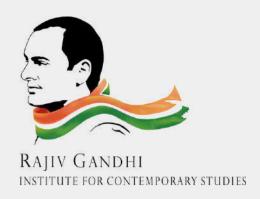
STATUS AND PROSPECTS OF EMPLOYMENT GENERATION AND WAGE ENHANCEMENT IN KARNATAKA 2024-2029

February 2024





Vijay Mahajan, RGICS T Navin, ILRT

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Rajiv Gandhi Institute for Contemporary Studies (RGICS)

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Contents

1 Context of employment problem in Karnataka	6
1.1 Aspirations of various socio-economic segments	7
1.2 Livelihoods challenges of different socio-economic segments	9
2 Highlights of the Labour and employment status in Karnataka	11
2.1 Labour Force Participation Rate (LFPR) and Worker Population Ratio (WPR)	11
2.2 Employment by sectors	13
2.3 Status of employment	14
2.4 Wages	15
2.5 Unemployment	15
3 State, Private sector and Voluntary initiatives for employment promotion	17
3.1 Initiatives by the state	17
3.2 Private sector initiatives towards employment promotion	18
3.3 Voluntary sector initiatives towards employment promotion	18
3.4 Limitations of employment promotion programs	19
4 Policy Recommendations	20
4.1 Addressing employment challenges – an alternative strategy	20
4.2 Changing approach from Inter-sectoral shifting to intra-sectoral proficiency enhancement	22
4.3 Intra-sectoral proficiency enhancement	24
5 New Approaches for Employment Promotion	30
5.1 One district, One Product (ODOP) products strategy	30
5.2 District export hubs as centers for reaching external markets	32
5.3 DISC approach for Employment Promotion	34
6 Sectoral challenges in Karnataka and suggestions for addressing these	38
6.1 Agriculture	38
6.2 Horticulture	39
6.3 Sericulture	41

6.4 Animal Husbandry	42
6.5 Fisheries	43
6.6 Industry	44
6.7 Services	45
7 Investments to address unemployment and wage enhancement	46
7.1 Investment Needed	46
7.2 Sources of Investment	48
8 Conclusion	49
List of Tables	
Table 1 - Employment Share % by Sector as per PLFS 2021-22 in Karnataka	21
Table 2 - Products identified district-wise under the One District One Product Scheme	30
Table 3 – Products identified district-wise for exports	32
Table 4 - Area under principal crops - Lakh Ha	38
Table 5 - Area and production of Plantation & Horticulture crops	40
Table 6 - Investments needed for new employment generation 2024-29	46
Table 7 - Investments needed for wage enhancement 2024-29	47
Table 8 – Total investments needed 2024-29	48
Table 9 – Possible Sources of Investment	48



1 Context of employment problem in Karnataka

The state of Karnataka was formed in 1956. The population of the state is 6.11 crores as per 2011 census. The sex ratio is 973. The literacy rate is 75.36%. The rural and urban population are 61.3% and 38.7% respectively. The SC population is 18% and ST population is 7%. The state has 31 districts, 229 taluks and 27,395 villages. Karnataka has an area of 1,91,791 sq. kms. In terms of occupational pattern, 20.9% are cultivators, 35.6% agricultural labourers, 4.9% those engaged in household industry and 38.7% other workers.

Karnataka GSDP for the year 2023-24 is estimated to be Rs.25,70,000 crore. At constant prices, based on 2011-12 prices, it was about Rs.1,64,471 in 2021-22 and Rs. 1,76,383 in the year 2022-23. The percapita income is 3,32,000. The contributions of primary sector were about 15.08%, secondary sector 20.88% and tertiary sector 64.06% to the overall GSDP.

Unemployment among youth was found to be high at 8.5% in 15-29 age category with male and female unemployment at 7.8% and 10.4% respectively as per PLFS 2022-23. Within youth, rural unemployment stood at 6.0% and urban unemployment at 12.6%. Within the working age population 15-59, the unemployment rate was 2.6% with male and female employment at 2.6% and 2.5% respectively. Educated youth unemployment is an emerging problem.

While different sectors of the economy are getting a boost, particularly the primary and tertiary sector, it has not been adequately creating employment opportunities.

Recruitments in public employment are limited by vacancies available and possibilities for recruitment, though it continues to be the preferred choice. Private sector employment is only providing employment to those at the higher levels of the pyramid with higher level technical skills.

The social and psychological stress created by unemployment also results in mental health and material deprivation. Unemployment affects marginalized groups such as SC, ST and OBC.



Source: Image

Given this scenario, there is a need to assess the unemployment situation in Karnataka and identify potential solutions. A study was conducted in Karnataka to assess the scenario of various socioeconomic segments and occupational groups related to their employment & unemployment status and wage income status.

The scope of the study was four-fold. The first was to conduct a macro-analysis of developmental challenges including in livelihood and unemployment status among the socio-economic segments and occupational groups. Secondly, to conduct micro-analysis of developmental challenges including in aspects of employment and livelihoods as witnessed in rural and urban settings by the socio-economic segments and occupational groups.

Thirdly, to understand the gaps in the current programs and policies which does not necessarily address the current deficits. Fourthly, to recommend suggestions which address development deficits among socio-economic segments and occupational groups including in livelihoods and employment and improve their overall development status.

Mixed method was adopted to conduct the study. About 4 districts were analysed to get pattern of livelihood scenario. The districts included Gulbarga, Dharwad, Mandya and Udupi. Highlights of Labour and Employment Status in Karnataka.

1.1 Aspirations of various socio-economic segments

The current endowments and livelihood aspirations of the socio-economic and occupational segments are as follows:

Social and Occupational Segment	Current Endowments	Aspiration for development and livelihoods in Karnataka
Scheduled Caste	 Constitutional provisions for SC protection Affirmative Action in public services Welfare and Empowerment schemes Growth of Dalit consciousness and resistance of violence and discrimination Livelihood Skills Growing educational levels SC Sub-Plan, Finance corporation 	 Access to quality education Eradication of Caste discrimination Land ownership. Safe, secure, and sustainable livelihoods Effective implementation of affirmative action policies Higher and more effective representation in politics and higher public offices
Scheduled Tribes	 FRA guarantees land ownership and pattas. Tribal sub-plans with provisions for dedicated funds Scope for participation in local governance Assets – Land Livelihood skills Growing access to education 	 Protection of traditional lands and resources Effective implementation of forest rights act Quality healthcare and educational facilities in tribal areas. Sustainable livelihood options. Increased participation in decision making process. Assured benefits for tribals under tribal sub plan
Minority	 Minority institutions – Minority finance corporation, Waqf Boards, Minority commission and welfare departments Growing levels of education Livelihood skills in non-farm sector 	 Equal access to opportunities Nondiscrimination Representation in government and public institutions Access to education Access to quality employment opportunities
Youth	 Growing levels of education Availability of opportunities for enhancing skilling – Karnataka skill development corporation Availability of opportunities for mentorship in entrepreneurship – training R-SETI-, DIC, finance support MFIs 	 Access to quality education and skill development Access to employment opportunities Support for enterprise – financial, legal, business guidance and mentoring. Meaningful participation in public life and decision making. Increased voice and representation on public issues

Social and Occupational Segment	Current Endowments	Aspiration for development and livelihoods in Karnataka
Women	 Growth of SHG movement contributing to widening access to finance, social capital and livelihood skills Growing educational levels of women and families more open to girl child education Increased opportunities for accessing skill programs and finance. Increased representation in local governance Availability of institutions such as R-SETI for entrepreneurship training 	 Gender equality and freedom from discrimination Access to quality education and healthcare Economic empowerment and secure livelihoods Safe and secure employment Higher voice and representation
Small and Marginal farmers	 Programs for input assistance, irrigation, credit access such as KCC, procurement programs through MSP Availability of institutions to support farmers in extension – KVKs, ATMA Traditional farming skills of the farmers Emergence of collectives – FPOs 	Improved productivity from land Improved irrigation infrastructure and access to water Financial assistance and access to credit Adoption of modern farming techniques and crop diversification Assured price for produce
Agricultural workers	 Programs of livelihood security – MGNREGA contributing to increased wage income Scope for taking up cultivation through land leasing and land ownership. Availability of alternative livelihood options 	 Improved wage incomes Opportunities for land ownership Diversification of livelihood opportunities Protection for agricultural workers
 Fishing assets such as boat, nets, motor etc. Marine and inland fishing resources Traditional fishing skills Fish Markets 		 Better price for Fish Post-harvest infrastructure such as storage facilities. Training and technology support for value added products of fishes. Access to capital for buying fishing assets. Fishing rights Protection from fishery players
Informal sector workers (manufacturing and service)	 Legal provisions for worker welfare – minimum wages, inter-state migrant workers act, social security welfare boards Availability of institutions to assist in labor rights – Trade Unions, India labor line, occupation specific worker collectives 	 Improved livelihood and social security Access to rights of workers Access to skill development programs Access to financial services for setting enterprise Community ownership of enterprises



1.2 Livelihoods challenges of different socio-economic segments

The development and livelihood challenges of different socio-economic segments in the state are as follows:

