and accounting centricity over actual effort & investment in designing meaningful interventions. New individuals that often lack knowledge and experience with the sector have been inducted to look at social and development programs.

c. **Focus on Spending for Compliance:** Prior to the latest amendment of 2021, the Ministry of Corporate Affairs encouraged a liberal interpretation of the Act's requirements. However, post this amendment, all the circulars and the FAQs that have been circulated are focusing more on the spending of the CSR funds and not so much on community development and its requirements. There are greater details on the management and use of funds. CSR forms 1 & 2 have focused more on spending and future roll-over of funds and not as much on aspects of intervention relevant to aspirational districts, key national agenda, inclusivity for marginalised groups and other focused structural changes in society. There is a shift from transferring funds to various NGO partners and implementing agencies for long-term programs to a perceived statutory requirement of spending funds in the same financial year.

d. **Dilution of the Long-Term Development Agenda:** The unintended consequence of the new amendments has been that company secretaries, auditors, finance teams, CSR practitioners, and NGO teams are all pulling in different directions leading to increased pressure to simplify and hasten projects. Short-term projects are taking precedence, such as those focused on skill development training, purchase of medical equipment, funding of institutions, the building of capital assets etc. While NGOs have come forward to propose the long-term, sustainable, community empowerment-linked projects, the programs selected for implementation tend to be easier short-term projects to avoid being included in the category that requires impact assessments.

e. **Concentration of the Development/CSR Effort:** A lot of programs are concentrated in locations that are in the neighbourhood of the companies and are easier to control/ manage, versus long-term interventions in geographies that might need them the most. We have seen examples of more than one corporate targeting the same govt./ municipal school for infrastructure support, leaving many needy schools without even one sponsorship.

f. **Sustainable and Business-linked Strategic CSR:** Another aspect of the new rules is the clarification of what doesn't constitute CSR. This is in itself very good. Most corporates and their board members have clearly articulated the need for CSR programs to be completely at arms-length from their business. However, this often overlooks an important aspect of sustainable and strategic CSR, which is the use of the core competency of the organisation towards these efforts. The question to be asked is, for example, can an IT company use its core competency to provide pro bono IT enablement to institutions, grassroots organisations and even govt. departments, helping them improve their impact and reach? Can a jewellery manufacturing company work with artisans to improve their overall skill or their work safety? Can any organisation improve the skills of people who could potentially be a part of their customer base or supply chain base and do this as a part of their strategic CSR approach?

It is also important to consider the increasingly popular concept of businesses with a cause or social enterprises, where long-term and sustainable benefits are accrued by communities that need it. Some businesses have also supported programs that help incubation of innovative ideas, acceleration programs, and working with academic institutions as well. It is, therefore, very important to define the gap between the normal course of business and a CSR intervention that is linked to the core competency of a business. There is a need to consider how win-win projects that provide sustainable livelihoods to communities while helping businesses use their core strengths can be included within the purview of CSR efforts.

g. **Impact Assessments:** As impact assessments have been mandated, many companies are taking up such activities for the first time. It is hoped that the focus of programs would shift from ‘output-orientation’ to a more ‘program impact’ orientation. Adequate fund outlay has been proposed for the impact assessment of eligible programs. However, long-term projects that require the allocation of large funds and management of programs over multiple years may require different types of impact assessments. This may include a baseline study, a midline study and a final impact evaluation providing insights regarding the next step and help build an even stronger future program. Sensing it as a good business opportunity, financial and audit firms are jumping into the bandwagon of impact assessment. However, these firms may not currently have the right kind of orientation towards development programs and measurement of social impact. The current trend is definitely SROI, or measuring the Social Return on Investment. While these methodologies provide valuable insights, they may not be able to take into account the 'softer' elements that lead to empowerment or inter-generational progress. Many CSR professionals have talked about impact assessments based on the need of the project, and these sorts of interventions help design even more effective programs.

10.5. Way Ahead

The primary objective of nudging corporates towards responsible business and CSR has been achieved to a great extent as funds for development projects through CSR have more than doubled since the establishment of the law. Conversations about CSR are now a part of Board meetings, and many departments and people within the organisation are becoming more aware of CSR and social development work. However, there is a need for increased effort to bring forward key social development needs.

This chapter has highlighted certain challenges and opportunities that must be addressed as we move forward. This section summarises key actions to address these challenges, and these have been prioritised into the following five key action points:

1. **Reaching the Underserved:** While programs are being undertaken pan India, the share of the pie is skewed towards areas with the largest number of businesses and the larger cities that house the maximum number of corporations. The Government of India has made an effort to define aspirational districts, which require more effort and a greater amount of developmental work to bring these areas up to par with the more developed parts of the country. Nudging corporates to look at these areas along with targeting the most vulnerable communities, such as those in the tribal hinterlands or those that are socially backwards and are the poorest of the poor, will be very important for the equitable growth of the country. There are examples of some corporates who have started doing this by allocating 10-15% of their CSR funds to these districts and areas. This is an important first step that can be emulated by others as well in order to ensure that CSR funds flow to those communities that need them the most.
2. **Collaborative Long-Term Approach for Deeper Impact:** The tension between easy compliance, which has led to short-term interventions, and adopting programs that result in deeper impact will always remain. However, it is essential that support is given for innovative grassroots work, empowerment of communities and sustainable long-term programs that lead to structural changes in society and the management/ conservation of the environment. Working in partnership with Government departments and other corporates would help build on the work that is already being implemented. While some of the more mature organisations that have traditionally done such work are continuing their support, it is recommended that more organisations are nudged to take up long-term work and select partners and programs that can help them deliver on these programs.
3. **Promoting Social Enterprises to Move From Skill Building to Creating Sustainable Livelihoods:** In today's scenario, the ways of doing business are changing, and it is important to take cognisance of four important disruptive trends - automation, digitalisation, mechanisation and artificial intelligence, which can be considered reasons for jobless growth. It is, therefore, even more important to understand how CSR can help ensure livelihoods are created and sustained and help put forth strategies for new skills and jobs.

