

District wise skill gap study for the State of Karnataka

Agenda

1. Objective of the study

2. Methodology

3. State overview

4. Recommendations

Objectives of the study

1. Review the socio-economic profile of the district covering demography, economic profile of district by industry, state of education etc.,
2. Identify developmental opportunities keeping in mind factor endowments and stakeholder perspectives
3. Identify specific developmental initiatives/projects which have impact on employment generation
4. Articulate the aspirations of the youth
5. Identify the current and future (2011 to 2022) skills and manpower requirement by industry and estimate the gap that exists
6. Study the existing Vocational Training infrastructure both in the private sector and the government domain
7. Suggest suitable interventions/recommendations to address the skills gap
 - Recommendations have to be specific and actionable
 - Recommendations should also include specific initiatives that NSDC can take based on the mandate of the organisation
8. Create an action plan with indicative timelines

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Methodology used for conducting the study

The study has been conducted through a combination of primary and secondary research.

- ❖ **Primary research:** Involved interactions with key Government officials, industry representatives in the formal and informal sectors, select companies and educational institutions. For number of people contacted in each category, please refer to reference slides.
- ❖ **Secondary research:** We also relied on information available in the public domain that we considered reliable to validate the findings of our primary survey.

Primary survey was conducted on a random sample basis, wherein structured questionnaires were administered. We also collected data and information from the sources which we considered reliable.

Primary Survey was carried out as per the agreed sample across districts with decided coverage of stakeholders

Category	Number Covered
Youth respondents	1,064
Industries* (large and MSME)	178
Government / Government Departments	165
VTIs / other educational institutions	57

**Industries were selected across growth sectors of each district in stratified (disproportionate sampling)*

Note

- Structured questionnaires were administered for the surveys
- Youth responses were collected in collective youth group discussions held in all 30 districts

Methodology for demand and supply projections

Demand side forecasts:

- Current employment numbers for different sectors are sourced from sources such as NSSO, ASI, Census 2001 and 2011, Fifth Economic Census, RBI, IRDA, MHRD, Department of Education, NASSCOM, primary survey etc. In cases where numbers are not available, proxies have been used.
- Different estimation methods are used for forecasting demand for different sectors, depending upon sector dynamics.

Supply side forecasts:

- Current supply numbers are obtained from data available for school drop-outs, school pass-outs, general college pass outs, specialised colleges pass-outs, ITI pass outs and pass-outs from other vocational education institutions.
- Forecasts based on forecasted population in different age-groups and gross enrolment ratios (GERs) at different levels of education.
- For details of estimation of current size of the labour force, please refer to the reference slides.

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Nine districts are home to 51% of the State population

