



**A NEW Strategy to
Address India's
Triad of Employment Crises**



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1 The Existing Economic Strategy has led to India's Employment Crises

India's unemployment crisis is well-known and the previous chapters in this volume have analysed it in detail. The big problem of unemployment is caused by increase in working age population, for whom the present economic model is not able to enough generate jobs, despite a moderately high GDP growth rate. This is referred to as "jobless growth". Yet we maintain that the emphasis on numerical unemployment tends to take attention away from two bigger problems related to employment. A bigger problem than numerical unemployment is inadequate wages and incomes of most of those who are employed. The biggest problem is degradation of the environment and natural resources, which can make existing and future employment unsustainable. In the opening section of this chapter, we analyse each of these three issues, which we refer to as the triad of India's unemployment crises.

1.1 Numerical unemployment caused by increase in working age population

Elsewhere in this book, more authoritative data are given on unemployment, but mostly in term of percentages. We want to draw attention to the absolute numbers to highlight the scale of the problem. Out of a total labour force of about 52 crore¹ in 2024, between four to five crore working age persons are unemployed as of 2024. The net annual increase in the labour force is estimated to be between 0.8 and 1.2 crore persons every year, depending on assumptions about the labour force participation rate (LFPR) applied to the working age population. We think that due to economic pressures on households, the LFPR will rise, and if job opportunities do not rise, the number of unemployed will shoot up to over 10 crore by the end of the decade, depending on LFPR assumptions.

1.2 Inadequate wages and incomes of most of those who are employed

The second, and bigger problem than generating employment for the existing unemployed and the increment in the labour force, is inadequate incomes of the persons who are working. As per data from the Periodic Labour Force Survey (PLFS)²,

¹ This paper is written from by a development practitioner and policy analyst/advocate and thus some of the numbers are rounded off, though broadly based on PLFS data.

² Government of India, MoSPI, Periodic Labour Force Survey (PLFS), Annual Report 2022-23.

in Jun 2023, the average daily wages Rs 403 for all India, all persons (male and female). This data excludes those who were engaged in public works like MGNREGA, where the wage rates were even lower at Rs 261 all India average in FY2023-24.³

The average monthly earnings in 2023 ranged from Rs 3,915 for MGNREGA workers to Rs 7,254 for casual workers to Rs 13,347 for self-employed workers to Rs 20,039 for salaried workers. It is thus not surprising that everyone wants a salaried job, preferably with the government. Yet that is not feasible for more than two percent of the labour force. The organised private sector can barely generate jobs for another 5-7 percent. Thus better wages in the agricultural, allied and the informal sector has to be the main solution.

Better wages can only result from higher productivity, although that is necessary though not a sufficient condition for higher wages. While higher productivity will enhance overall value added, the wage share of value added will rise more than proportionately when agricultural and informal sector workers get organised and when legislation supports and protects higher wages, social security and better working conditions.

1.3 Degradation of natural resources has destroyed the basis of employment

The biggest crisis related to unemployment is yet to unfold fully, although we are beginning to see early signs of it. This crisis is due to the degradation of the environment and the natural wealth of water, forests and land/soil, or "Jal, Jangal, Jameen" in Hindi. Agriculture, livestock rearing and fishery were the major source of livelihood for India's rural population. Yet with the degradation of jal, jangal, jameen and Jalvayu, agricultural productivity declined and the sector was unable to absorb more workers. Thus a substantial number moved from rural areas to cities in the search of jobs. But cities are also suffering from impact of climate change – witness the recent heat wave and water shortages in urban areas. Due to global warming and climate - Jalvayu - change - has become the biggest threat for employment, with both existing and future jobs becoming more arduous and unsustainable.

To address this threat, the economic policy makers of India have to start seeing ecology and economy as conjoint and make a shift in their thinking about financial outlays for investment in natural resources, which will largely have to come from public resources since a vast majority of the jal, jangal, jameen and all of Jalvayu are common property resources.

³ *Srivats, KR (28 Mar, 2024) Centre notifies 3-10 percent MGNREGA wage hike for 2024-25. The Hindu Business Line <https://www.thehindubusinessline.com/economy/centre-notifies-3-10-mgnrega-wage-hike-for-2024-25/article68000982.ece#>*

2 Elements of the NEW Strategy to Address the Employment Crises

Based on the identification of problems above, we propose a radically new strategy for addressing these. The normal strategies put macroeconomic GDP growth first, then worry about human development and well-being, and finally pay some residual attention to environmental aspects. We assert that the triad of employment crises requires us to adopt a radically different development strategy, which reverses the normal economic priorities. We need to put nature first, then human beings and then GDP growth.

We call this growth strategy Nature-regenerating, Employment-generating and Well-being enhancing which makes the acronym NEW. As against the “business as usual” (BAU) strategy, which is exploitative of both nature and human beings, the new strategy nurtures both nature and human beings, through the following three prongs:

- **Nature-regenerating:** Invest in regenerating natural resources and conserving the environment; then reviving the agriculture and allied sectors, and adding new green activities such as generation of renewable energy, recycling of waste, and climate-change adaptive construction and services, eco-tourism, etc.
- **Employment generating:** Farms and firms which are demand based, led by entrepreneurs, capitalised well and having adequate input linkages and infrastructure. This includes the new generation agricultural, livestock and renewable energy enterprises due to nature-regeneration as well as regular manufacturing, construction and service enterprises,
- **Well-being enhancing:** Focus on agriculture and livestock extension services, enterprise support services (vocational training and apprenticeship, storage, transport, communication and financial services); human development services – health, education, social welfare services, governance and public administration and services.