   Responsible business, a business for a cause, and a social enterprise are concepts that address both social and environmental concerns in a sustainable manner. These can provide goods and services along with opportunities for livelihood in a self-sustaining way. Promoting, incubating and accelerating such enterprises is an opportunity that corporates can explore and CSR rules can facilitate. Providing market access to products made by tribal communities, farmer producer organisations, or self-help groups, promoting total quality management concepts, and providing information on legal norms or quality parameters would provide enhanced livelihood options. It may be worthwhile to allow support to newer innovative organisations that are working on and are building such concepts and not be limited by registered organisations with a three-year track record.

4. **Getting All Hands on the Same Page:** As more departments in a company are now being involved, newer working models are emerging with CSR, HR, company secretaries, finance teams, and auditors all working together. Conversations between them need to shift from compliance and ease of compliance to going beyond compliance and towards meaningful social and environmental impact. This would mean bringing in the right development professionals and sensitisation of board members, senior leaders, and key personnel in various departments towards development concepts and orienting them towards topics such as need assessments, social and environmental development processes, participatory development and understanding of key impacts and outcomes versus inputs.
5. **Casting a Wider Net:** The number of corporates that are now involved in CSR has increased many times, even though this is mainly due to compliance with the CSR Rules. It may be worthwhile to consider methods for including even more organisations in CSR programs. Corporates could, for instance, include their supply chain partners or their customers in their CSR/development programs, thereby initiating the entry of small and medium enterprises into CSR work.

To sum up, we know that in order to achieve the Sustainable Development Goals, all stakeholders in society need to work together, be it the government, the NGOs and civil society, communities, academia or Corporations and Businesses. The changes in the companies act & its subsequent amendments have both nudged and pushed companies to do their bit and bring to the table both their financial and non-financial resources to further this effort. This is merely the beginning, much more needs to be done to ensure that the development that takes place is long-term, sustainable and reaches those people who truly need this support.

Notes

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15 Based on Data Available on MCA portal & compilation done by IndiaDataInsights

16 Based on Data Available on MCA Portal & compilation by India Data Insights - indiadatainsights.com

17 Based on Data from MCA and compilation by IndiaDataInsights

Responsible Business Conduct and the Role of NGOs

11

Shankar Venkateswaran

11.1. Introduction

It is well understood that companies are powerful and influential, hence can impact the path of social and human development. One of the roles NGOs can and must play is to ensure that this impact is a net positive. Traditionally, NGOs have engaged with companies, either as critics, calling out their misdeeds, or as collaborators in designing and delivering CSR programmes. While these paths will always be relevant, there is a strong case for NGOs to consolidate this relationship and become trusted advisors of companies in the development space so that they can influence their behaviour. This can be achieved in two ways—one, by deepening and widening their role as CSR partners. And two, by leveraging their own strengths, experience and expertise to provide a whole range of services that will enable companies to conduct their business more responsibly. This piece, aimed at NGOs, attempts to expand both of these ways of corporate engagement.

11.2. Why Engaging Companies Matter

The growing size and influence of corporations globally have been quite apparent for several decades. A slightly dated 2018 study[1] by researchers at the University of Amsterdam suggested over 70% of global economies were companies. That they are increasingly invited to global discussions such as on SDGs and climate change, as they should, only underlines this increasing influence.

Like Global Companies, Indian Companies are large, powerful and influential. With a group turnover of about \$ 130 billion[2], the Tata group revenues are larger than the GDPs of countries such as Kuwait, Slovakia and Kenya. The Aditya Birla group, with a turnover of around \$ 48 billion, exceeds the GDP of countries such as Venezuela and Jordan. Not only do industry associations get consulted by the finance minister while formulating the budget, but CEOs of companies are also invited to these parleys. Interestingly, civil society is not, despite potentially having a good sense of ground realities that impact a significant majority of India's population, whose lives should surely concern government thinking and action.

It is, therefore, very clear that companies have the potential to impact development outcomes significantly – both directly by how they run their business and the products/services they offer and indirectly through their influence on public policy. This impact can be both positive and negative. The National Guidelines[3] on Responsible Business Conduct issued by the Ministry of Corporate Affairs articulates the government's views on what constitutes responsible business behaviour. It is in the interest of civil society to also push companies into behaving responsibly; therefore, it can be argued that it has no choice but to engage directly and deeply with companies.

This piece, aimed at an NGO audience, outlines how NGOs can deepen their engagement with companies. This arguably will enable them to become 'trusted advisors'and hence be listened to. It, therefore, does not attempt to critique the approaches of companies or provide suggestions of how they can change but tries to help NGOs understand them.

A short explanation of the terms used here might be useful to the reader. The term 'civil society' is used to mean everyone and everything that is not government or market, and in its broadest sense includes individuals, formal and informal community groups, social clubs, academia, media, NGOs etc. This is how the term 'civil society' has been used in this article. NGOs, Voluntary Organisations (VOs), Civil Society Organisations (CSOs) and Social Purpose Organisations (SPOs) are often used interchangeably to mean registered non-profits (and not-for-profits) organisations. In this piece, the term NGO is used to represent all such formal organisations.