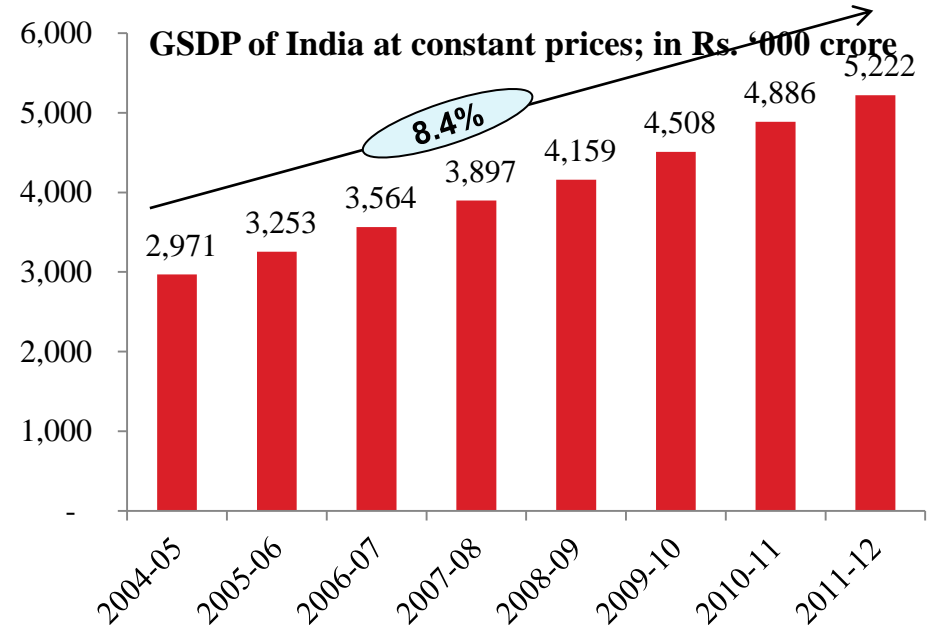
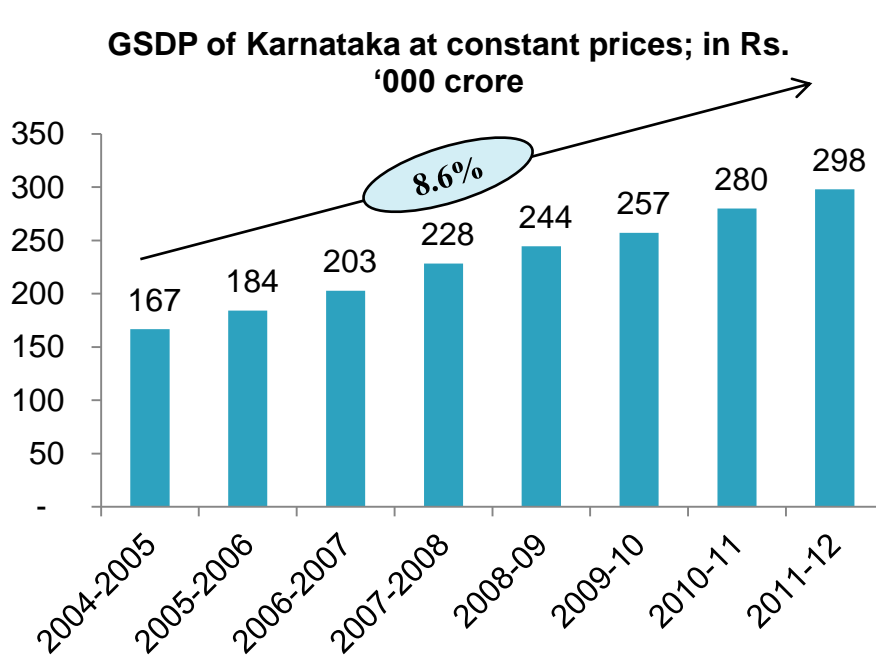


- As of Census 2011, Karnataka has a total population of 61.13 million. The population has increased at a decadal growth rate of 15.67%.
- Nine districts – namely Bangalore Rural, Bangalore Urban, Tumkur, Mysore, Dakshina Kannada, Bellary, Belgaum, Bijapur and Gulbarga – are home to 51% of the State population.

Category	Karnataka	India
Literacy rate, %	75.60%	74.04%
Literacy rate, male, %	82.85%	82.14%
Literacy rate, female, %	68.13%	65.46%
Sex ratio, females per 1000 males	968	940

Source: Census 2011

Karnataka's GSDP has grown at a CAGR of 8.6% in the last few years.; kept pace with India's GDP growth rate