Social Segment	Development Challenges	Livelihood challenges
Scheduled Caste	 Low education and high dropout rates Poorer access to healthcare services leads to high mortality, morbidity. Exposure to hazardous living conditions Caste based discrimination and violence. Low political representation. 	 Inequitable land ownership patterns Disproportionately represented in low paying, informal sector jobs Limited reach and impact of schemes for SC welfare Limited access to skill development and employment opportunities Lack of affirmative action in private sector and low absorption in private sector employment Benefits under SC sub-plans and SC finance corporation not forthcoming as expected
Scheduled Tribes	 Limited access to quality education Lack of access to primary healthcare facilities Malnutrition, higher mortality Land alienation and loss of traditional resources. Displacement due to conservation / development projects Poor infrastructure in tribal villages – roads, electricity, sanitation facilities, drinking water. Social discrimination and exclusion 	High dependence on traditional livelihoods Limited access to skill development and employment opportunities Exploitation by middlemen and debt bondage Low market access and difficulty in marketing tribal produce Benefits under ST sub-plans and ST finance corporation not forthcoming as expected
Minority	 Low level of education and reliance on traditional / religious education Lower access to quality health care Low political representation leads to low articulation for redressing grievances. Lack of comprehensive programs for socioeconomic development of Minority population 	 Discrimination and prejudice restrict access to formal employment opportunities, promotions and fair wages. Inadequate access to skill development opportunities Lack of access to financial capital hindering entrepreneurship and business opportunities Benefits through Minority finance development corporation not up to required limit
Youth	 High level of unemployment particularly among educated. Skill mismatch between industry needs and skills possessed. Unequal access to quality vocational / skill education Drug and alcohol abuse among some sections of youth. Limited awareness and career guidance 	 High focus on government employment Predominant employment in informal jobs Challenges in pursuing entrepreneurship due to obstacles in finance, infrastructure, and business development services Limited opportunities for income enhancement Rural Urban migration in search of employment opportunities

Women	 Low access to education – high dropouts Gender stereotyping leading to restriction of employment choices for women. Low access to health care – reproductive health issues Gender based violence and discrimination. Unequal land ownership and limited access to inheritance rights 	 Low female labour force participation rates (LFPR) Lack of employment opportunities for women Low growth of sectors with potential for growth of women employment Inadequate skill development trainings focused on exclusive women centric livelihood skills. Challenges related to women in informal sector related to work, income and working conditions – beedi workers, domestic workers, workers in handicraft sector
Small and Marginal farmers	 Limited land holdings limit scope for investing in farm improvements. Limited access to irrigation limits crop productivity High input costs Inadequate access to credit and high cost of credit Limited access to extension services Inadequate benefits from weather insurance schemes 	 Low and insufficient income Predominance of subsistence farming Low crop diversification Vulnerability to climate changes Low bargaining power of farmers to determine prices and limited scope of minimum support price (MSP) mechanism. Inadequate post-harvest infrastructure leading to post harvest losses. Inadequate loss compensation through Fasal Bima Yojana Minimum support price (MSP) limited to few crops
Agricultural workers	 Low wages and informality of work Threat of mechanization leading to job losses Limited opportunities for wage enhancement Lack of adequate employment opportunities 	 Seasonal unemployment and underemployment Landlessness Low livelihood diversification Lack of alternative livelihood options Lack of schemes for income enhancement of agricultural workers
Fishing community	 Overfishing depleting fish stocks and threatening livelihoods in coastal areas Coastal development, climate change disrupting fish breeding patterns Lack of alternative livelihoods 	 Exploitation by middlemen leading to low returns from fish sales for fisher community. Inadequate infrastructure leading to post harvest losses for fishing community. Limited access to credit hinders investment in equipment and diversification of activities
Informal sector workers (manufacturing and service)	 Lack of livelihood and social security Unstable and unpredictable income Limited access to opportunities for education, skilling, and training Vulnerability to shocks and crises 	 Informal employment relations No work contract, paid leave, social security Low wages Poor working conditions Limited opportunities for wage enhancement Lack of access to capital hinders investment in starting a business



2 Highlights of Labour and Employment Status in Karnataka

2.1 Labour Force Participation Rate (LFPR) and Worker Population Ratio (WPR)



Source: Image

In case of more disadvantaged Scheduled Tribes, it was 49.2%, followed by Scheduled Castes 41.2%, other backward castes 40.7% and others 39.4%. Similar thing is found with WPR, where it was Scheduled Tribes 48.0%, Scheduled Caste 39.4%, Other backward castes 39.1% and other 37.5%.

While higher LFPR and WPR among disadvantaged groups indicate a positive trend, it is also a result of lower returns on labour work undertaken. The lower returns from labour activities forces a greater number of household members to engage in labour work.

Similarly, in socially advantaged households, as there are economic advancement members from households particularly females are made to withdraw from labour engagement.

LFPR and WPR among the upper decile groups was higher than the overall state LFPR and WPR rates and the unemployment rates.

In Karnataka, while LFPR was 39.4%, for the last decile category it was 48.9%. Similarly, while WPR was 37.4%, for the last decile group it was 47.3%.

Similar pattern is found in relation to unemployment rate where among the top two decile groups it was more than the state average. Hence with increased economic status, while there is higher LFPR and WPR, there is also greater unemployment rate as more labour is available for work to take up higher paying employment.

2.1.1 Gender factors lead to low female labour participation rates

Gender patterns reveal that LFPR in India was low among females with LFPR at 24.8% and male LFPR at 57.3%. A similar pattern can be seen across Karnataka.

Comparative LFPR between male and female in Karnataka were 60.8% and 23.6%. High differentials in male and female LFPR despite the increasing female education access only indicates the lower absorption of women into the economy.

LFPR of Youth (15-29) age group was much below that of whole working age group (15-59) indicating lower youth absorption in labour force for youth in Karnataka at 41.7%. This was much below that for whole working age group, which was Karnataka 60.1%.

This trend indicates that there is a growing joblessness of youth with not enough jobs getting created for youth in proportion to their availability for work.



Source: Image

2.1.2 WPR of youth below the state average for all age groups

WPR of youth at both national and state level was below the national and state average. At national level, while the WPR for population 15 and above was 39.6%, for the 15-29 age group it was 36.8%. Similarly, the WPR for youth in Karnataka was 37.1%. This was below the overall WPR of 53.0% for population 15 and above. This indicates lower absorption of youth taking place in employment.

2.1.3 WPR is slightly higher for graduates and above than the average state WPR

Educational progress brought slight improvements in WPRs. In Karnataka, while overall WPR was 45.7%, for graduates and post-graduates it was 61.3% and 70.7% each respectively. This indicates that higher education unlike anything below higher educational level has potential to absorb youth into better paying employment.

2.2 Employment by Sectors

2.2.1 Primary sector in rural areas and tertiary sector in urban areas predominant

In rural areas, the primary sector is the dominant sector of employment in Karnataka with 63.7% dependent on it. In urban areas, the dominant sector of employment was tertiary sector in Karnataka with 63.2% dependent on it. Hence income enhancement efforts should be focused on primary sector for rural areas and largely tertiary services in urban areas. Intra-sectoral income enhancement efforts should be undertaken. Partial intersectoral shifts should be attempted from primary sector in rural areas and service sector in urban areas.

2.2.2 Agriculture in rural areas and Trade, Hotels, Restaurants and Manufacturing were predominant in urban area

While 54.7% were engaged in agriculture in rural areas, in urban areas the share of trade, hotels and restaurants were 22.8% and the share of manufacturing was 22.2%. In Karnataka, the share of persons with agriculture employment was 68.5% in rural areas. The share of persons in manufacturing employment in urban areas in Karnataka is 18.28%, wholesale and retail trade 17.91%, accommodation and food activities 9.86%.



Source: Image

2.3 Status of Employment

2.3.1 Self-employment in rural areas and wage and salaried employment in urban areas

Both at the national level and in the state, self-employment in rural areas and wage and salary employment in urban areas was the dominant form of employment pattern. While about 54% were absorbed in self-employment in rural areas, about 43.2% were absorbed in wage / salary employment in urban areas. Self-employment in rural areas of Karnataka was 51.9%.

In urban areas, wage and salary employment was 43.2%. Higher self-employment in rural and urban areas is more forced and not opportunity self-employment emerging from desire for pursuing entrepreneurship. The lower share of salaried employment only indicates the level of informality.

2.3.2 In self-employment, a greater proportion of female are unpaid helpers

In self-employment, both in rural and urban areas, there is a greater proportion of female engaged as helpers in own account enterprise. For Karnataka it was 27.6%.

This indicates that while most of the enterprise ownership is with male, the engagement of females has been more in form of helpers. This also means that female tend to be mostly unpaid workers assisting the family self-employment without adequate ownership over the same.



Source: Image

2.3.3 Informality predominant in employment relations

At the national level, 62% wage / salaried employed did not have written contracts; 49.2% were not eligible for paid leave and 53.0% did not have any social security. Those without written contracts for Karnataka were 53.1%, those without paid leave similarly 34.9%, those without social security 40.1% and with those none of these 26.4% for Karnataka.

The permeation of informal employment only indicates the quality of employment and thus suggests lacking aspects of decent work.

2.4 Wages

2.4.1 Wages received are less than the stipulated minimum wages

The average wages received by the workers were lesser than the minimum wages. In Karnataka, while the minimum wages suggested is Rs. 555 and Rs. 14,424, the actual wages were Rs. 331 per day and Rs. 13,634 per month. Only in case of urban male, the actual wages were comparatively higher than the minimum at Rs. 459 per day.

In case of urban male, monthly income were more than the suggested minimum wages which was Rs. 20,484. Hence a need arises to ensure compliance with minimum wage standards in the informal sector both in rural and urban areas.