11.3. Civil Society-Corporate Engagement

In the past, Civil Society has engaged with corporations in two distinct ways. One is as a critic, calling out the misdeeds of companies on communities and the environment, organising and joining community protests and campaigns against these misdeeds and leveraging support from various sources – including the judiciary – to address these. Protests by communities around the Vedanta alumina plant in Niyamgiri in Odisha, the Hindustan Copper smelter in Thoothukodi in Tamil Nadu and the Coca-Cola plant in Plachimada in Kerala are examples of successful community action against companies supported by NGOs. The CSE campaign on auto air pollution, building on the MC Mehta writ in the Supreme, resulting in the Bharat Stage emission standards for automobiles is an example of an environmental campaign that forced automotive companies to take emissions more seriously.

Civil society and companies also collaborate to develop and execute community development programmes. This has increased post the introduction of Section 135 of the Companies Act, 2013, which mandates a 2% spend on the past 3-year profit-before-tax for CSR. While partnerships between NGOs and companies are becoming quite common, companies also work directly with other parts of civil society like SHGs, farmers' groups, researchers, academia, etc. Examples of this are fairly well known and hence are not mentioned here.

11.4. The Future of NGO-Corporate Engagement

There is little doubt that NGOs must continue to engage with companies both as critics and collaborators if companies are to be positive contributors to the development agenda. In fact, NGOs are beginning to recognise that working collaboratively with companies enables them to become trusted advisors by companies, which then provides opportunities to directly engage companies on the bigger agenda of responsible business conduct. The initial part of this piece provides some suggestions on what NGOs can do to ensure such CSR-based collaborations widen and deepen going forward.

However, one aspect of corporate engagement that is not pursued sufficiently by NGOs is the services it can provide. This is particularly important if NGOs wish to not just advocate for change in companies but also show them the way and help them responsibly operate their businesses. These opportunities are still emerging and some thoughts and approaches are discussed in the latter part of this piece.

11.5. Deepening CSR-Based Collaborations

NGOs in India are not only critical of the way companies run their business – which is their legitimate role – but also critical of the way companies run their CSR activities. Broadly, five types of criticisms are commonly heard by this author:

i. Companies only want to work in their backyards and do not want to support work where the real needs are. In other words, they do not understand development, or they do not care, or it can be both!
ii. Companies see CSR as a PR exercise and only want their boards put up and seek publicity.
iii. Companies do not support long-term work and prefer annual funding. Also, they do not want to fund more entrenched and difficult-to-address issues like discrimination, empowerment etc.
iv. Companies' expectations from NGOs in terms of the programme and financial reporting are unreasonable.
v. The relationship between companies and NGOs is unequal, where NGOs are treated as suppliers or vendors, not partners.

While all of these criticisms are valid from the point of view of the NGO, it also illustrates the fact that these two sectors belong to two different worlds, as they were. Unfortunately, resentment, anger and suspicion are exactly the opposite of what robust relationships are built on. Since CSR constitutes a significant strand of NGOs engagement with companies, some of these pain points are addressed here with the expectation that this will help equip NGOs to deal with companies better and build a long-term and trusting relationship.

It may be noted that the intent is not to justify company behaviour when it comes to CSR. The idea is to provide insight to NGOs on how companies think and behave so that they can find ways to work around these to deepen engagement and become trusted advisors for the larger purpose of influencing company behaviour.

i. Companies will and must work in their backyards

It is important for NGOs to understand why companies prefer to restrict their CSR activities to their backyards. There are three principal reasons for this. And it is critical to understand that manufacturing companies behave very differently from companies in the services business for obvious reasons.

The first is that manufacturing is, and will always be, a deeply disruptive process that adversely impacts communities and nature around their factories; the larger the company, the greater this impact is likely to be. As much as companies may try to minimise their impacts – and NGOs may argue that few do enough – there will always be a residual impact. CSR is a means to mitigate such adverse effects, so manufacturing companies must work deeply and continuously in the geographies they thus impact. To not do this would be irresponsible; hence, it is not only difficult but arguably not even right to ask such companies to invest any significant proportion of their CSR activities in far-away locations.

Second, companies are increasingly interested in getting their employees engaged in their CSR activities, and this is true for both manufacturing and services companies. The reverse is also true – many employees expect their companies to provide them with opportunities to be a part of their CSR activities as volunteers. Corporate volunteering has the potential to add huge value to CSR projects as the skills that employees can bring – IT, human resources, project management, financial systems, domain knowledge etc. – are significant. This can only realistically happen when CSR activities are in the backyard.

And third, companies are obligated to monitor and report on their CSR activities to the CSR Committee of the Board, which finds its way into their annual, public CSR report. This becomes a relatively complex and expensive exercise if its CSR projects are located far away from their workplaces.

If working in the backyard is inevitable for manufacturing companies, what is the win-win solution for NGOs? One, they must accept this reality to start with and support them to ensure that the impact of such work is robust and sustainable. Second, they must invest in this relationship with companies and become 'trusted advisors' – that will open the doors for other opportunities to influence responsible behaviour, including persuading them to invest a proportion of their CSR funds in geographies that need them most.