2.1 Natural Resource Regeneration to Make Employment Sustainable

This component of the strategy - regeneration of water, forest and land/soil (Jal, Jangal, Jameen) resources, and Jalvayu (climate) change mitigation, of course requires major public investments. The investments will have to be in the range of 3 to 4 percent of the GDP per annum over five to six years. Not all of this is incremental as programs like MGNREGA under which soil and water conservation is done extensively, and the Green India Mission for reforestation already exist.

Enhanced outlay for natural resource regeneration and climate change mitigation in the short-term (five to six years) can generate crores of jobs for people living in rural areas in unskilled manual labour and semi-skilled work. In the longer term, it will lead to significantly enhancing agricultural and rural prosperity through diversified agriculture and animal husbandry and agro-processing. It will also significantly contribute to the rest of the economy and the quality of life of urban dwellers, through better availability of clean air, water, electricity, and nutritious food grains, vegetables and fruits, as well fodder for livestock and fibre for agro-processing. See more on this in Mahajan and Singh (2020)⁴, a summary of which is given below.

2.1.1 Jal - Water

With only 4 percent of the world's freshwater resources accommodating 16 percent of the global population, India grapples with significant disparities in water availability. India has 20 large and small river basins, but as per the Falkenmark Index, 13 river basins are water scarce with less than 1000 cu m water per capita being available per annum. These collectively cover a total basin area of 18,90,110 square km that representing 57.5 percent of the geographical area of the country. The 13 rivers and their 202 tributaries add together to a length of 42,830 km of rivers and their tributaries and streams.⁵

India's gross irrigated crop area of 8.26 crore hectares (82.6 million hectare or mha) is the largest in the world. This went up from 22.6 mha in 1951. In the first two decades 1950 to 1970, the increase was due to dam fed canal irrigation systems. Since then, a large part of the increase is based on groundwater extraction through borewells and that poses severe problems of environmental sustainability due to overexploitation, with 1071 out of 6607 assessment units classified as 'over-exploited,' exhausting groundwater faster than it can recharge (Kapoor and Anand, 2024).⁶ The way to ensuring recharge aquifers is to build and use surface water conservation structures. On that front too, instead of progress, there is increased degradation as can be seen from the report cited below.

The Ministry of Jal Shakti, Government of India conducted India's first water bodies census in 2018-19, and enumerated more than 24 lakh water bodies (ponds, tanks, lakes, and reservoirs) in the country, 97 percent publicly owned. About one in six water bodies were not in use due to reasons such as blockage of inlet streams, siltation, construction in the pond bed, irreparable damage to earthen walls, salinity and inflow of untreated sewage and industrial effluents.⁷ Thus, on the one hand surface water storage and use gets reduced, and on the other hand recharge of groundwater, necessary to prevent long-term groundwater depletion, suffers. The way out of this is regeneration of water bodies which will also generate large-scale employment.

⁴ Mahajan, V. and Singh, J. (2022). *Lives, Livelihoods and Environment: The Challenge of Sustainable Development Goals in India*. In: Antoniadou, A., Antonarakis, A.S., Kempf, I. (eds) *Financial Crises, Poverty and Environmental Sustainability: Challenges in the Context of the SDGs and Covid-19 Recovery*. Sustainable Development Goals Series. Springer, Cham. https://doi.org/10.1007/978-3-030-87417-9_7

⁵ <https://pib.gov.in/PressReleasePage.aspx?PRID=1849871>

⁶ Kapoor, Amit and Mukul Anand (2024) *Addressing Groundwater Depletion Crisis in India: Institutionalizing Rights and Technological Innovations*, Prime Minister's Economic Advisory Council, New Delhi.

⁷ <https://jalshakti-dowr.gov.in/document/all-india-report-of-first-census-of-water-bodies-volume-1/>

2.1.2 Jangal - Forests

India's forest land has also gone through significant degradation in the last five decades. The share of tropical wet evergreen forest has decreased from 8 percent of total forest land in 1987 to mere 2.6 percent in 2019. Forest regeneration efforts have tried for several decades. The first major effort involving communities was the Joint Forest Management (JFM) program. The area covered by JFM till 2010 was 24.6 mha, which was about 30 percent of the forest cover of the country. In 2014, the Green India Mission (GIM) was launched for 10 years. The mission had a goal to increase the forest/tree cover in 5 mha land and improve the density of tree over in another 5 mha (total 1 crore hectares). Unfortunately, achievement under the GIM from FY 2015-16 to 2020-21 was a meagre 1.17 lakh hectares.⁸ If this and other programs for forest regeneration are taken up in earnest, these will also generate large-scale employment in the short-run for activities like nursery raising, pit digging and tree planting. Over the long run, as the grass, shrub and tree cover comes up, rainfall runoff will reduce, streams will get rejuvenated and groundwater recharged, which will enhance agricultural productivity in the proximate areas.