2.4.2 Gender differentials exist in wages and income

There tends to be differences in wages across males and females in both rural and urban areas. Sometimes it tends to be 1.5 times higher in rural areas and twice high in urban areas. There is a need to reduce this gender differential of wages.

2.5 Unemployment



Source: Image

2.5.1 Unemployment rate increases with increases in educational levels

Among those educated secondary and above, female unemployment was 12.6% and male unemployment 8.1% which was higher than other educational levels. This indicates that with additional acquisition of education, unemployment too grows as the educated prefer to find jobs relevant to the aspirations.

In case of Karnataka 12.7% of postgraduates and 12.5% of graduates are unemployed. Hence the challenge of educated unemployment is a crisis that may need to be addressed.

2.5.2 Youth unemployment higher than the average across all age groups

At the national level, unemployment rate for youth was 15% in comparison to overall unemployment across all categories at 8.8%. Similarly, while the figures for overall unemployment in Karnataka were 3.7%, in the case of youth it was 10.9%. This indicates the intensity of youth joblessness.

2.5.3 Unemployment rate increases with more advantageous social position

Unemployment rate increases with more advantageous social position. Unemployment rates for different social categories were Scheduled Caste 2.4%, Scheduled Tribe 4.4%, Other backward castes 3.9% and others 4.9%. Higher unemployment among others seems to be due to higher preference for blue colour jobs among other category but due to its lower availability.

Unemployment rate as per religion shows that for Hindus, Islam, Christians and Sikhs, they were 3.9%, 4.4%, 5.8% and 6.2% respectively. This shows that with increased minority status, unemployment rate increases.



3 State, Private sector and voluntary initiatives for employment promotion

3.1 Initiatives by the state

Several initiatives have been taken at central and state level. The initiatives being taken by the state to promote employment can be broadly categorised into Skill development and training initiatives, Promotion of Entrepreneurship and Startups, expanding infrastructure development, encouraging formalization of the workforce and supporting rural development and agriculture. These have been taken up at both the central and state level.

Some of the national level initiatives include Pradhan Mantri Kaushal Vikas Yojana (PMKVY), National Apprenticeship promotion scheme (NAPS), Skill India Mission. Similarly at the state level, there have been initiatives such as Chief Minister's Kaushalya Karnatake Yojane (CMKKY), Karnataka Skill Development Corporation (KSDC) which have been working towards building skill development ecosystem in the state.



Source: Image

To strengthen startup, initiatives that have been started at national level include startup India, Atal India Mission (AIM), Make in India, Prime Minister's Employment Guarantee Program (PMEGP) Scheme of Fund for Regeneration of Traditional Industries (SFURTI).

Government of Karnataka has Karnataka Startup Policy, Karnataka Startup Cell and Karnataka Digital Economy Mission (KDEM) to strengthen start up ecosystem in the state.

Promotion of roads, highways, road and rail networks, power generation are other means. At the state level, Karnataka Road Development Corporation Limited (KRDCL), Karnataka State Road Transport Corporation (KSRTC) and Karnataka Urban Infrastructure Development and Finance Corporation (KUIDFC) are involved in strengthening infrastructure in the state.

Efforts in the direction of formalisation of workers for greater social security is through the role played by Employees Provident Fund Organization (EPFO), General Insurance Corporation (GIC), National Social Security Schemes. Karnataka State Social Security Board (KSSSB) is responsible for implementing various social security schemes.

Efforts in the direction of agriculture and rural development are through schemes such as Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Pradhan Mantri Krishi Sinchai Yojana (PMKSY). Karnataka Rural Infrastructure Development Corporation (KRIDC) and Karnataka Krishi Bhagya are aimed at strengthening agriculture and rural development.

National Rural Livelihood Mission (NRLM) at national level and Sanjeevini-Karnataka State rural livelihood mission (KSRLM) at state level have been into promoting self-help groups, building rural development institutions, financial inclusion and micro-enterprise development for addressing the challenge of livelihoods.

3.2 Private sector initiatives towards employment promotion

Private sector has adopted direct and indirect approach towards employment promotion. The direct efforts are through hiring individuals in the company. Start of production and service units creates employment opportunities. Karnataka has a mix of traditional industries like food processing and textiles alongside high-tech sectors like IT, biotechnology and aerospace.

Other initiatives are through providing skill trainings under industry networks such as that of Confederation of Indian Industry (CII) or through CSR foundations of Industries. Incubation and small business enterprise programs have also been offered.

3.3 Voluntary sector initiatives towards employment promotion

Some of the voluntary sector initiatives for employment promotion have been through Development of Agri and Agri allied sectors through CSOs such as MYRADA, BAIF, DHAN etc. Many of the organizations such as the Nettur Technical Training Foundation, Nudge Foundation and Don Bosco Tech, are offering skill training in a number of sectors.

Organizations such as Ujjivan and Grameen Koota provide microfinance services for enhancing self-employment of women. Some of the voluntary sector initiatives for creating producer owned enterprises include those promoted by MYRADA: MEADOW – Association of Women's Enterprise; group of women entrepreneurs of Hosur district running a unit manufacturing watch straps for the watch company Titan. MEADOW is registered as a company. There is also the Kabini Organic Producers Co. of organic cotton farmers.

3.4 Limitations of employment promotion programs

Despite the efforts made in employment promotion by state, private and voluntary sector, the challenge of unemployment continues. The limitations are summarised below:

Type of efforts	Limitations from employment generation perspective
Skill development programs	Misalignment between Skills and Market needs; Skill programs not sufficient to meet industry standards; Lack of industry involvement in developing skill programs; more focus on supply driven and not demand driven skilling; Weak Industry-Academia collaboration; Inadequate infrastructure of Skill training institutes; Shortage of qualified trainers; Access and awareness barriers among marginal groups – women, rural youth, person with disabilities; Ineffective marketing and outreach; High turnover in placed employment; Employment placement in informal employment with low pay and low social security
Entrepreneurship and start up programs	High failure rates of startup; Limited access to capital for aspiring entrepreneur; Lack of business skills and experience; Inadequate supportive ecosystem for mentoring, incubating and accelerating; Focus on niche markets; Regulatory and compliance challenges; Limited market access;
Infrastructure development programs	Misalignment of infrastructure projects with employment needs; Lack of skill matching and training; Limited employment of local communities in infrastructure development projects; Ineffective employment linkages; short term nature of employment generated;
Formalisation of workforce	High level of informal employment; high challenges in formalising workforce despite potential benefits; social protection gaps; Low awareness on social security; Complex and burdensome regulatory framework; Inadequate functioning of social security / labour welfare boards; Low incentive to formalize among informal enterprises as it may lead to tax burden; Absence of institutions to link workforce with social security
Rural development and Agricultural programs	Misalignment of programs with employment needs; Limited focus on skill development; Inadequate consideration of market dynamics; Limited focus on pro poor value chain development; Infrastructure and Resource constraints; Limited access to technology such as value-added processing; weak infrastructure and logistics; fragmented and overlapping programs and challenges in achieving convergence; weak monitoring and evaluation of programs; exclusion of vulnerable groups such as Adivasis, landless labourers, women;
NRLM / SRLM	Limited scaling up and sustainability of the micro-enterprises; higher focus on financial services and limited focus on building production-marketing-livelihood skills of women; Weak market linkages; Limited capacities at local level; Limited cases of evolution into strongly established SHG federations; Limited cases of CBOs negotiating with government, private agencies and NGOs;
Initiatives by CSOs	Challenges in replicating successful models in different spatial-segmental-sectoral situations; Challenges in attracting state support for long term end to end support for creating, scaling and replicating successful models; CSR focus more towards immediately visible rather than long term beneficial impact for the community
Initiatives by Private sector	Focus on achieving profitability leading to investment in automation and hiring contractual labour works against employment generation goal; Employment generation for high-end technical and managerial jobs are formal whereas for unskilled and low skilled are informal;
Large investments	Focus more on metros such as Bengaluru; Focus limited in employment potential sectors such as agriculture and manufacturing; Diversification of investment opportunities limited

While the above efforts are aimed at building the economy, which would also lead to employment creation, economic growth has not tended to translate automatically into job creation. As a result, there is a large segment of unemployed youth in Karnataka.

Given the above scenario, there is need for identification of unemployed youth, identify potential sectors with scope for job creation and plan investments for employment promotion in the times to come.

4 Policy Recommendations

4.1 Addressing employment challenges – an alternative strategy

The broader approach adopted for employment promotion is through ensuring intersectoral shifts in the economy. This means that those who were traditionally dependent on primary sector i.e., agri and agri allied sectors gradually shift to manufacturing and service sectors.

However, unlike the western and southeast Asian economies, India is witnessing a trend whereby the movement to manufacturing and service sector has been slow, though there has been a drastic change in the relative share of the sectors to GSDP in the economy.

While in the Karnataka economy, the share of manufacturing and service sector to GSDP has increased and that of primary sector reduced, this has not been the case when it comes to employment.

As seen from the following table, close to half of the population is dependent on primary sector though it contributes only one-sixth to the share of GSDP in the economy.