What happens to NGOs who do not work in companies' backyards? The solution lies in focusing on companies in the services sector – IT companies, banks, financial institutions, retail etc. Such companies are relatively benign when it comes to the impacts of their operations on society and the environment and are, therefore, more location agnostic. If employee engagement and monitoring challenges can be addressed, such companies are likely to be aggregable to support work in distant locations.

ii. CSR can be more than a PR exercise

While it is true that some companies see CSR solely as a PR exercise and most companies do seek some public acknowledgement of their contributions, there is a need to interrogate the evidence before making a sweeping generalisation that all companies seek is PR. This author has worked in this space for several decades to know this not to be true. There are two important 'smell tests'. One is the publicity take anything away from the intended outcomes of the intervention? And two, is the spend on publicity a significant part of the budget?

It must also be recognised that this need for publicity is not only a corporate weakness. This author has witnessed numerous instances where donor agencies have insisted on some acknowledgement too, and this is particularly apparent during disasters where assets such as housing, boats, oxygen plans etc., carry the donor's logo.

Thus, accusing companies of running their CSR programmes as a PR exercise is not a useful way for NGOs to spend their time. Instead, communities will be better served if NGOs focus their energies on ensuring that whatever community interventions they are a part of with companies are well designed, effectively executed and impactful. In fact, it would be extremely good tactics for the NGO partner to hold PR events and invite senior company leaders to them – this will not only expose these leaders to the realities of the marginalised but also potentially make them champions. And if the company wishes its logo to appear in public and invite media, the partner NGO has an equal right to expect that they will be acknowledged too.

iii. Companies have limited ability to commit to long-term financial support

It must be remembered that the CSR spend of a company is based on the average profit-before-tax of the past three years. While it is easier for large and established companies in stable business environments to make long-term financial commitments as their performance is more predictable, it is difficult for many others to do so. In an uncertain, post-pandemic world, there are initial signs that while the more established companies are willing to make long-term programmatic commitments (limited to 3 years as per the CSR rules), they prefer to make their financial commitments annually. Further, companies that are new to CSR are still developing their partnership processes and are, therefore, unsure about the outputs/outcomes of the CSR interventions and hence prefer short-term commitments.

This is obviously troublesome for NGOs working on long-term interventions as it does not allow them to invest in human resources and processes to ensure quality and effective implementation. However, they need to recognise this reality and have to adjust themselves to it. NGOs must therefore engage deeply with their corporate partners, assess the risk of funding not being continued or being reduced in the second year and have risk mitigation plans in place. One obvious workaround is that for those companies, where such a risk is high, one workaround is to only propose those interventions that can be completed in one year.

iv. Accountability matters

Everyone can agree that accountability matters. But when it comes to being accountable to a company (or a donor for that matter) that is providing funds for a development intervention, the challenge lies in agreeing on what constitutes accountability. The sweet spot, of course, is when the company and the NGO agree on what needs to be reported and how frequently based on what is helpful to both. When a report becomes useful only to one party, resentment and mistrust begin.

So, how can this sweet spot arrive at? NGOs need to be clear on how they will ensure that the intervention is on track. This involves clarity on outputs and outcomes, identification of realistic indicators for these that are measurable, and determination of how these will be measured and how frequently they should be measured for them to be meaningful. If this clarity is there (and in the author's experience, this requires a lot of work by the NGO) and is a part of the proposal to the company, it becomes much easier to discuss and negotiate accountability with companies. In other words, the more proactive NGOs are in terms of accountability, the less likely they are to be pushed into a corner.

v. Moving the relationship from vendor to a partner

It is in a company's DNA (and its Standard Operating Procedures) that any relationship with an outside party that involves a financial outlay from the company requires a contract, and hence procurement and legal departments have to come in. And when these two departments play, there will be templates, standard clauses, legalese, lengthily-worded documents on stamp paper and vendor registration processes. NGOs will always be a vendor on paper. This cannot be wished away.

While this can be very frustrating for NGOs, it will help to remember a few things. One, the CSR department typically has little to say in this, and the larger the company, the more intense these processes are, so these have to be taken as given. Two, much of this is a one-off at the time of signing the contract and once signed, the NGO does not have to deal with these other departments. And three, with CSR departments increasingly peopled by development professionals, the working relationship after all the contracts have been signed off can potentially be professional and quite fulfilling.

Having said that, it is in the NGO's interest to move this relationship from that of a vendor on paper to a 'trusted partner' in practice, a point that was made earlier in this piece. This is very critical, and NGOs must learn to do this well. The basics are important – work on the ground must be top-class, the relationship with the CSR department must be strong, and reporting must be timely and accurate. Additionally, the NGO must find opportunities to engage with other parts of the company as well as with senior management and the Board. Inviting senior management and CSR Committee members to various events in the field – inaugurations, prize-giving ceremonies, commemorating national days – should not be seen only as PR exercises as opportunities to make connections.

Mention was made earlier that both companies and employees are increasingly interested in exploring volunteering opportunities. NGOs would do well to explore this in collaboration with the CSR and HR departments of the company by identifying specific opportunities and supporting volunteers through this process. This requires careful preparation and curation, but nothing like a successful volunteering programme to strengthen the partnership between and company.

11.6. Engaging Companies Beyond CSR

As argued earlier, the quest for social justice and development must necessarily require NGOs to engage companies in responsible practices. The CSR mandate of the Companies Act, along with the tightening of the FCRA, has opened up a new channel for engagement from criticism and confrontation to collaboration. While NGOs must critique companies if they want to promote responsible behaviour, they must also be ready to provide solutions. This new type of collaboration has significant potential but needs greater exploration. Some ideas are discussed below.