2.1.3 Jameen - Land and Soil

India's cultivable land area of about 160 mha is the second largest in the world, after the United States. Between the 1950s and 2020, the cultivable land area has gone up about 8 to 10 mha. India's gross irrigated crop area of 82.6 mha is suffering from the effects of intensive irrigation and excessive use of chemical fertilisers, leading to decline in organic carbon in the soil and severe reduction in microbial population. This had made land less and less fertile, this needing more chemical fertilisers. The only way to reverse this vicious cycle is to regenerate the soil, which requires an integrated regeneration jal, jangal, jameen and jalvayu.

Desertification is another major challenge that India's landmass is facing. The Atlas on Land Degradation and Desertification of India⁹, published by the Indian Space Research Organisation (ISRO) stated that about 29.3 per cent of total 328.7 mha of the geographical area of India was affected by land degradation. It accounted for 96.4 mha of forest, non-forest and agriculture land spread across the country. This estimate was by ISRO in 2016 and given the trends, so by 2024, at least 100 mha of land in India is degraded. All this land needs soil regeneration and that can generate a lot of short-term employment while treatment is going on, and then long-term employment due to increase in agricultural and livestock production.

2.1.4 Jalvayu - Climate Change and Air Pollution

The impact of climate change is increasingly being felt in India – severe heat waves, delay in onset of monsoon, droughts, cloudbursts, cyclones in coastal areas, glacial

⁸ <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1813175>

⁹ https://www.sac.gov.in/SACSITE/Desertification_Atlas_2016_SAC_ISRO.pdf

lake outburst floods, post-monsoon floods and severe cold waves have all become common over the last decade. Due to unpredictable shifts in temperature and rainfall, the traditional cropping patterns are not yielding the earlier levels of output. This is a major threat to agriculture based employment. The one recourse people exiting from agriculture have is to migrate to urban areas for employment. However, air pollution, extreme temperatures, water shortages and scarcity of land, leading to congestion and spread of disease, all make employment in urban areas difficult. Thus we need to work on the root of the problem.

As we have said above, steps to mitigate climate change will generate large-scale employment in the short-run for activities like pond-desilting, contour trenching, tree planting and preparation of compost to add organic carbon to the soil. Over the long run, these activities will enhance productivity of the agricultural, livestock and forestry sectors

2.2 Employment and income enhancement through entrepreneurship

The solutions to India's macro unemployment problem lie at the micro level – farms and firms, where jobs actually get created. Farms and firms are overwhelmingly micro in India, as can be seen from the data below. However, we argue that the employment generation and wage enhancement potential of the micro farms and firms can be released through entrepreneurial ownership.

In the farm sector, the total number of cultivators as per the Census of India, 2011 was 11.9 crore and the number of agricultural labourers was 14.4 crore. The number of operational holdings as per the Agriculture Census 2015-16 was 14.65 crore. Of these 10.03 crore (68.45 percent) were marginal holdings, less than 1 hectare. Another 2.58 crore (17.62 percent) were small, between 1 to 2 hectares. Only 2.04 crore (13.93 percent) holdings were larger than 2 ha.¹⁰

In the non-farm sector, as per the Sixth Economic Census, 2013, as many as 4.54 crore establishments were engaged in non-agricultural activities (mainly retail trade and household manufacturing), while 1.31 crore establishments were found to be engaged in agricultural activities other than growing of crops and plants (mainly livestock rearing). Average employment was 2.24 per establishment. However, 0.24 crore (4.5 percent) of all the establishments employed 6 or more workers. During the period of eight years between the two Economic Censuses (2005 & 2013), non-agricultural establishments grew by 29 percent. Of these, 72 percent were Own Account Establishments (OAEs, i.e. establishments without any hired worker) and the remaining 28 percent were establishments with at least one hired worker.¹¹

¹⁰ Government of India, Ministry of Agriculture & Farmers Welfare, Department of Agriculture & Farmers Welfare Economics & Statistics Division, *Agricultural Statistics at a Glance 2022* https://agriwelfare.gov.in/Documents/CWWGDATA/Agricultural_Statistics_at_a_Glance_2022_0.pdf

¹¹ Government of India, Ministry of Statistics and Programme Implementation (2016). *All India Report of Sixth Economic Census. Highlights*. https://www.mospi.gov.in/sites/default/files/economic-census/sixth_economic_census/all_india/5_Highlights_6ecRep.pdf

Increasing output and productivity for these farms and firms requires

- increasing the level of skill of workers;
- upgradation of equipment and production techniques,
- the availability of infrastructure and inputs and
- all these require finance, both equity and credit.

Not every small farmer or small firm owner will be able to muster all these inputs together. The ones who can will have a special quality which we call entrepreneurship. It is our assertion that at least one crore of the approximately 15 crore agricultural holdings and about one crore of the approximately 8 crore non-agricultural firms will be able to expand and grow dramatically as entrepreneur-led farms and firms if they are given the right support. They can each employ 10 workers round the year in various agricultural or livestock rearing operations, living and working in their own villages.