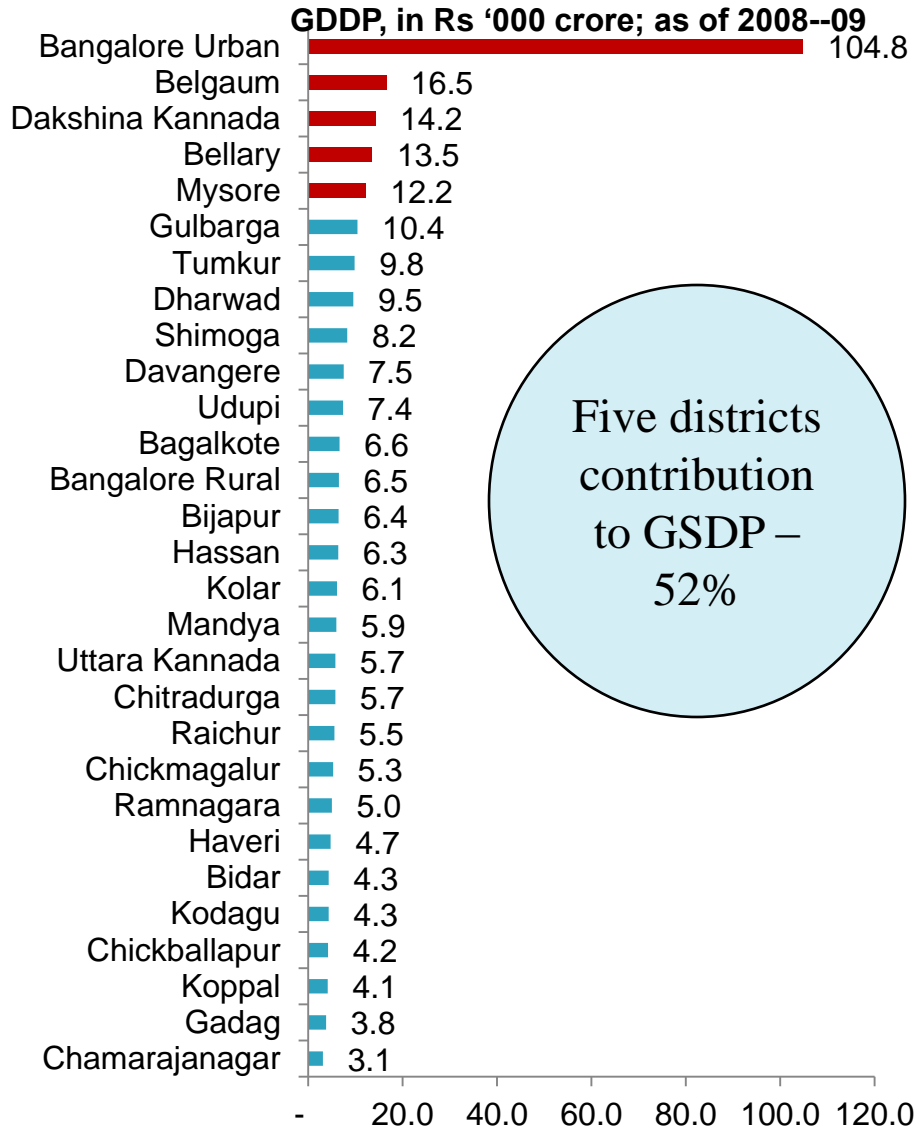


- As of 2011-12, Karnataka's GSDP at constant prices stood at Rs. 298 thousand crore. The GSDP at current prices was Rs. 466 thousand crore – 5.62 % of India's GDP.
- Bangalore Urban, Belgaum, Dakshin Kannada, Bellary and Mysore contribute to over 52 per cent of the State's income.

GSDP – Gross State Domestic Product; growth rate calculated at constant prices (base year: 2004-05).

Source: Central Statistical Organisation

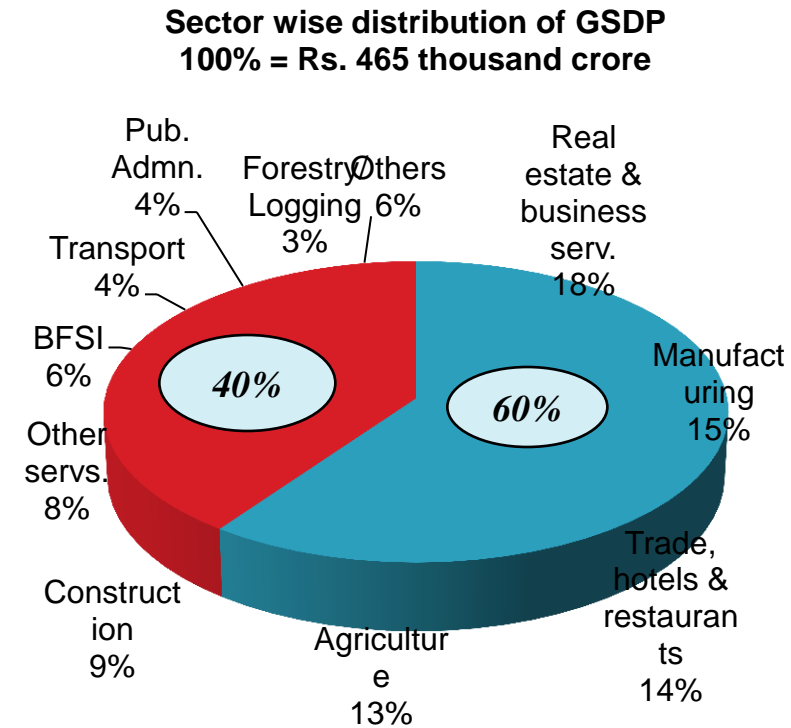
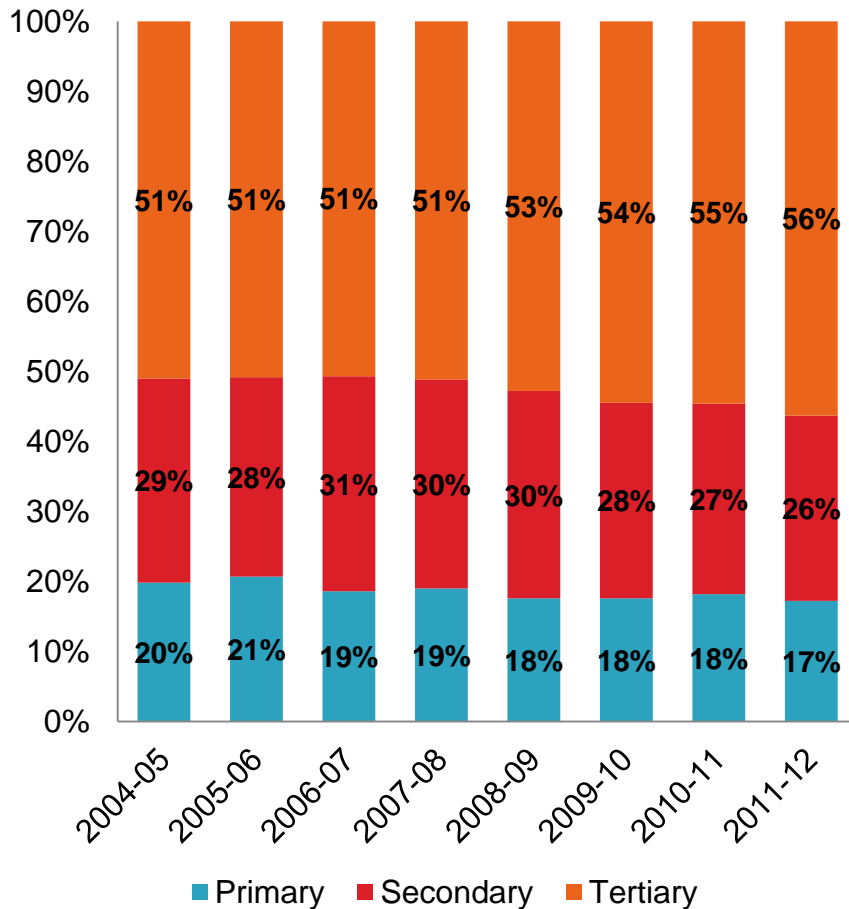
Bangalore Urban, Belgaum, Dakshin Kannada, Bellary and Mysore contribute to over 52% of the State's income