11.6.1. Enabling Buying From Communities

An easy 'win' is linking a company with local suppliers, which is made even easier if the supplier is a part of the CSR programme, such as an SHG or an FPO. One of the earliest examples of this is a partnership Titan had with the NGO MYRADA, wherein the latter produced straps for watches, with business and training inputs coming from Titan and farmers' groups organised by NGOs such as Srijan who have supplied agricultural produce such as soya to nearby processing plants. A more recent example is Jindal Stainless, where some of the vegetables required for the canteen come from farmers' groups surrounding the steel plant and uniforms and safety jackets produced by the company-supported women's groups are bought by several companies in the vicinity. A range of such examples exist, ranging from cleaning and gardening services to more sophisticated items like wiring harnesses that Tata Motors sources from a women's group and members of the Dalit Indian Chambers of Commerce & Industry who supply a range of items made by their Dalit entrepreneurs to companies. Several NGOs helped ITC's e-Chaupal reach out to local community groups, thus enabling them to become a part of the supply chain.

There is no formula that NGOs can apply to make such an intervention work, but here are some non-negotiables – no compromises on quality and timeliness of supply of the goods/ services, for instance. If the NGO is new to this, it needs to work proactively with the company's CSR and procurement departments to identify and shortlist a few such opportunities, work out the feasibility, including the pricing and the ability to meet the non-negotiables and propose these to the procurement team. In case an NGO already has products/services it can offer, it should seek a meeting with the procurement team (through the CSR team or any senior-level contact it might have in the company) and explore this.

A word of caution an opportunity that most NGOs see as low-hanging fruit, especially if they work in the crafts sector, is corporate gifts and conference giveaways. While these should be pursued, it should be noted that the demand for these is seasonal and somewhat sporadic, and it is difficult to be distinctive and therefore maintain a competitive edge. The trick lies in identifying products and services that are required by the company throughout the year, as these are more likely to result in long-term arrangements and hence provide continuous benefits to local producers. NGOs working with crafts-persons, therefore, would be better off as suppliers to companies like Ikea, who procure these all year round, as many already do!

11.6.2. Distributing Company Products

The best-known example of civil society groups selling the company's products is HUL's Shakti programme, where several NGOs help forge links with these SHGs. But it is not the only one, and the model has been used for several products, including tea, bulbs, water filters, Horlicks and several others. The premise is simple – how can an NGO leverage the reach and goodwill that it enjoys with communities it serves to sell a company's products? For this to be attractive to a company, the NGO must have significant reach as otherwise the transaction costs increase dramatically making it infeasible. To the NGO, the dilemma is moral – is it taking unfair advantage of the trust the communities have reposed on it? When both these situations are reconciled, an opportunity arises, which is a win-win!

11.6.3. Assessing Supply Chain Sustainability

An increasing challenge being faced by companies is to assess the risks and ensure that human rights violations in their supply chains are eliminated. This challenge is particularly acute where supply chains are long as it is very difficult for a company to have a line of sight beyond their Tier 1 and, maybe, Tier 2 suppliers. It is in the lower tiers that child labour, forced labour, poor work conditions, low wages and other violations are likely to happen. Take the case of a construction company – while it can ensure that it sources cement and steel from responsible producers who are in themselves very large, this becomes very difficult to ensure that other materials like stones, aggregates, sand, clay bricks etc., are sourced responsibly. In fact, it is well documented that the latter items are, more often than not, produced by informal sector workers with little training and safety equipment and where child and forced labour are rampant. The garment sector is similar, and while the working conditions are far less stressful than in a stone quarry, long working hours, home-based work and low wages are common.

If a company wishes to audit its supply chain, especially Tier 3 and beyond, who can it go to? In some export-oriented sectors like garments, handicrafts, agriculture commodities etc., there are global standards such as Rainforest Alliance, SA8000 etc. and associated auditors who certify producers for a fee, usually paid by the supplier. NGOs could become certifiers of these standards – organisations like the Centre for Responsible Business could help them identify which standards and how to get trained – and offer their services to companies. For instance, the NGO Partners in Change has undertaken Human Rights Due Diligence for a company's grapes supply chain.

There are, however, several sectors where such standards do not exist, and companies just do not have the bandwidth to do this themselves. To begin with, NGOs can offer to provide such services for supply chain partners in nearby geographies and extend their reach over time. Promising though this is, there is a lot of work that needs to be done for this to succeed. NGOs must build a robust process for undertaking such audits (even if it does not lead to a certification) that not only assesses the realities of human rights issues in the supply chain but also provides realistic recommendations on what needs to be done to overcome the shortcomings.

Suppose several such NGOs across India are networked together on a platform. This opens up the possibility of this network assessing suppliers near them, thus creating a new ecosystem that will enable companies to ensure better human rights compliance in their supply chains. Creating such a platform requires an organisation willing to take the lead and a threshold of NGOs interested and qualified to do such assessments. Scaling such a service provides an exciting opportunity for the future.

11.6.4. Community Needs Assessment

Increasingly, companies recognise that their CSR activities must address local community needs. Where a partner NGO undertakes these CSR activities, this is typically one of the partner's roles. However, in case the partner is unable to, or where the company is implementing directly, it could seek the help of a third party. The NGO Partners in Change has assisted companies in undertaking such assessments.