In addition, one crore of a new category of green firms can be encouraged to come up – the ones who specialise in regeneration of jal, jangal, jameen and Jalvayu change mitigation, of course, largely carrying out publicly funded programs for natural resource regeneration. These three crore enterprises will be able to become growth engines and generate wage employment for 10 workers. Thus these will together generate 30 crore jobs. Further, these jobs will be at a higher real wage rate than at present, due to higher overall productivity.

Micro farms and micro firms are not likely to solve India's twin employment problem – they offer too few jobs compared to the increase in the working age population, and too little wages and income for those working. The answer is to enable the strongest of the micro to become larger so that they can employ about 10 persons.

2.2.1 Characteristics of Employment Generating Farms led by Entrepreneurs

Employment generating entrepreneur-led farms would have an average size of 5 acres (some owned and some leased in). There are numerous examples of this already existing in various parts of India. These Entrepreneurial farms would be self-sufficient for water (using stored water in the farm pond and drawing some of it from recharged groundwater borewells), fertilizer (using agricultural residue and biogas slurry to make compost), energy (using wind, solar and cow-dung based biogas), vegetables, fruit, milk, curd, ghee, eggs, chicken and fish. At least one crore of existing 2.04 crore larger farms can be converted into entrepreneur-led farms; these can generate employment for 10 crore persons in agriculture on a sustainable basis and with higher wages than at present, due to higher productivity.

2.2.2 Characteristics of Employment Generating Firms led by Entrepreneurs

To generate employment, entrepreneur-led firms or non-farm enterprises will focus on non-local markets - in their states and beyond, even looking at export possibilities. At present, local markets are flooded with goods produced in big cities and imports from China. Even ready to eat food items are being displaced by packaged items. The entrepreneur-led firms will reverse this trend. This trend can be countered with advances in local packaging and marketing efforts, including the use of digital media. Indeed, in some cases, micro enterprises from remote areas have been successful in getting orders over the Internet on their website or through listing on Amazon and lately the ONDC (Open Network for Digital Commerce, which is a technology-driven initiative aimed at transforming the digital commerce ecosystem in India). They have been able to receive payments electronically using UPI, and have been able to deliver at distant locations using logistics service providers.

The four conditions necessary for entrepreneur-led farms and firms to flourish are:

- Demand,
- Entrepreneurship,
- Capital and
- Inputs and Infrastructure

The four together evoke the acronym DECI which underlines the fact that each of these DECI farms and firms employ 10 workers including the entrepreneurial owner. Thus it is a transformation from the struggling small or marginal farmer or the road side vendor or the fabrication workshop under a tin-shed. The workers in DECI enterprises would earn a decent wage because of higher total factor productivity in these DECI enterprises and they will fall within the purview of labour laws ensuring higher wages, social security and decent working conditions. DECI is also evocative of the word "desi" which has a connotation of being pure, unadulterated with chemicals and well-being promoting, as in "desi" ghee.

2.2.3 Demand

The National Sample Survey Office (NSSO) conducted last Household Consumption Expenditure Survey (HCES) in 2022-23. This survey was repeated after a decade – the last such survey was done by NSSO in 2011-12. The percentage difference between rural-urban MPCE was 90.8 percent in 2004-05. In terms of absolute value, the difference was Rs 526. In 2022-23, the MPCE difference between urban and rural was Rs 2661 and the percentage difference between urban and rural MPCE was about 69 percent - indicating that rural expenditure is increasing at a higher rate than its urban counterpart...¹²

¹² MoSPI, Govt of India. (2024). Household Consumption Expenditure Survey 2022-23. https://www.mospi.gov.in/sites/default/files/publication_reports/Factsheet_HCES_2022-23.pdf

We can infer that an average rural district with a few small towns, having a population of close to 20 lakh, witnesses consumption expenditure in the range of Rs 9,000 to 10,000 crore per annum and a district with at least one big city and several towns, consumption expenditure can be in the range of Rs 10,000 to 12,000 crore per annum. Let us round this off to Rs 1000 crore per month per district in 2024.

As we know from the HCES 2022-23, the demand is roughly 50:50 for food and non-food items. Within food, consumption has significantly diversified beyond cereals, pulses and oils, to include vegetables, fruits, milk, butter, ghee, eggs, poultry, meat and fish. The rest of consumption expenditure goes into beverages, tobacco and alcohol, clothing, footwear, toiletries, medicines, electricity, gas, transport, rent and interest on borrowings, often for contingencies, but also to acquire consumer durables and even housing.

Thus there is resident, proximate demand of Rs 500 crore per month in any district for food items. If each small farm produces cereals, pulses, oilseeds, vegetables, fruits, milk, eggs and meat products worth Rs 50,000 per month, there is enough demand for one lakh small farms per district, each employing two persons on an average. This demand can be met by small and marginal farmers of that district. Instead of thinking of them as the residual or burdensome part of the economy, we would enable them to get better prices for whatever they produce by linking them with local demand. Already programs like Rythu Bazars (farmer markets) and Farmers' Producer Companies are attempting this.