Source: Image

Table 1 - Employment Share % by Sector as per PLFS 2021-22 in Karnataka

Sector	Employment Share % as per PLFS 2021-22 in Karnataka
Agriculture, forestry and fishing	45.88
Mining and Quarrying	0.26
Manufacturing	10.94
Electricity, gas steam, air condition supply	0.32
Water supply, sewerage, waste management and remediation activities	0.26
Construction	9.19
Wholesale and Retail Trade, Repair of Motorcycles and Motor vehicles	10.77
Transport and Storage;	4.68
Accommodation and food service activities	2.23
Information and Communication	3.51
Financial and Insurance activities	1.55
Real estate activities	0.39
Professional scientific and technical activities	1.10
Administrative and support service activities	0.82
Public administration and defence, compulsory social security	1.57
Education	2.75
Human health and social work activities	1.14
Arts, entertainment and recreation	0.12
Other service activities	1.21
Activities of households as employers, undifferentiated goods and services, produce activities for own use	1.31
Activities of extra territorial organizations and bodies	

Efforts in the direction of radical shift from one to the other sectors comes with its challenges related to skill upgradation to new sector, technological adaptations towards newer sectors of the economy, quicker economic diversification which is beyond the current sectors employed in, need for large scale shifts from rural to urban, need to adopt to new lifestyles of work, breaking away from the current patterns of living, current state of marginalisation of Women, SC, ST, OBCs, Minorities which may take time to address.

Moreover, in the current sectors in the economy where people are already employed, they only draw low incomes. Ensuring wage enhancements within current economic activities and sectors already employed may trigger changes towards sectoral shifts in the long run.

Intra-sectoral proficiency enhancement rather inter-sectoral shifting seems to provide with solutions in the shorter to medium run. Based on the momentum that is built, intersectoral shifts can be ensured in the long run. The intersectoral shifts happen as there are changes in demand patterns in the economy.

4.2 Changing approach from Inter-sectoral shifting to intra-sectoral proficiency enhancement

When we speak of employment, we generally focus on two objectives:

- (1) increasing the number of workers employed including self-employed to take care of
 - (a) net addition to the labour force, particularly the youth,
 - (b) those currently in labour force but unemployed and
 - (c) those who may want to move from not being in the labour force to joining it, particularly women. and
- (2) improving wages or income in case of the self-employed, along with social security benefits like PF, ESI and pensions, and improved working conditions.



Source: Image

For objective (1) the generally suggested strategy is to increase economic growth, on the assumption that it will also generate more jobs. However, the experience of the last decade has been "jobless growth".

We have seen moderate GDP growth between 5 to 7% per annum but low (1-2% per annum) employment growth, that also mostly in the over-crowded agricultural sector and the lower end of jobs in the construction, manufacturing and services sectors. A lot of these jobs are in self-employment as a last resort. If we exclude workers in household enterprises who are unpaid, the growth is almost nil.

As a result there is very little growth in wages and self-employed incomes if one adjusts for inflation. One strategy to counter this has been to try to move people out of the farm work to non-farm sector jobs.

But as saw earlier, inter-sectoral shift is difficult due to the need for workers to move from rural to urban areas. They also have to acquire new skills of working in new activities and living in strange places. Thus, a vast majority of workers who shift out of agriculture remain in low paid, unskilled manual work on a casual employment basis, with no social security and poor working and living conditions.

We suggest an alternate strategy for both objectives (1) and (2) above. Instead of inter-sectoral shifting, policy should encourage intra-sectoral proficiency enhancement. This means, for example, those in agriculture staying in it, but shifting from cereal crop cultivation to, for example, growing vegetables in the first step, and then growing vegetables off-peak season, using polyhouses, in the next step. This two-step process could double the farmers' income using the same amount of land and own labour.

Some tentative movements that could be seen in intra-sectoral proficiency enhancement could be as below:

- -low end cultivation to higher value agriculture/horticulture
- crop cultivation to dairy, poultry, fishery, etc.
- agricultural services from soil testing to sorting and packaging of raw produce like vegetables & fruits
- low end manufacturing to higher value items whether made in household enterprises or factories e.g. wooden and metal furniture)
- centralised or non-existent utilities (telecom, power, gas, water, sewage, solid waste, etc.) to decentralized, service based enterprises (e.g. solar home systems).
- low-end proximate services to higher value proximate services (e.g. from roadside barbers to salons, or food bandis to sit down eateries)
- low end distant services to higher value distant services (e.g. data entry to application software design)

Some examples across sub-sectors are discussed below: -

4.3 Intra-sectoral proficiency enhancement in various sub-sectors

4.3.1 Agriculture

Let us see what these two steps do for an agricultural worker in the same village. She would get more days of work in vegetable cultivation and higher wages, due to the need for timely and more careful operations – sowing, planting, watering, weeding, spraying, and harvesting often in multiple lots. Unlike in cereal cultivation, where operations have got mechanised, vegetables require manual workers. Polyhouse vegetable cultivation is even more skill and labour intensive.

Now let us see what happens in the third step of this intra-sectoral proficiency enhancement. Let's say there are many farmers in the village who started growing vegetables and they come together to form an FPO.

To get a better price for their produce, they decide to set up a facility in the village for washing, drying, sorting, grading and packing the vegetables. This not only improves the net income of farmers but generates more wage employment for agricultural workers in the village, within reach of their skill level and their place of stay.



Source: Image

In Kalburagi district, intra-sectoral proficiency enhancement can be achieved in Red Gram through certain measures. Improved varieties of red gram with higher yield potential can be taken up. Precision agricultural. techniques can optimize resource use and improve yields. Integrated Pest Management (IPM) can improve grain quality.

GI tagging of Kalburagi red gram can command a higher price. Membership in collectives can improve bargaining ability for better prices access better inputs and credit and improve market access. Direct access can be established with processors, traders and exporters. Instead of selling raw red gram, farmers can get into processing and producing value added products like dal flour, roasted snacks and papads.

4.3.2 Horticulture

In Dharwad district, intra-sectoral proficiency enhancement can similarly be achieved in Mango through agronomic practices related to precision agriculture and IPM. While there are 70 varieties of mangoes, the high yielding varieties suited to local conditions include Alphonso, Malgova and Banganapalli, which also have a high market demand.

Mangoes can be marketed through FPOs for better bargaining and price. Instead of selling raw mangoes, farmers can also process and produce value added products such as pickles, jams, jellies, juices, dried mango slices and chutneys.

4.3.3 Marine fisheries

In Udupi district, intra-sectoral proficiency enhancement can be achieved through sustainable fishing practices which will prevent depletion of fishes. Fishers can diversify into seaweed farming, cage aquaculture or ornamental fish breeding.

Unique brands such as Udupi seafood can be created obtaining geotags for high quality fishes such as Karwar oysters or Malpe pomfret which fetch premium prices in market.

Technologies such as echo sounders, GPS navigation systems and energy efficient fishing vessels can reduce fuel costs. FPO membership can improve bargaining ability of fishing community and getting better price.

Fisher community can also get into processing and value-added products such as frozen fish fillets, marinated seafood, fish snacks or fish oil.



Source: Image

4.3.4 Handlooms / Handicrafts

Handloom weavers who produce items such as sarees, kurta churidar, with the artwork for festive occasions can also take up alternatives such as towels, curtains, bedsheets, blankets, tablecloths, dishcloths, cleaning cloths, handkerchiefs, wall hangings, cushion covers, handwoven bags, phonecases, scarves and shawls. While the traditional produce can continue, the suggested produce are items of daily use with a large consumer base. The handloom weavers may only need to adopt their skills to produce items of daily use and not necessarily shift to a different sector.

This may help in expanding the market of produce by handloom weavers, reduce risk associated with market demand or market saturation, help in adapting to market trends and expand revenue streams, diversify produce range, utilize existing skills, ensure long term sustainability due to product diversification, explore new design and innovations.

Handloom sector may also alternatively adopt design software for creating innovative handloom designs, 3D and 4D technology in creating innovative designs that can be achieved with lesser time, use ecommerce platforms (Amazon, Mesh, Crafts villa) for marketing and reaching out to consumers. Adoption of newer technologies may necessitate skill upgradation which can be taken up by the younger generation who are more exposed to digital technology. Such change agents can be created in the younger generation through exposing them to newer technologies that can be used in the handloom sector.

Handloom collectives (cooperatives or producer companies) may facilitate the adoption of newer technologies for creating new designs, newer production methods with upgraded machinery, branding, packaging, and digital marketing through online platforms.

Koriyama silk weavers in Mandya can achieve intra-sectoral proficiency enhancement through certain measures. Higher quality Koriyama sarees can be produced through using higher quality silk, intricate design and natural dyes commanding to niche market. Complementary products can be produced using stoles, pupates, scarves and clutches using Koriyama silk remnants minimizing waste. There could be diversification to produce home decorative items such as cushion covers, table covers and wall hanging featuring Koriyama silk motifs. Weaver cooperative network can be strengthened to lower costs and market directly. Products can be marketed through online platforms and textile fairs.



Source: Image

4.3.5 Food services

In case of traditional food services, the traditional offering of food such as samosa, alibi, chat, idly, dose can be diversified to include a product range that can also cater to global taste (e.g., Korean, Italian, Lebanese cuisine), fusion taste (pizza, Mexican dose), healthier options (such as multi millet puma, multi millet idly, salads). This will help in creating a demand and liking for new taste among consumers, attract new consumers, expand the customer base, help stay ahead of the demand curve and boost revenue.

Good practices related to food hygiene can be introduced. This could be related to hand washing, handling food, cleaning utensils, using disinfectants for sanitization, storing food at appropriate temperatures, protecting from dust insect and contaminants, bins for proper waste disposal, well maintained hand washing station can improve the overall ambience thus attracting the customers.