11.6.5. Monitoring and Impact Assessment Services

One of the key roles of a CSR Committee is to monitor progress. To this has been added a new requirement from January 2021 that every company having average CSR obligation of ₹ 100 million or more in the past three years 'shall undertake impact assessment, through an independent agency, of their CSR projects having outlays of one crore rupees (₹ 10 million) or more'. Further, these impact assessment reports are to be placed before the Board and form a part of the annual report.

This presents a significant opportunity for NGOs to become independent agencies undertaking impact assessments. Competition would be from the Big 4 accounting firms and some specialised agencies like Sattva, but many implementing NGOs with their long grassroots experience and direct connections with communities, can provide alternatives that can be game-changing.

This is easier said than done. This first challenge is to articulate a robust approach to undertake such assessments – this must not only be methodologically sound but must leverage the inherent strengths and processes that NGOs possess, such as participatory processes, social audits etc. The second challenge is to build project management and execution structures that will enable NGOs to run such assessments effectively and in a timely manner, keeping costs under control. And the third challenge is to build credibility and 'market' these services to companies. The short-term solution to these challenges is for NGOs to build alliances with service providers such as the Big 4 etc. In the medium to long term, a platform structure (similar to or a part of the supply chain sustainability mentioned above) could be envisaged and coordinated by agencies like PRAXIS or networks such as VANI.

11.6.6. Enabling Employee Volunteering

Mention was made earlier about a growing interest amongst both companies and their employees in providing opportunities for employee volunteering. This, despite volunteering, not be counted as a CSR activity. The reason is simple – employees increasingly want to join and stay with companies that have a purpose, and so companies want to encourage and enable this to happen. It is no wonder that not only companies globally have volunteering programmes, Indian groups like the Tatas, Mahindras, and many others have as well.

The question that an NGO must ask is why it should invest in employee volunteering. The arguments against it are several – curating opportunities is a lot of work, and the NGO may not have the necessary skills, it is not clear how many of the volunteers are really committed, and it is even less clear as to what will come out of it. So, the reasons to make this investment have to be strong. The arguments for include answers to questions such as: Do they potentially bring skills that are hard to buy that will enhance the quality and effectiveness of your work? Will they become donors and also champion your work in their spheres of influence? Will it sensitise company employees on the situation of the poor and marginalised, and will that make them take more empathetic and responsible business decisions? Will it strengthen the NGO's ties with the company so that it can be closer to becoming a 'trusted advisor'? For those NGOs that choose to invest in employee volunteering, here are some thoughts.

The low-hanging fruit of employee volunteering is to create opportunities within a company's CSR interventions. This is a must-do for all NGO partners in any case, if only to secure its CSR relationship. But experience shows that this has limitations in terms of numbers that can be absorbed and alignment of what the projects need and what the employees wish to do.

Again, experience suggests that employees who wish to volunteer fall into a spectrum. Those that are new to it want to do something light and fun, usually in the company of colleagues and not necessarily week after week, and these constitute a wide majority; the good news is that some of them like to get more involved. At the other end of the spectrum are those who have either been volunteering for a long time and/or are innately highly motivated to serve, therefore willing to invest huge amounts of time and intellect and are happy to work individually or in small groups; these are fewer in number. This means that an NGO that wishes to engage a company's employees must necessarily have this wide spectrum of options open, from painting a school or cleaning a beach to developing a fund-raising strategy. The former type of volunteering requires a lot of planning – material has to be organised, arrangements made for water and refreshments and so on – while the latter requires a counterpart within the NGO who can facilitate the highly motivated volunteer.

11.7. Managing Conflicts

While the opportunities for closer NGO-company relationships increase, it is important to be well aware of the potential conflicts that are inherent. A few are discussed below:

1. **Vendor vs Advisor:** As was mentioned earlier, most people in a company would look at any external provider of services as a vendor. Being a vendor is not easy because it involves price negotiations, being forced to meet conditions that are not easy and sometimes unrealistic and so on.
2. **Keeping the cause at the centre:** Every NGO exists to fight for a cause that is central to its existence. Not everything a company does benefits the cause, and this may require the NGO to decide which actions by the company to ignore and which ones to criticise. Reference was made earlier to a company's instinct to seek publicity – though this may go against the NGO's grain, it may have to, on occasion, ignore it. Choosing battles requires tact and judgement.
3. **Activism vs partnership:** NGOs that have been built on the premise of actively opposing anything that adversely impacts its cause. Working with companies calls for a very different way of fighting for the cause than tools like public and community campaigns, *dharnas* etc., that the NGO may

have used in the past. While it is no one's case that the NGO should give up its cause, its way of working might have to change, which causes its own set of internal conflicts.

11.8. Conclusion

The width and depth of an NGO's engagement with a company are fundamentally determined by what it wishes to get out of this relationship. If it is only funding, then it should stick to CSR but very tactical in choosing which companies to partner with and then invest in the relationship so that it sustains over time. If its objective goes beyond raising funds to shifting company behaviour, then it is in it for the long haul, and several other options open up, some of which have been outlined here.

These new options are not easy, and not all are feasible in a given context, and so the NGO must make choices on which ones to invest in. And these come with potential conflicts that the NGO must be ready to deal with and resolve.

Whatever choices it makes, NGOs must not lose sight of the fact that their commitment to the cause that gave birth to them underlines their engagement with companies.[4]

Notes

1 https://pure.uva.nl/ws/files/29580101/Who_is_more_powerful_states_or_corporations_.pdf

2 https://www.tata.com/investors#:~:text=In%202021%2D22%2C%20the%20revenue,its%20own%20board%20of%20directors.