Going on to district level demand for non-farm products, we see that there is local demand of another Rs 500 crore per month for non-food products and services. Thus decentralised demand exists for microenterprises and if the policy of local production for local consumption is pursued, there will be no need to bring in goods from metro cities, leave alone imports from China, to meet demand from the lower 90 percent of consumers. If each local micro enterprise makes products/services worth Rs 50,000 pm, there is enough demand to meet for one lakh small firms per district, each firm employing three persons on an average. This means to meet local demand, five lakh jobs can be there per district or about 36 crore jobs all India. 40 percent of these will be in the farm sector and the other 60 percent in the non-farm sector, thereby promoting shift in employment from agriculture.

What about the larger DECI farms and firms? Yet they cannot create demand. What should they produce? Till such time as we can reduce massive inequality in India, let us make use of it as a source of demand. Thus we suggest that DECI farms and firms focus on the demand from the top 10 percent. They can add export demand to this. As a large number of workers will be needed in these firms, there would be need to train a large number of workers in the required skills in processing, production, packaging and marketing. Once trained these workers will contribute to increased earnings and thus be able to get better wages. Employment in these one crore entrepreneur-led firms can be 10 crore.

2.2.4 Employment-generating Entrepreneurship

At present over 58 percent of Indian workers are self-employed, including 18 percent who are unpaid family workers. However, vast majority of them are not entrepreneurial. Merely being self-employed as a last resort does not mean being entrepreneurial. While a vast majority of micro enterprises remain at their original scale employing only the owner and at best one family member part of the time, we need to identify one in six among their owners who have the ability and entrepreneurial aptitude and can grow with support. Not all will succeed, but if half of them do, we will get the one crore we need. Over a period of time they will be able to grow and employ 10 workers.

There are numerous examples of such growth enterprises. The author has personally financed over 12 lakh microenterprises through the BASIX microfinance institution, and about 10-15 percent of those have become growth enterprises. This story has been documented in detail.¹³ The key differentiator is the level of achievement motivation in the micro entrepreneur, which is measurable thanks to the work done by Harvard psychologist David McClelland¹⁴ in Kakinada, Andhra Pradesh in the 1960s, and his Indian associates late Dr Somnath Chattopadhyay and late Dr Manohar Nadkarni, at the Small Industry Extension and Training (SIET) Institute (now National Institute for Micro, Small and Medium Enterprises - NIMSME) in Hyderabad. With the help of achievement motivation trainer Dr Deepankar Roy, the author applied this methodology during the COVID pandemic to promote over 1500 micro-enterprises under the Rajiv Gandhi Foundation's Aajeevika Samvardhan Abhiyaan, which has been documented by Dr Rakesh Malhotra.¹⁵

The common feature of employment generating, entrepreneur-led farms and enterprises would be that they would be owned and managed by individuals who are selected for strong achievement motivation, combined with a social orientation. As that quality is not common among farmers or self-employed persons, we have assumed that only about one in eight farmers or self-employed persons will be adequately entrepreneurial to run such an enterprise. Selection of and nurturing of achievement motivation of the selected entrepreneurs will be the key to success.

2.2.5 Capital

This employment generation and wage enhancement potential of the micro economy can be released only if the necessary capital is made available. The first wave of this has already happened in India through the micro finance revolution between 1995 and 2024. During these three decades availability of micro credit went up from less than Rupees 100 crore per annum to over ₹ 300,000 crore per annum.

The results are highly visible in a state like Bihar where over a crore women have established micro enterprises of various kinds. Bihar was the single largest user of micro

¹³ Harper, Malcolm, Jane Rosser and Lalitha Iyer (2011). *Whose Sustainability Counts?: Basix's Long March from Microfinance to Livelihoods*. Lynne Rienner Publishers, UK.

¹⁴ McClelland, David C. (1961). *The Achieving Society*. Princeton: D. Van Nostrand

¹⁵ Malhotra, Rakesh (2023). *RGF-ASA Program*. <https://www.rgics.org/event/case-study-rasa-report/>

credit in 2024. These are loans of less than Rs 200,000 repayable in one or two years in equated monthly instalments. Most loans are less than Rs 50,000. The mushrooming of micro-enterprises is visible in every village and small town of Bihar and has greatly ameliorated the decline in agricultural employment.

In 2015, the Government of India introduced the Pradhan Mantri Mudra Yojana (PMMY) under which, as per the Mudra Portal,¹⁶ between 8 Apr 2015 till 31 Mar 2023, a total of 41.16 crore loans had been disbursed, amounting to Rs 22.9 lakh crore, with an average loan size of Rs 55,623. Of these, new loans were 8.47 crore or 20.6 percent of the total loans, and had an average loan size of Rs 82,237. In terms of size, fully 83.2 percent of the number of loans was Shishu loans below Rs 50,000 with an average of Rs 27,057.

As we know, these loans do not generate much employment, although they do help stabilise income for the self-employed person and maybe a part-time family member. The same is true for Kishore loans (between Rs. 50,001 to Rs. 5.00 Lakh), which accounted for 14.8 percent of PPMY loans, with an average loan size of Rs 135,870. It was only the Tarun loans from Rs. 5.00 to Rs. 10.00 Lakh which accounted for only 2.0 percent of all PPMY loans with an average loan size of Rs 654,509, which would have generated some employment.