For packaged foods, eco-friendly practices such as biodegradable packaging can be introduced. Food waste can be handled through composting the waste food, donating the surplus food.

Technological upgradation may involve linking with online food delivery services such as Swiggy and Zomato and delivering at doorstep. Digital payments such as through Google pay, Phone pen may be allowed.

Collectives of roadside food collectives can be explored, whereby the collectives are able to buy food raw material from vegetable or other markets at scale at a bargained price. This may bring down the cost of raw materials in their food outlets. Restaurants owned by food service owners' collectives can be set up at places with high traffic flow, highways, transportation hubs (such as bus stand, railway station, airport), tourist sightseeing locations, commercial locations (such as shopping locations).

These upgradations may help them remain within the sector, adopt skills and new practices according to customer requirements and achieve intra-sectoral proficiency enhancement.



Source: Image

4.3.6 Construction sector

Construction workers come under the category of unskilled workers. However, with little skill diversification there is scope for enhancement of incomes. Specialized skills required at construction sites can be picked up going beyond their regular roles.

The skills training could be acquired for roles such as that of General works supervisor, Highway works supervisor, land surveyor, storekeeper, electrical house wiring, plumbing and sanitation, formwork carpentry, building carpentry, masonry, bar bending, painting and decoration, welding, and architectural assistantship. There could also be skill enhancement through training related to compactor operator, Backhoe loader operator, Transit and self-loading mixer operator, Junior mechanic hydraulic.



Source: Image

There could also be specialized skills as that of construction safety health and safety technician. Exposure to LEED (Leadership in energy and design) sustainable energy practices can benefit construction workers professionally as growing environmental consciousness may give rise to green building concept.

Exposure to building information modelling (BIM) can help construction workers through visualizing their tasks enabled through digital simulation. It may help in understanding the potential hazards that may occur.

Skilled construction workers either individually or collectively can take up small businesses such as home renovation, modular kitchen works, bathroom remodelling, minor electrical or plumbing work, painting works, roofing and tiling.

Services related to assembling furniture, building shelves, gardening, landscaping may also be taken up through a network of skilled personal relevant for homes.

Thus, as can been seen, intra-sectoral proficiency enhancement offers opportunities where the workers are able to upgrade their skills within the sector, adopt to technologies within the sector, enhance income within existing sector, reduce stress that is associated with sectoral shift, reduces chances of moving from rural to urban, offer greater livelihood security etc. This gradually prepares them for sectoral shift in the long run.

4.3.7 Electronics and IT

Sectoral Councils set up to boost skill enhancement have identified 8 levels based on skill enhancement requirements at different stages – 1 to 8 level for enhancing the proficiencies in different professions. Level 1 is that of a helper, level 2 assistant, level 3 junior technician, level 4 senior technician, level 5 junior technical supervisor, level 6 business unit manager, level 7 business unit CEO / CXO, level 8 board member.

With acquisition of knowledge and skills and improving proficiencies, the ones in Electronics sector may rise up the level. E.g., one can begin as an Assistant Drone technician at level 3 and may rise to Drone service technician at level 4 and junior engineer Drone at level 5.5.

Similarly, one may begin as a Maintenance technician in Electronics and hardware at level 3. Then one may rise to the position of Purchase Executive at level 4 and Sales Engineer – Electronics product at level 5.



5 New approaches for employment promotion

5.1 One district, One Product (ODOP) products strategy



Source: Image

ODOP program of the Government could be utilised for strengthening demand for products, infrastructure and input strengthening, skill building and capital enhancement. ODOP involves identification and formation of production clusters, focused efforts towards infrastructure development, capacity building and skill development, branding and marketing and financial support. It helps in boosting local economies, preserving traditional skills and crafts, promoting brand recognition and improving export potential.

Under ODOP, the following products are identified and could be promoted in the state.

Table 2 - Products identified district-wise under the One District One Product Scheme

ODOP	Districts
Jaggery	Bagalkote, Belagavi, Mandya
Fig based Products	Bellary
Poultry Products	Bengaluru Rural
Bakery Products	Bengaluru Urban
Ginger based Products	Bidar
Turmeric	Chamarajanagar

Tomato based Products	Chikkaballapura, Kolar
Spices	Chikkamagalur, Uttara Kannada
Groundnut Product	Chitradurga
Marine Products	Dakshina Kannada, Udupi
Millets	Davanagere
Mango based Products	Dharwad, Haveri
Byadagi Chillies	Gadag
Coconut Products	Hassan, Tumakuru, Ramanagara
Red Gram based products	Kalaburgi
Coffee	Kodagu
Guava based Products	Koppal
Banana based Products	Mysore
Chillies based Products	Raichur
Pineapple based Products	Shivamogga
Lime/ Lemon based Products	Vijayapura
Groundnut Product	Yadagiri

(Source: Ministry of Food Processing)



5.2 District Export hubs as centers for reaching external markets

District export hubs could be sources from where exports could be facilitated. These hubs provide services such as market research and information, training and skill development, facilitating and networking. These hubs aim to provide opportunities for benefiting from export markets, attract investment in the district, handholding and support to exports, generating employment and enable in marketing through physical and digital means. Employment opportunities in following export zones could be considered.

Table 3 - Products identified district-wise for exports

District	Products
Bagalkot	Pomegranate, Grapes (Thompson seedless, Red Globe, Sharad Seedless), Sapota and Turmeric, Raisins, Organic Jaggery, Sugar, Maize, Tourism (Badami, Aihole,Pattadakal, Koodalasangama)
Belagavi (Belgaum)	Hulled Wheat, Organic Jaggery, Sugar, Raisins, Iron castings, Industrial castings, hydraulic pressure equipment, Pump and Valve Accessories, Engineering components, Aerospace components), Kolhapuri Chapels, Turmeric, Milk based value added products. Pomegranate
Ballari (Bellary)	Granite, Jeans Pant, Apparels Jute products, Engineering products, Electrical Machinery and Transport Equipment, Engineering/Iron ore based value added products, Pomegranate, Chilies
Bengaluru Rural,	Machine Tools, Bangalore Blue Grapes, Bangalore Rose Onion, Wine, Guava Pulp, Vegetables and Flowers, Readymade garments, Engineering/ Aerospace/Automobiles, Processed foods, Silk, Plant/Bio extracts, pharmaceutical products
Bengaluru Urban	Processed Foods, Vegetables and Flowers, Engineering Machine tools/ Automobile& Auto components/Aerospace components / Precision components, Earth moving machinery, Defence manufacturing, Electrical machinery, etc., ESDM products. Pharma & Biotech, Electrical machinery, Plant extracts, FIBC bags & packaging products, Readymade garments/Textiles. Services- Hospital/Health/Wellness/Educational, Engineering Services, Global Research & Development, Hub for manufacturing/Global Development Centre, IT/ITES.
Bidar	Bidriware, Bulk drugs, Green Gram and Soya Bean products, Hand paper, Craft paper, Ginger, Papaya, Mango (Dasheri and Kesar) Kamalapur banana, Ginger,Tourism
Chamarajanagar	Turmeric, Banana, Ginger, Honey, Mango (Alphanso), Silktextiles, Black Granite
Chikballapur	Bangalore Rose Onion, Bangalore blue Grapes, Mango (Alphanso, Mallika, Raspuri and Baneshan), Vegetables including gherkin & tomato.
Chikkamagaluru	Chikmagalur Arabica Coffee, Speciality coffee (value added item) (Arabica and Robusta), Pepper(Panniyur),Gherkins, Honey, Cucurbit seeds, Tourism
Chitradurga	LED lights, Pomegranate, Ground Nut, Minor Millets andOnions, Molakalmur silk saree, Maize Grit, Tourism

District	Products
Dakshina Kannada	Cashew nuts (Ullal 1,2,3) and Spices, Marine products, Jack Fruit, Plastic components, Light Engineering (Auto components, Electrical, Plastic machinery etc.), Tourism, Value added plastic items(Woven Sacks/FIBC), optical items, Moulded& extracted items, packaging items, plastic components.
Davanagere	Rice, Maize, Vegetable, Minor Millets (Ragi, Navane) and value added products, Arecanut value added products/plates, sugar, Marigold flower extract, Gherkin,Foundry products, Fuel Briquettes (Maize biomass based)
Dharwad	Mango(Alphanso), Bhendi, Green Gram, Black Green Gram, Industrial valves, Auto components, Gherkins, Mango Pulp, Dharwad Pedha, Navalgund Carpets, Karnataka Kasuti, Sweet corn Baby Corn, Fruits and Vegetables, Processed fruit and Vegetable products.
Gadag	Onion, Chilli, Maize, Peanut Seeds, Ground Nuts, Pulses,Green Gram,
Hassan	Rice, Coffee, Speciality coffee (valve added item), Spices, Potato and Value added products of potato, Ginger, Coir,Activated carbon, Pepper, Cucurbit seeds, Tourism
Haveri	Byadagi chillies, Chilies, Mango (Alphanso) Maize valueadded products
Kalaburagi (Gulbarga)	Solar panels, inverters, capacitors etc., Tur dal and Pulses, Kamalapur red Banana, Fullers earth (Bentoniteclay), Cotton and Value added products.
Kodagu	Coffee, Speciality coffee (valve added item), Coorg Madrin, Spices, Anthuriums and Orchids, Cardamom,Pepper, Honey, Tourism
Kolar	Mango (Thothapuri, Mallika, Baneshan and Alphanso), Tomato, Color Capsicums, Millet Ragi, Rose Onion, Vegetables, Mango pulp, Processed Pulses/ Spices/ Cereals, Engineering (Precision components), Aerospace anddefence components, Automobile, phones, Apparels.
Koppal	Plastic & Electronic Toys, Rice, Mango (Kesar andAlphanso), Guava Pink, Papaya, Pomegranate, Kinhal Toys
Mandya	Banana, Organic/ chemical free Jaggery, Sugar, Ragi and Minor Millets, Readymade garments, Vegetables and processed foods, Honey, Kodiyala Silk Sarees, Jack Fruit, Papaya, Mango, Coconut
Mysuru (Mysore)	Integrated circuit boards, Pomegranate, Mysore Silk, Mysore Agarbathi, Mysore Rosewood Inlay, Mysore Sandalwood Oil, Mysore Sandal soap, Mysore Traditional Paintings, Mysore Betel leaf, Mysore Malligae, Ganjifa Cards of Mysore, Banana, Sweet Corn and Spices, Betel Vine, Silk, Silk textiles, Engineering products(Machine tools, Auto components, Medical equipment, PCBs,ESDM cluster products), Nanjangud Banana, Mysorepak (sweet), Eeeranagere urinal, Handicrafts, Sandal soap, Agarbathi, Jasmine/ Essentialoils and perfumes, Processed food, Jaggery, Tourism.
Raichur	Rice, Pomegranate, Fig, Cotton, Pharma products, Chillies