3 https://www.mca.gov.in/Ministry/pdf/NationalGuildeline_15032019.pdf

4 Acknowledgements: The author wishes to acknowledge that this piece benefitted greatly from inputs and ideas from several persons. While listing them runs the risk of some names being missed, the author wishes to thank Ajit Choudhuri, Amita Puri and Brig. Rajiv Williams, Ranjana Das, Pradeep Narayanan, Rashmi Chandra. Apologies to those that contributed but my memory did not!

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About the Editor and Authors

About the Editor

Dr Sanjiv Phansalkar

After completing his PhD from IIM Ahmedabad, Sanjiv Phansalkar taught at IRMA till 1994. He led the IWMI Tata Water Policy Program from 2005-07 and then the Sir Dorabji Tata Trusts program team from 2007 till 2017. Currently, he heads a Development Research Centre named Vikasanvesh Foundation. He has published ten books and over 30 research papers and articles.

About the Authors

Dr Ajit Kanitkar

Ajit Kanitkar is a researcher and development consultant with over thirty-five years of experience in the field of rural development, social entrepreneurship and institutions of farmers. Earlier, he worked with IRMA, SDC, Ford Foundation and VikasAnvesh Foundation. He has authored several books and research articles. He is associated with a large number of civil society organisations in India and is an advisor to some of them in a pro bono capacity. He is the honorary Secretary of Jnana Prabodhini Samshodhan Sanstha, Pune.

Alka Talwar

Alka Talwar is the former Chief CSR & Sustainability Officer of Tata Chemicals and is a CSR, Corporate Sustainability, Diversity & inclusion specialist with more than 35 years of experience. She is the recipient of the *2019 - Leading Women Award in the excellence category* conferred by the World Business Council for Sustainable Development (WBCSD). She is a Trustee on the Board of Trustees of Tata Chemicals Society for Rural Development (TCSRD), Okhai -Centre for empowerment, and a Director on the Board of 'Common Purpose', India. She has been part of several committees and working groups of various industry bodies, the Tata Group, in Govt. and Non-Govt. Organisations.

Dr Ashok Kumar Sircar

Ashok Kumar Sircar currently anchors the Centre for Local Democracy at Azim Premji University. Ashok has been associated with the University since 2011 and was the Director of the School of Development from 2015-2020. He teaches a course on the political economy of land and another on local democracy and development in India. He spent more than 15 years of his working life in the electronics industry, in production and R&D, followed by another 15 years in the social sector working in grassroots to international organisations. His interests include the Land Question, Local Democracy, and Civil Society.

Girija Srinivasan

Girija Srinivasan had been a development banker for more than a decade and then turned to build a successful international consulting practice in the areas of livelihoods and rural finance. She has been involved in designing, supervising, evaluating strategy and implementing several unique development projects. She has accompanied rural institutions in their growth process in India and abroad. Her areas of interest are rural livelihoods, rural banking, financial inclusion and community-based organisations of women and farmers. Her experience spreads over almost all the states in India, South, South East and Middle-east Asia, and east and north Africa. She authored the India Social Performance Report in Microfinance for three years from 2012 to 2014, besides editing the report in 2011. She has co-authored, with N. Srinivasan, the State of India's Livelihoods report for 2015, 2016 and 2017. She has also authored, individually and jointly, other books and carried out pioneering studies in the SHG bank linkage programme. She is involved in the industry bodies dealing with microfinance and rural livelihoods. As an international expert, she is a consultant and advisor to the International Fund for Agricultural Development, GIZ, Frankfurt School of management and other institutions. She serves on the Boards of FWWB, CMF and Grameen Foundation for Social Impact.

Isha Wadekar

Isha Wadekar is a second-year graduate student of Economics studying at the Gokhale Institute of Economics and Politics, Pune. She is also pursuing her BS in Data Science and Programming from IIT Madras.

Nimisha Katakee

Nimisha is a development professional with over 12 years of experience in the areas of forests, labour, business and human rights. She has also worked in the domains of sustainable livelihoods and organisational development, particularly in the Northeastern part of the country. She currently leads a Climate Justice program at Badlao Foundation in Jharkhand and, prior to this, has worked with Oxfam India, Magic Bus India Foundation and Centre for Microfinance and Livelihood (An initiative of Tata Trusts). Nimisha has played a critical role in leading a living wage study for tea plantation workers in Assam with over 5000+ workers; it was for the first time an estimation of living wages for plantation workers in India was done.

Dr Orlanda Ruthven

For the last 20 years, Orlanda has worked on skill development and employment issues in India, in research, operations and training. She is currently consulting with the Population Council on life skills for adolescent girls in Bihar, while also running a free community library in her Delhi neighbourhood. Earlier in India, she worked with Gram Vaani, Gram Tarang Odisha, and DFID, among others. She has an academic background in anthropology and a doctorate in development studies from Oxford.

P.V.S. Suryakumar

P.V.S. Suryakumar joined NABARD in 1986 and has handled a variety of functions; appraisal, funding & monitoring of projects, headed & implemented various types of programs, training, policy, advocacy & communications. He worked across geographies, including Madhya Pradesh, Uttar Pradesh, Maharashtra, Andhra Pradesh, Gujarat, West Bengal, New Delhi and Karnataka. Mr Suryakumar obtained the Masters in Plant Genetics from the Indian Agricultural Research Institute, New Delhi, in 1986. He is a Commonwealth Scholar and obtained Masters in Sustainable Development from Staffordshire University, Stroke-on-Trent, UK, in 2010. He undertook the 25th Management Education Program at the Indian Institute of Management, Ahmedabad, in 2001. He is an Associate of the Indian Institute of Banking & Finance. He is an author of cases, has contributed to newspapers on policy issues and published two books on Cases and Sustainable Agriculture.