Mudra loans are flawed as a financial product - these are structured as term loans with a tenor of three years, with periodic repayments of principal and interest, whereas 90 percent or more of the amount is used for working capital, which is needed as long as the microenterprise runs. If the loan is repaid, the unit will not have working capital. These loans should have been offered as cash credit overdraft limits. That would also have reduced the interest burden on the borrowers.

To understand this better, let us take a typical Shishu loan, where the average loan size has been Rs 27,000. The microenterprise is likely to be in trading (such as a Kirana shop, or a street vendor), or in repairs (two-wheelers, mobile phones, consumer durables) or in services like tea-shops, ready-to-eat snack shops, tailors, barbers, cobblers, etc. Of the Rs 27,000 loan, the micro-entrepreneur will normally invest a large part, at least Rs 20,000 in working capital to buy supplies of raw material or goods to be sold, paying wages and paying for rent and electricity. Investment in fixed assets, if any, may go into wooden shelves and weighing scale for a Kirana shop; a gas cylinder, cook stove and utensils in case of a tea and snacks shop; and basic equipment and tools in case of a repair shop.

Now, with a Mudra loan, this microenterprise has to make a periodic (monthly or quarterly) payment of a principal instalment and interest. For a loan of Rs 27,000 repayable monthly over 36 months, that could be as much as Rs 1200 per month. As we know, a vast majority of loans go into trading activities, and if we assume that the annual sales turnover was four times of the loan amount, it would be Rs 1.12 lakh. Even if assume 20 percent margin, on the higher side, the gross income will be Rs 22,400 in the year. The net income from the microenterprise is unlikely to be more than Rs 2000 per month, which means the monthly instalment is 60 percent of the incremental income, leaving behind a mere Rs 800 per month.

¹⁶ <https://www.mudra.org.in/PMMYReport>

This is bound to be drawn out by the micro-entrepreneur to meet household needs. On the other hand, if the micro-entrepreneur does not draw out the money, Rs 800 per month is barely enough to replenish the loan capital in 36 months. As happens in many cases, there is an adverse event like illness in the family, or a theft in the shop, or a client does not repay goods/services rendered on credit, there is no cushion to maintain the instalment repayment and this leads to the loan becoming an NPA. Catching up on older instalments becomes tougher. As we are only in the build-up phase of Mudra loans, the NPAs have so far remained low, reported in the range of 4-5 percent, but this will significantly increase as the larger number of loans given in the second and third year become due.

As can be seen from the analysis above, unfortunately, micro credit is not fully appropriate for financing the next level of growth enterprises (farms and firms). A new financing product is needed and we call it partnership finance, which has risk-sharing characteristics of equity financing, with the repayments may be based on enterprise cash flows. Such a product has indeed been pilot tested by Pranay Bhargav with support from the author and the IIM Ahmedabad's Centre for Innovation and Incubation of Entrepreneurship (CIIE). The product¹⁷ is explained in detail through videos at <https://weecee.com/> including the examples of two growth enterprises, both of which employ 10-12 workers.¹⁸

2.2.6 Inputs and Infrastructure

The last of the elements is I for inputs and Infrastructure. In case of employment generating entrepreneurial Farms, following the philosophy of Aavartansheel Kheti (described in detail above) the need for external inputs and even infrastructure has been reduced significantly. Of course it will require a change in agronomic practices as compared to today's purchased input intensive agriculture. Nevertheless, some inputs and infrastructure will be needed such as for irrigation, electricity, storage and transport. For employment generating entrepreneurial firms, reliance on external material inputs will be reduced by using recycled inputs as much as possible. Energy dependence on the grid will be minimized by relying on decentralized renewable energy sources like wind, solar and biomass. Input and infrastructure availability can be assured where such enterprises are in clusters. One-district one-product program and developing district export clusters are steps in this direction.

¹⁷ https://youtu.be/zTN2DNc3jz8?si=BIJ_XjABt_yDWZL7

¹⁸ https://youtu.be/RsXeF3OAScE?si=Po8ly_yCrieby73c and <https://youtu.be/jmTdvaJ71Tg?si=NN8bnJksBJkSFG8V>

2.3 Well-being enhancement will generate more employment in services

2.3.1 Care-giving, health and education services

One of the characteristics of “business as usual” economic strategy is that much needed human services are not widely available, which puts the burden of providing such services largely on women within the households, leading to low female labour force participation rate. In our proposed NEW model, large number of employment opportunities will be generated in services like care-giving (for children, the elderly, the disabled etc.). Many more jobs will rise in health care, focussing on nutrition and wellness, in place of the current focus on medical treatment. Similarly, in education there is ample scope for focussing on self-employment oriented education, in place of the current focus on general arts and science degrees which only add to the numbers of so-called educated unemployed, all seeking jobs, and preferably government jobs.

2.3.2 Other nurturing services

One of the rising employment sectors is tourism. Due to congestion and deterioration in the environment quality in urban areas, there is a huge urge to get out, even if it is for short weekends. There is already an upsurge of religious tourism which generated crores of jobs in pilgrim destinations. Similarly, there is a need to encourage responsible eco-tourism to rural destinations so that urban dwellers can get a whiff of clean air and see the outdoors. In addition to creating jobs in transport, hotels and restaurants, there is scope for local handicraft producers and performing artists.