District	Products
Ramanagara	Channapattana Toys and Dolls, Coir products, Wood based craft products &wooden kitchen items, Auto components, Automobiles, Furniture, FMCG, Granite, Herbal Ayurvedic products, Mango (Alphanso), Ragi, Babycorn, Millets, Vegetable &flower seeds, Lacquer.Toys
Shivamogga (Shimoga)	Ginger, Banana, Arecanut value added products, Spices(Pepper and Cardamom), Pineapple, Areca leaf cup/plate, Auto components/castings, Readymade garments, Maize and value added products, Handicraft.Item
Tumakuru (Tumkur)	Coconut, Pomegranate, Tamarind and Minor Millets, Machine tools, Automobile components, Coir Board, Coir Pith, Geotextiles, Tuffed coir, Rubberised Coir, Activated carbon, Gherkin, tamarind products, Mango and Papayapulp, Coconut Desiccated powder, Areca leaf products
Udupi	Marine Products, Udupi Malligae, Udupi MattuGulla Brinjal,Udupi Sarees, Cashew, Rice (kagga),Udupi jasmine
Uttara Kannada (Karwar)	Konana Katte, Liquid Jaggery (sugarcane), Cashew and Marine products, Spices, jack fruit, Turmeric, Arecanut and its value added products. (Spices, Areca Nut and its value added products)
Vijayapura (Bijapur)	Pomegranate, Kagzi Lime and Grapes, Raisins, Tourism.
Yadagir	Bajra, Rice, Tur, Cotton

(Source: Directorate General of Foreign Trade)

5.3 DISC approach for Employment Promotion

DISC approach is needed for planning for employment promotion. The components are described below:

D for Demand - for the new product (vegetables) or service (sorting of vegetables). Fortunately, due to rising per capita incomes in the upper quartile of the country, there is rising demand for such products/services.

Demand needs to assess across categories of socio-economic segments, customer types, geographies and future trends in demand.

I for inputs and infrastructure- In the current example, farmers cannot shift to vegetable cultivation unless right quality seeds and agro chemicals are available. Later polyhouses, and still later vegetable packaging crates are needed. Irrigation and road infrastructure is needed.

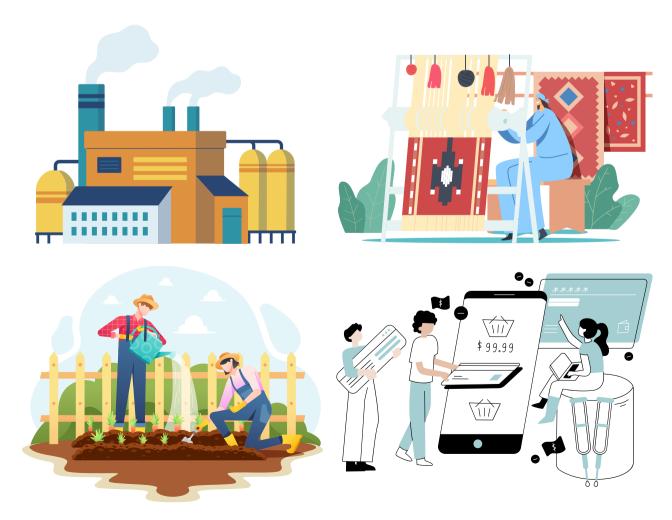
Similarly, in handloom / handicrafts to produce new products for the market the existing machinery may not work, and hence new handloom machineries may also need to be integrated.

S for skills - a cereal growing farmer does not automatically know how to grow vegetables, even less so in a polyhouse. Similarly, women who know paddy transplanting or weeding don't automatically know the steps in vegetable cultivation. These skills must be imparted and learned. Similarly, the handloom / handicraft workers who produced goods such as sarees, kurta churidars need to learn to produce goods such as towels, blankets etc. For non-traditional activities, skill training is even more necessary. This has to be seen in the context that vocational education levels are very low. It was 3.4% for 15–59 age group and slightly better at 4.1% for the younger age group 15–29.

C for Capital- Intra-sectoral proficiency enhancement needs capital - for new equipment, machinery, processing facilities and more working capital. In the example we are discussing, vegetable cultivation needs more money to buy seeds and agrochemicals. The next step needs capital to install a polyhouse. The third step needs investment in vegetable sorting and grading facility. All stages need capital for investing in skill upgradation.

Measures for Inputs and infrastructure

Some of the inputs and infrastructure that can be created for strengthening inputs and infrastructure in Agriculture in the state include setting up high quality seed banks, soil testing vans, polyhouse subsidies, irrigation infrastructure; in horticulture there could be setting up of storages and cold chain facilities, in handlooms it could be design innovation centres, machinery modernization programs, expanding raw material access and skill development centres, e-commerce and mobile based platforms for reaching consumers.



Measures for Skill development

Skill development needs to be strengthened in identified sectors in Karnataka. Currently skill development is being done through Karnataka Skill Development Corporation (KSDC) under Kaushalkaar and Chief Minister Kaushalkar Kalyana Yojane. In agriculture, there could be trainings related to precision farming, organic farming, use of advanced technology for agriculture. There need to be skill trainings in post-harvest technologies, seed development, processing and value-added technologies. In Handloom, there could be trainings on new handloom technologies, courses on design development and innovation etc., In food processing, there could be skill trainings which can be offered by such as NGOs etc.



Measures for Capital Investment

There is a need for targeted investments towards employment promotion and wage enhancement. As can be seen from analysis of unemployment numbers and investments for wage enhancement, about Rs. 6,01,379 crores need to be invested each year.

Financial resources could be mobilized from Banking sector which could be 50% of the bank funds allocated for farm and non-farm sector under priority sector lending, 15% of the capital expenditure of the state budget, 25% of the overall capital required from private sector and 10% from household contribution of the beneficiaries.

5.3.1 Micro-Franchise Model for DISC strategy execution

In private sector, micro-franchisees could be promoted with support of small corporates. Micro-franchise model can be adopted for established chain of brands. For example, in tea brands, it could be MBA Chaiwala, Tea world, Tea trance, Chaiduniya etc. Similarly, there could be franchises for Biryani such as Paradise Biryani, Bawarchi etc. Similarly there could be chaat franchisees such as Chaatkachaska, Agrawala, Gokul etc.

In Bakery, there could be franchisees like Ovenfresh, Cakezone, Swiss Bakery. In Mobile repairing, it could be Phone Doctor or Gadget guard.

In laundry, UClean or Wassup laundry. In Beauty saloons, Looks salon, Naturals or Javid Habib. In line with state's coffee culture, there could be 'Coinjee's coffee house' or 'Café coffee day'.

There could be food trucks such as 'Faasos' or 'Wow Momo'. There could be Mobile accessories franchisees such as 'Poorvika Mobile' or 'The Mobile store'. Under franchise, an individual or group of youth can run an enterprise. Under franchise, an individual or group of youth can run an enterprise.

Some of the benefits of micro-franchisees are that it requires a smaller investment than traditional franchisees. The chances of getting consumers are faster as the brand is already established. There is operational simplicity as it is standardized, flexibility and assures quicker returns on investment. Micro-franchisees get DISC support from small corporates.

5.3.2 Attention on marginal social segments, locations and unskilled workers



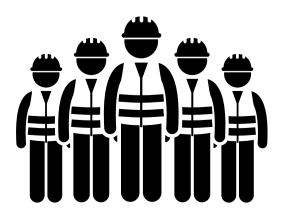
Source: Image

In a socially and economically unequal society, the benefits of DISC approach may not penetrate equally across all socio-economic segments. Skill and capital access becomes much more challenging for social segments such as scheduled castes (SC), scheduled tribes, (ST), de-notified tribes (DNTs), other backward classes (OBCs), Minorities, Women, Youth and Disabled.

There may be a need for more specialised approaches to reach out to these segments. Similarly, attention to skill and capital access need to be based on locations with focus on rural areas and small towns up to district headquarters.