Royston Braganza

Royston joined Grameen Capital in 2007 as CEO, to launch the organization, providing Microfinance Institutions and Social Enterprises wider access to the capital markets. Grameen Capital is part of the global Grameen family of companies, the flagship of which is the Nobel Prize-winning Grameen Bank founded by Nobel Laureate Prof. Muhammad Yunus.

A career banker, Royston spent over a decade in Citibank in various assignments across Consumer and Corporate Bank and also set up HSBC's SME Finance Business and their global Microfinance Business. In addition to being the former Chair of Sa-Dhan, he serves on many boards and advisory bodies, including Grameen Foundation India, FICCI, CII, Impact Investors Council, etc.

He has been awarded the Global CSR Leadership award by World CSR Congress.

Dr Sankar Datta

Sankar Datta has been involved in the promotion of farm and non-farm enterprises and value chain especially through Producer Collectives, both as an academic and a practitioner, for over four decades. Sankar's school education in Santiniketan, West Bengal, in the late '60s and early '70s influenced his young mind, chose to work for the development of rural India. He has been a Member of the Faculty at IRMA-Anand, IIM-Ahmedabad and Azim Premji University, Bengaluru. He has also managed the operations of organisations engaged in livelihood promotion, such as PRADAN, BASIX and Samunnati Foundation. He has also been engaged in various consulting assignments with The World Bank, IFAD, Ford Foundation, Access, Accord, IRMA, XIMB, and Samunnati Finance, to name a few, in addition to his work with the BASIX Consulting and Technology Services.

Shankar Venkateswaran

Shankar is currently a part of the founding team of ECube Investment Advisors that focuses on ESG stewardship, sustainability products trading, climate lending and ESG investing. He also advises several companies and NGOs on sustainability and development and is a visiting faculty to various business schools on these topics. Shankar's experience of four decades spans sustainability with the global thinktank SustainAbility, PriceWaterhouse Coopers, and as the head of sustainability of the Tata group, social development with ActionAid and the American India Foundation and business consulting with A F Ferguson & Co. (now a part of Deloitte). He serves on the board of several NGOs, corporate foundations and social enterprises and is currently the Chairperson of Oxfam India and CSR Trust for SDGs in India. He also serves as Grantham Ambassador at the Grantham Centre for Sustainable Futures, University of Sheffield, UK and Committee on SDGs of SIDBI.

Shankar has advised the Ministry of Corporate Affairs (MCA) on matters such as CSR and Responsible Business Conduct. He was very closely involved in the drafting of the National Guidelines for Responsible Business Conduct, released by the MCA in March 2019, and its companion Business Responsibility and Sustainability Report, which was mandated for the top 1000 listed companies in India by SEBI in May 2021. He has also participated in the MCA's initiatives on developing a National Action Plan on Business & Human Rights and is a member of the Core Group on Business & Human Rights of the National Human Rights Commission. He holds an engineering degree from IIT Madras and an MBA from IIM Calcutta. He is a Distinguished Alumnus of IIM Calcutta.

The State of India's Livelihoods (SOIL) Report is an annual publication addressing the contemporary issues in the livelihoods sector. It is the only document that aggregates the experiences and challenges of the livelihoods sector, analyses case studies, and reports on the progress of both government and privately-run programs.

For the last 14 years, ACCESS has continued to publish the SOIL Report, with an aim to collate the emerging trends in the livelihoods sector. The mainstay proposition of this report is to provide rich information to policy makers and practitioners and other stakeholders committed to the cause of furthering livelihoods of the marginalized.

Given the diversity and complexity of the livelihoods landscape, the SOIL Report can never be complete. While some core themes are continued from the previous reports to provide stability to the structure, interesting new themes have also been added to bring new knowledge to the sector. The continuing coverage includes an overall scenario of the livelihoods of the poor and policy and programme interventions by the government to revive livelihoods in the post-COVID times. The report covers three contemporary themes relating to the agriculture sector. While one looks at business case for women-led farmer producer organisations, the second looks at policy and programme landscape for climate smart agriculture. A third chapter on agriculture looks at initiatives that bring digitalization for the benefit of small-holder farmers. As continued coverage on private sector engagement in livelihoods promotion –the impact of amendments in the CSR Act is reviewed besides looking at approaches to NGO-Corporate engagement. Given the unemployment crisis in India, sectors where the new jobs are, finds continued coverage in this edition. Under new coverage, one-chapter dwells on collectives in the non-farm sector. United Nations has declared 2023 as the International Year of Millets. A deep dive chapter discusses the way in which millets can enhance the livelihoods of people.

Editor
Dr Sanjiv Phansalkar

Contributing Authors
Dr Orlanda Ruthven
Dr Ashok Kr. Sircar
Royston Braganza
P V S Suryakumar
Girija Srinivasan
Dr Sankar Datta
Dr Ajit Kanitkar and Isha Wadekar
Dr Sanjiv Phansalkar and Nimisha Katakee
Alka Talwar
Shankar Venkateswaran

Supported by

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Rabo Foundation

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ISBN 978-81-955245-0-1