Another potential sector is nurturing community participation in mutual services, mutual help and local self-governance at the local levels as enshrined in the 73rd and 74th Amendments to the Constitution of India. The level of employment in public administration and community services in India is very low and in contrast to developing countries, employment is largely concentrated at the central and state government levels. Increasing the number of persons employed in municipalities and district panchayats is badly needed.

3 A Trishul to Counter the Triad of Employment Problems

In this section, we focus on the “how to” aspect. The first three of these points deal with the Nature-regenerating component of the strategy, the next two with the Entrepreneurial component and the last three with the Well-being enhancing component of the strategy.

3.1 Green and Farm Sectors

3.1.1 Launch a massive public program to regenerate Jal, Jangal, Jameen and Jalvayu

As described earlier, the 13 rivers and their 202 tributaries already identified for rejuvenation add together to a length of 42,830 km of rivers and their tributaries and streams. Assuming rejuvenating each km of river length requires water conservation treatment and reforestation of 12 square kms of proximate land, the total work will be spread of roughly 5 lakh square kms or 5 crore hectares.

Each hectare of land treatment requires about 100 persons days of work. Thus, if this river rejuvenation work is taken up in full earnest, the employment potential of this work is 500 crore person days. Spread over five years, this potential is for 100 crore person-days per annum, almost all of it in rural areas and requiring largely manual, unskilled workers.

There are 24 lakh water bodies in the country, of these, 20 lakh water bodies need full rejuvenation need about 100 person-days of work while 4 lakh water bodies may need about 500 person-days of work each. That adds up to 40 crore person-days of employment.

3.1.2 Support farmers to be more productive, diversify and link with markets

Once Jal, Jangal, Jameen and Jalvayu start getting revived, there will be a massive increase in the output and productivity of agriculture, livestock rearing, fisheries, forestry and other green sectors. As these would greatly benefit from the regeneration of water bodies, forests and land/soil. To capitalise on this, we would have to identify and support two crore of the bigger crop farmers. For this, we need to identify and support larger farmers with high entrepreneurial qualities to transform into entrepreneurial farmers, increasing productivity, diversifying beyond crops and employing 10 workers including themselves.

These one crore of entrepreneurial farmers (above 2 hectares or 5 acres of land) should be enabled to cater to the needs of the top 10 percent and exports. They would produce fruits and vegetables as well as naturally farmed cereals, oilseeds and pulses which are becoming the preference of the health conscious top 10 percent. The premium they will earn will enable them to increase their earnings and also pay more to their farm workers.

As a large number of workers will be needed in this newly invigorated farms, there would be need to train a large number of workers in the required skills of new agronomic practices, agricultural operations, post-harvest activities, agricultural marketing and agro-processing. Once trained these workers will contribute to increased farm earnings and thus be able to get better wages. Employment in these one crore entrepreneur-led farms can be 10 crore.

The crores of small and marginal farmers would be supported to increase productivity, diversify and produce for local district markets. Increasing productivity, reducing costs and risks for small and marginal farmers has been done at considerable scale by the Government of Andhra Pradesh program on natural farming, known as Andhra Pradesh Community Managed Natural Farming (APCNF), as a way of solving the multiple crises in agriculture. APCNF is based on Dr Subhash Palekar's farming model, known as zero budget natural farming (ZBNF). By 2021, APCNF had covered 1.73 lakh cultivators and 51,808 ha.¹⁹ This program has significantly stabilised small farmer incomes by reducing their input costs since they do not purchase chemical fertilisers or pesticides. Another example of this is Aavartansheel Kheti (sustainable/circular agriculture) espoused by Shri Prem Singh, a farmer-philosopher of Banda, Uttar Pradesh²⁰ who has also become a role model for hundreds of farmers in the water-stressed UP Bundelkhand region.

3.2 Non-Farm Sector

3.2.1 Identify and support entrepreneurial owners of micro-enterprises to grow

For this we will have to identify and support owners of micro-enterprises who have entrepreneurial qualities. The through a program we need to help them transform into employment generating entrepreneurial firms, increasing productivity, diversifying. The key will be building their capacity to grow their firms. For this they will be provided requisite training in specific business activities of their choice, provided partnership finance to grow their firms and hand holding support in the early years. As each firm will employ 10 workers including the owner, the employment generated could be for 10 crore workers including the owners. They will also need larger and longer-term loans than micro-credit with equity like risk sharing features.

¹⁹ <https://apcnf.in/>

²⁰ See a TED-X talk by Shri Prem Singh at <https://youtu.be/ty5xr9M4wu4?si=wGTqoe796C1mX22M>

3.2.2 Nurture other micro-enterprises to increase viability and produce for local markets

In addition policies and programs will be needed to support micro-enterprises, in manufacturing and in services. These firms will together employ crores of persons to produce items which are consumed or provide services which are largely used by the people in their district. For this we need to train a large number of workers in the required skills not just in production but also in market research, design, packaging, merchandising and digital marketing. They would also need specialised financial products like micro-equity or partnership finance, which do not decapitalise them through EMIs of extant micro-credit.²¹

As much as possible, the manufacturing firms will use locally produced renewable energy and recycled materials. The services firms will mainly focus on well-being enhancing services such as learning centres for children as well as adults, care-giving centres for the elderly and the disabled, providing financial services for lifecycle events and livelihoods, and so on. This would be an important step to build a NEW economy all over the country.