Similarly, focus has to be on skilling the unskilled and semi-skilled and capital access to the skilled persons who are willing to set up their own enterprises.

Through careful policy interventions spanning DISC for various subsectors, we can ensure a lot more employment and wages/income in existing subsectors. This will then reduce pressure to shift workers across sectors, which can then happen at its natural pace.



6 Sectoral challenges in Karnataka and suggestions for addressing these

Given the above recommendation of intra-sectoral proficiency enhancement and DISC approach, it needs to be adapted to different sub-sectors of the economy in Karnataka. The following section discusses the subsectors in Karnataka.

6.1 Agriculture

Cropping pattern in Karnataka has undergone changes. Traditionally the major crops grown were cereals, pulses, paddy, groundnut, cotton and sugarcane which occupied 80% of gross cropped area. However, this has changed. Area under cereals has come down, whereas area under pulses, cotton and sugarcane has gone up.



Source: Image

Table 4 - Area under principal crops - Lakh Ha

Crops	2000-01	% Area to Total cropped Area	2021-22	% Area to Total Gross cropped Area
Cereals	57.6	46.91%	47.35	34.23%
Pulses	20.5	16.69%	31.70	22.92%
Food grains	78.0	8.0 63.52%		57.15%
Oilseeds	18.9	15.39%	12.10	8.75%
Cotton	5.5 4.48%		8.37	5.10%
Sugarcane	garcane 4.2 3.42%		9.04	5.13%

Some of the challenges related to agricultural sector in Karnataka are low crop yield and lack of income stability for farmers, overuse of fertilizers and pesticides leading to increasing cost of production, difficulty in adopting modern technologies, lack of access to markets, post-harvest losses due to inadequate post-harvest infrastructure.

Intra-sectoral proficiency enhancement in agriculture could take place through diversifying from basic grains to fruits, vegetables or cash crops, processing own produce such as rice, getting into organic farming, taking up micro-irrigation, undertaking cultivation through poly houses. There could be diversification into high value agricultural crops such as Mangoes, Grapes, Bananas, Pomegranates, Berries. Among vegetables it could be Baby corn, Asparagus, Broccoli and leafy greens. Spices could include Turmeric, ginger, Cardamom and Black pepper.

There is a need to create awareness among farmers to adopt alternate cropping / mixed farming system for maintaining soil health and ensuring sustainable income. Prompt assistance need to be provided for supply of quality seeds, fertilisers and use of bio-fertilisers and organic manure.

6.2 Horticulture



Source: Image

The predominant horticulture crops produced in Karnataka include coffee, pepper and spices. The net sown area under horticulture in Karnataka is 23.93 lakh hectares out of 108.04 lakh hectares, which is 22.15% of the net sown area. Bengaluru, Vijayapura districts are known for grapes, Chitradurga, Belagavi, Koppala and Bagalakote are known for pomegranate, Kodagu, Chikamagaluru districts are known for coffee. The State ranks 1 st in production of coffee (70% of total production), 2nd in production of flowers, 5th in production of fruits & 7th in production of vegetable crops. Area and production of Plantation & Horticulture crops for the last four years are detailed as under:

Table 5 - Area and production of Plantation & Horticulture crops

Crop	Production Area (in thousand hectares)	Production in (in thousand metric tons)	
Fruits	376.26	7,186.72	
Vegetables	459.99	7,153.47	
Flowers	38.91	366.35	
Medicinal and Aromatic plants	1.65	8.39	
Plantation crops	1249.45	5,237.21	
Spices	368.35	732.41	

(Source: https://agricoop.nic.in/en/statistics/state-level)

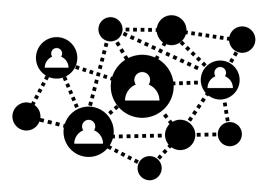
Some of the challenges related to horticulture in Karnataka are lack of post-harvest infrastructure such as cold storage, inadequate transportation system, lack of direct access to markets, limited awareness and adoption of technology such as drip irrigation, integrated pest management, lack of processing and value addition activities.

Intra-sectoral proficiency enhancement is possible by taking up high value fruits such as mango or flowers such as gerbera and orchids.

Processing and value-added produce such as jams, pickles can be taken up. Marketing can be taken up through online platforms and digital apps for directly accessing markets.

Protected cultivation technology can be extended to high value vegetables such as coloured capsicum, cherry tomato etc. Organic farming and zero-based natural farming need to be encouraged to tap the marketing potential available in urban markets.

Some other initiatives include strengthening of Horticulture based FPOs, strengthening post-harvest infrastructure, promotion of GI tag in horticulture crops, linking producers with export development cluster and strengthening online marketing platform for FPOs produce.



6.3 Sericulture



Source: Image

Sericulture is a traditional agro industry in the state for more than 350 years. It has high employment potential, with low gestation period and high returns. It is also a women friendly occupation. Silk production in Karnataka is high and forms half of the country's silk.

About 12 lakh households in Karnataka are engaged in silk production in the districts of Mysuru, Chamarajanagara, Ramanagara, Bengaluru Rural, Chikballapura and Kolar. In recent years, it has also spread to non-traditional districts like Tumukuru, Chitradurga, Hassan, Shivamogga, Davanagere.

Some of the challenges related to sericulture in Karnataka are rising costs of mulberry cultivation, dependence on middlemen by famers, lack of adoption of modern practices in sericulture and competition from synthetic fabrics.

Intra-sectoral proficiency enhancement activities could include transition from basic mulberry varieties to cultivating breeds that produce silk of higher quality and fetch premium prices, taking up value added activities such as reeling, weaving, dyeing, designing exquisite silk garments.

There is a need to go for improved mulberry varieties and silkworm races suitable to areas with necessary support and incentives in non-traditional areas. Upgraded machinery can be adopted to enhance productivity and quality of post cocoon sector.

Automatic silk reeling machines can be popularized in traditional silk reeling clusters. End to end value chain knowledge need to be transferred to the farmers.

6.4 Animal Husbandry



Source: Image

The total livestock population in the state is 30.30 million. The cattle population is 11.5 million, sheep 11.05 million, goats 6.10 million and pigs 0.30 million. The per-capita availability of milk in the state 405 grams per day. Meat produced in the state during 2020-21 was 3.67 lakhs. This includes 1.45 MT lakh of chicken meat, 1.16 lakh MTs of mutton from sheep, 0.76 lakh MT from goat and 0.07 lakh MT from pigs.

While sheep and goat rearing is taken up by farmers in almost all the districts, pig rearing and breeding is taken up as a livelihood activity in few districts of the state viz., Kodagu, Chikkamagaluru, Mandya, Dakshina Kannada, parts of Hassan and Kolar.

In diary sector, the total milk produced in 2020-21 was 9.03 million MT. The poultry population in the state is about 5.95 crores.

Some of the challenges in dairy in Karnataka are fodder shortages, disease outbreaks such as foot and mouth disease, low milk price and exploitation by middlemen. In poultry, it takes large investment to take up poultry farming on a large scale, which is beyond the reach of poor households. Bird flu poses threat to birds.

The growth of poultry farms leads to market saturation. Goatery is underexplored and is susceptible to attack by predators. There are limited marketing channels. Access to veterinary services is limited.

Intra-sectoral proficiency enhancement could be possible through adopting high yielding breeds such as Jersey or Holstein, taking up value added milk products such as cheese, yogurt, paneer, butter, ghee in dairy.

In poultry, there could be possibilities to explore rearing ducks, geese, turkeys of quail. Processed products such as sausages, nuggets or marinated chicken can be taken up. In Goatery, high yielding goats such as Boer goats could be taken up. Value added products of goat milk such as yogurt, cheese can be explored.

For strengthening the Dairy sector, Government may strengthen infrastructure related to breeding farms, vaccine production, milk transportation, processing and value addition. Livestock markets can be organized to facilitate trading of quality cattle. Farmers need to be made part of Dairy milk societies. Low-cost feed formula need to be provided to farmers. In Poultry sector, farmers may be encouraged to rear Giriraja / low input technology birds. Broiler units of up to 1,000 birds can be set up through SHGs / JLGs. Infrastructure related to meat processing and value addition can be strengthened. Maize and soya cultivation can be promoted to support chicken feed industry. In sheep / Goatery sector, units of ten goats / sheep may be encouraged. Farmers can also be encouraged to establish stall fed goat rearing units to augment income.

6.4 Fisheries

Karnataka has 313 kilometres of vast coastline. It is also endowed with 5.65 lakh hectares of inland fisheries comprising of tanks, ponds, river stretches and reservoirs. These provide good scope for fisheries activities such as composite fish culture, ornamental fish breeding, cage culture in reservoirs, fish seed rearing/fish seed hatcheries, integrated farming and shrimp culture etc.

The three coastal districts Uttara Kannada, Udupi and Dakshina Kannada has 162 marine fishing villages. There are a total of 2,19,483 full time fishing families and 2,67,481 part-time fishing families in Karnataka in 2020-21. The per capita availability of fish in Karnataka is about 10.34 kg as against the minimum requirement of 11 kg per annum. There are about 9.74 lakh fishermen in the state of which 3.28 lakh fishermen are in marine and 6.46 lakh fishermen are in inland fisheries activities. More than 85% of total fish catch of the State is caught through mechanized fishing boats. The state has 8 major fishery harbours in Mangalore, Malpe, Gangolli, Honavar, Tadadi, Belekeri and Karwar. About 90% of the marine fish production in the state comes from these major ports.



Source: Image

Some of the challenges related to fisheries in Karnataka are overfishing leading to depletion of fish stocks, rising temperatures affecting fish habitats, livelihood vulnerability of small-scale fishermen, lack of adoption of modern fishing methods, post-harvest losses, lack of adoption of processing and value-added produce.

Intra-sectoral proficiency enhancement that can be taken up include shift to high value species such as farming shrimps, lobsters, prawns or ornamental fish, transition from capture fishing to fish farming in ponds or cages, processing into fillets, smoked fish or marinated products, utilize iceboxes, solar dryers, small cold storage units to minimize post-harvest losses.

There is need to promote scientific fish culture practices in inland water bodies. There is scope for promoting cage culture in reservoirs, brackish water and in open seas. Fish farmer's collectives can take up collective fish farming by taking up contracts / leased lands and ponds to increase their income through marketing.

6.6 Industry



Industry contributes about 20% to the state GSDP and absorbs 11.74% of the workforce. The state has high technology industries in the areas of electrical and electronics, information and communication technology (ICT), biotechnology and nanotechnology. Apart from high tech capital goods and knowledge intensive industries, it also has traditional consumer goods industries.

The distribution of registered industries are food products (15.92%), Basic metals (14.04%), Coke and refined petroleum products (12.44%), Motor vehicles, trailers and semi-trailers (6.74%), Machinery and equipment (5.78%), Chemicals and chemical products (5.53%), electrical equipment (4.70%) and wearing apparels (4.40%). The total registered MSMEs in the state is 5,85,504 and industrial employment is 50,81,047.

Some of the challenges related to industry are skill gaps between requirements of industry and skills of the workers, informality of work resulting in low pay and lack of social security, concentration of industrial development in urban areas.

Intra-sectoral proficiency enhancement in industry could be possible through mastering specific skills such as machine operation, maintenance, adopting to automations. Transitioning from unskilled to semi-skilled through accessing skilling, reskilling and upskilling can help in upward movement.

In manufacturing sector, there could be skills promoted for assemblers and fabricators for industries like apparel, electronics and automotive. Similarly, skills could be promoted for machine operators, quality control inspectors, maintenance technicians and logistics and warehouse personal.

6.7 Services

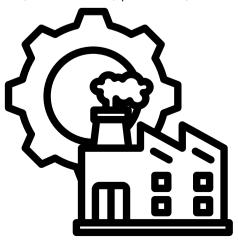
The services sector is the largest contributor to GSDP in Karnataka. The major subsectors of services in Karnataka are Information Technology (IT) and IT-enabled services (ITeS). It is a major driver, attracting global companies and generating high paying jobs. Business process management (BPM) is a growing sector which offers outsourcing solutions for various business processes.

Retail and trade are a vibrant sector with traditional markets and modern shopping centres catering to a diverse population. Finance and banking is a strong and growing sector, with national and international banks having a presence in the state. Tourism and hospitality are a significant contributor to the economy, attracting tourists from across the globe with its historical, cultural, and natural beauty.

Education and healthcare are an important subsector with high-quality educational institutions and healthcare facilities that attract students and patients from other states and countries, contributing to the service sector's growth. Logistics and transportation and a well-developed infrastructure and strategic location facilitate efficient movement of goods and people, supporting various industries and businesses.

Some of the challenges related to service sector in Karnataka are mismatch between skills available and those demanded by service sector, limited access to vocational training and skill development, informal conditions of work, precarious working conditions. Intra-sectoral proficiency enhancement in Karnataka could be possible through taking up skilling, reskilling and upskilling, adopting to automation and digital skills, broadening skill set.

In services sectors, skills promoted could be related to hotel housekeeping, food service staff, travel agents, tour guides, sales associates, customer service representatives, inventory management personal, medical assistants, laboratory technicians, ambulance drivers, care takers, data entry operators, technical support personnel, carpenters, masons, electricians, plumbers, construction helpers etc.



7 Investments to address unemployment and wage enhancement

Estimated unemployed population in Karnataka is 7,51,677. There would be an addition of 3,42,004 each year to the labour force at the current population growth and workforce addition rates. Considering the current unemployed and the average workers getting added each year, about 4,92,340 need to be provided with employment.

To create employment and make person fully employable, it requires an investment of Rs 52,49,748. About Rs. 12,92,329 crores investment needs to be made, which is about Rs. 2,58,466 each year. The various sources of investment per year could Bank finance Rs. 1,29,233 crores; State government Rs. 38,770 crores; Household investment Rs. 24,847 crores and Private sector own fund investment Rs. 64,616 crores.

7.1 Investment Needed

Table 6 - Investments needed for new employment generation 2024-29

Income generation of Unemployed	Number / Percentage	Investments (in Rs.)
Karnataka population @ 2011	6,10,95,297	
Population – 2023	6,95,99,762	
Growth rate per annum between 2011-2023	1.09%	
Population (all ages) LFPR as per PLFS 2022-23	45.0%	
Labour force in 2022-23	3,13,19,893	
WPR as per PLFS 2022-23 for all age groups	43.9%	
Working population in numbers in 2022-23	3,05,54,296	
Unemployment rate	2.4%	
Unemployment @ 2.4% across all age categories	7,51,677	
Increase in labour force per annum	3,42,004	
Number to be employed per year if employment is provided to eliminate unemployment in five years and also absorb the annual increase in labour force	4,92,340	
Average investment needed to create one job (in Rs.)		52,49,748
Investment required in Rs. Crores (for five years)		12,92,329
Investment in Rs. Crores (required for one year)		2,58,466

Similarly, there would also be need for investments towards wage and income enhancement. About 80% of the workforce in Karnataka are estimated to be in unorganized who receive low incomes for their services. An investment of Rs 3,42,913 crore would be required per annum.

It is assumed that Rs. 6,64,264 would be required for enhancement of one wage income earner with varied patterns for casual worker 14,13,132, self-employed 6,97,639 and wage / salaried employed 4,95,841. Households could contribute 10%, Government 15%, Private sector 25% and Banks 50%. About 2,58,11,453 workers could be targeted who constitute nearly 80% of the workforce in the unorganized sector.

Table 7 - Investments needed for wage enhancement 2024-29

Income generation of Unemployed	Number / Percentage	Investments (in Rs.)
Karnataka population @ 2011	6,10,95,297	
Population – 2023	6,95,99,762	
Growth rate per annum between 2011-2023	1.09%	
Population (all ages) LFPR as per PLFS 2022-23	45.0%	
Labour force in 2022-23	3,13,19,893	
WPR as per PLFS 2022-23 for all age groups	43.9%	
Working population in numbers in 2022-23	3,05,54,296	
Increase in labour force per annum	3,42,004	
Number@ 80% of the workforce plus additions to workforce each year, whose wages need to enhance	2,58,11,453	
Average investment needed by ICOR at 3 with varied investment patterns for casual workers, self-employed and wage / salaried employed		6,64,264
Investment required in Rs. Crores (for five years)		17,14,563
Investment in Rs. Crores (required for one year)		3,42,913

The annual investments that would be required for job creation and wage enhancement across sectors would be Rs. 6,01,739 crores. This level of investment is highly feasible as it is in the range of 30% of the GSDP. This is computed in the table below:



Table 8 - Total investments needed 2024-29

Investments towards Emplo	yment Promotion	Investments toward Wage en	Total Investments	
Employment to be generated pa	4,92,340	Number of workers to be enhanced with wages @ 80% of	0 50 44 452	
Employment in five years	24,61,700	the workforce plus additions to workforce each year	2,58,11,453	
Average investment needed to create one job	Rs 52,49,748	Average investment needed per year for low wage earner with varied patterns for casual worker, self-employed and wage / salaried employed (in Rs.)	6,64,264	
Investment in Rs. Crores (for five years)	12,92,330	Investment in Rs. Crores (for five years)	17,14,563	

7.2 Sources of Investment

Table 9 - Possible Sources of Investment

Investments for new employment Rs. Crores (for one year)	2,58,466	Investment for wage enhancement Rs. Crores (for one year)	3,42,913	6,01,739
Total Credit by Banks for farm and non-farm activities	1,29,233	Total Credit by Banks for farm and non-farm activities	1,71,456	3,00,689
Capital expenditure by Government for unemployed	38,770	Capital expenditure by Government for low wage employed	51,437	90,207
Household investment @ 10% of total investment	25,847	Household investment @ 10% of total investment	34,291	60,138
Private sector investment @ 25% of total investment	64,617	Private sector investment @ 25% of total investment	85,728	1,50,345
Average investment (in Rs. Crores)	2,58,466	Average investment (in Rs. Crores)	3,42,913	6,01,379



8 Conclusion

It can be said that challenges of unemployment among rural and urban youth including young women in Karnataka need an integrated approach. From the classical approach that focuses on inter-sectoral shifting, there is a need to try an alternative strategy of intra-sectoral proficiency enhancement.

Initially demand estimations need to be undertaken based on market availability for produce and services. Infrastructure needs to be strengthened as per requirements for each sector. Skills need to be enhanced to develop market-oriented skills. Capital needs to be mobilised and invested for employment creation.

About Rs Six Lakh one thousand and three hundred and seventy-nine crore of investment is required each year over the next five years to absorb the unemployed population and enhance the wage income of many times that number. This level of investment is highly feasible as it is in the range of 30% of the GSDP. With targeted investments unemployment gap and wage enhancement gaps can be reduced in the coming years.