3.2.3 Encourage decentralised generation of renewable energy and recycling of materials

Manufacturing and construction require both energy and materials in large quantity. Fortunately the series of energy crises which were caused due to disruptions in the supply chains of fossil fuels – oil and coal, as well as their harmful effect on the environment, has led to the discovery of many new forms of energy, which are all renewable – from solar energy to wind to tidal to hydrogen. As the mainstream economy shifts from fossil fuels to renewables, a large number of new jobs will arise and in a much more decentralised way.

Likewise, the shortage of mined materials on the one hand and excess of synthetic materials like used plastics, have led to the rise of interest in recycling of used and waste materials. As the material economy moves from linear to circular, again there will be crores of jobs in recycling. This will also have a positive impact on the environment while simultaneously generating more jobs and producing recycled raw materials for the use of local enterprises.

3.3 Services Sector

3.3.1 Promote digital services which are green and generate decentralised employment

Thanks to the widespread availability of the internet and mobile phones, India has leap-frogged from poor connectivity to a highly digitally connected nation. This has a very important upshot for employment in non-metropolitan areas. This also has an upshot

²¹ <https://weecee.com/> https://youtu.be/zTN2DNc3jz8?si=BIJ_XjABt_yDWZL7

for women workers who continue to bear more than a proportionate share of home-making and care-giving responsibilities. Digitally trained workers need not physically be in the place where the user of their services is. Thus it is possible for digital workers to be home-based, in urban, small town or rural areas and work from there.

Services like call centres, data transcription and processing, audio and video editing, and programming can be done from anywhere. It is necessary for establishing infrastructure like reliable tele connectivity, continuous training centres and shared work places to capitalise this opportunity. Together, the growth in the above segments should be able to absorb the educated unemployed as well fresh graduates entering the labour force from 2024 to 2034.

3.3.2 Promote employment in Learning, Wellness, Caring and Sharing Services

There are many countries, most notably Japan and several European countries and even China, which are facing aging of their population. There is a severe shortage of younger people and thus immigration has opened up in several of these countries for jobs in elder care specifically, but also many other activities which require more physically active workers. While most of these workers may go for a few years and then return, some may settle down in those countries. In either case it will ease the employment situation in India and the country can get its much delayed demographic dividend in foreign exchange!

3.3.3 Nurture the unemployed and new entrants in labour force through apprenticeship

One of the major shifts that will have to be brought in the new economic strategy is how we treat the unemployed and new entrants in the labour force. At present they are largely left to fend for themselves and have to be supported by family earnings. The dependency of persons of working age population on those few who are earning is already causing a major social burden.

To ease this situation, we propose a universal apprenticeship program comprising vocational skill training and work experience, for all new entrants in the labour force, a one year-long paid engagement in a public or private enterprise, in agriculture, manufacturing or services. These firms (known as factories) numbered about two lakh in 2018-19 as per the Annual Survey of Industries. There are a larger number of service enterprises too.

These are best suited to hire college-educated and technically qualified young entrants in the employment market as apprentices and nurture them with practical experience so that they become employable over a period of time. Any enterprise which employs 10 or more persons will have an obligation to hire at least one apprentice for every 10 workers it has. This will require amendments to the Apprenticeship Act, 1961.

4 Conclusion

Unemployment will rise to unacceptably high levels in the “business as usual” scenario if we persist with higher capital intensive, higher automation, higher fossil energy intensive and higher pollution-causing manufacturing and services. The unemployment levels as a result of these policies will cause social and political turmoil. More importantly, the rampant unemployment and income inequality will retard the GDP growth due to physical constraints on resource availability, as well as decline in demand. On top of it, the environmental crisis may make lives and livelihoods unsustainable.

It is imperative to change course of the economy and make it both in favour of sustainability of the environment, and well-being of human beings through higher employment, better wages for workers and incomes for the self-employed. This can be achieved if we adopt the NEW - Nature-regenerating, Employment generating through Entrepreneurship, and Well-being enhancing strategy.

The choice is obvious. We have no time to lose. Let the task begin at the earliest.

²² Mahajan, Vijay (2023). *Building a Social Economy of Nurturance in India in a Decade*. Self-published.

²³ Bhatt, Ela (2015). *Anubandh: Building Hundred-Mile Communities*. Navajivan Trust, Ahmedabad.

²⁴ Maira, Arun (2023) *Shaping the Future: A Guide for Systems Leaders*, Notion Press, Chennai



The author would like to dedicate this paper to the memory of Late Elaben Bhatt. This paper builds on the ideas in an earlier paper written on the first death anniversary of Elaben. The author acknowledges the wisdom of Late Ela Bhatt, who wrote about building 100 mile communities in Anubandh , and of Arun Maira, who urges us to take a systems view of development, combining ethical, ecological and empathetic views with the economic. Coincidentally, both Elaben and Arun ji served as members of India's Planning Commission.

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