Source: Directorate of Economics and Statistics, Karnataka

Share of services has gone up in GSDP; key contributors to GSDP are real estate & business services, manufacturing, trade, hotels & restaurants and agriculture

Share of primary, secondary and tertiary sectors in Karnataka's GSDP



Others include electricity, gas and water supply, communication, mining and quarrying, fishing, railways and storage.
 Source: Economic Survey of Karnataka 2011-12

Agriculture and allied sectors are the biggest employment sources in the State



- ❖ Even though agriculture and allied sectors have only a 17% share in State's GSDP, they continue to provide employment to about 55% of the total workforce. However, agriculture's share in total workforce is gradually coming down.
- ❖ Main crops grown in the State are paddy and ragi. The State is also famous for production of coffee, coconut, sugarcane and cocoons.
- ❖ Allied activities such as horticulture, fishery, sericulture, animal husbandry, poultry and dairy are important sources of income for the people.
- ❖ In fact, horticulture represents one of the biggest opportunities for the state. Horticultural crops occupy an area of 17.25 lakh hectares (14 % of net cultivated area) with an production 130.26 lakh tonnes, deriving 40 % of income from agriculture segment.

Karnataka is home to some of the biggest industrial units in the country



Industry

- ❖ The industrial sector consists of electricity, gas and water supply, construction and manufacturing. While the share of manufacturing is 15% in GSDP, share of construction is 9% and share of electricity, gas and water supply is marginal.
- ❖ Karnataka evolved as the manufacturing hub for some of the largest public sector industries such as HAL, BHEL, BEML Limited, etc.
- ❖ It witnessed a rapid boom in industrial growth after the IT boom in the 1990s.
- ❖ As of December 2011, the State had 810 large and medium scale industrial units. These has invested Rs.91,127 crore in the State. In addition, there were 413,284 Small Scale Industrial (SSI) Units, which had invested Rs. 12,398 crore.
- ❖ The state is home to some of the biggest organizations of the world, mainly concentrated in Bengaluru, Mangalore and Mysore. Other centers like Hubli-Dharwad, Belagavi, Gulbarga, Ramanagara are also attracting big companies.
- ❖ The major industries in the state include Aviation and Aero space; Auto and auto components; Engineering; Textiles; Pharmaceuticals; Biotechnology etc.

Districts in Central and Southern Karnataka account for 90% of industrial activity in the State

Belgaum, Bellary, Koppal, Bagalkot and Dharwad account for 20% of industrial activity in the State



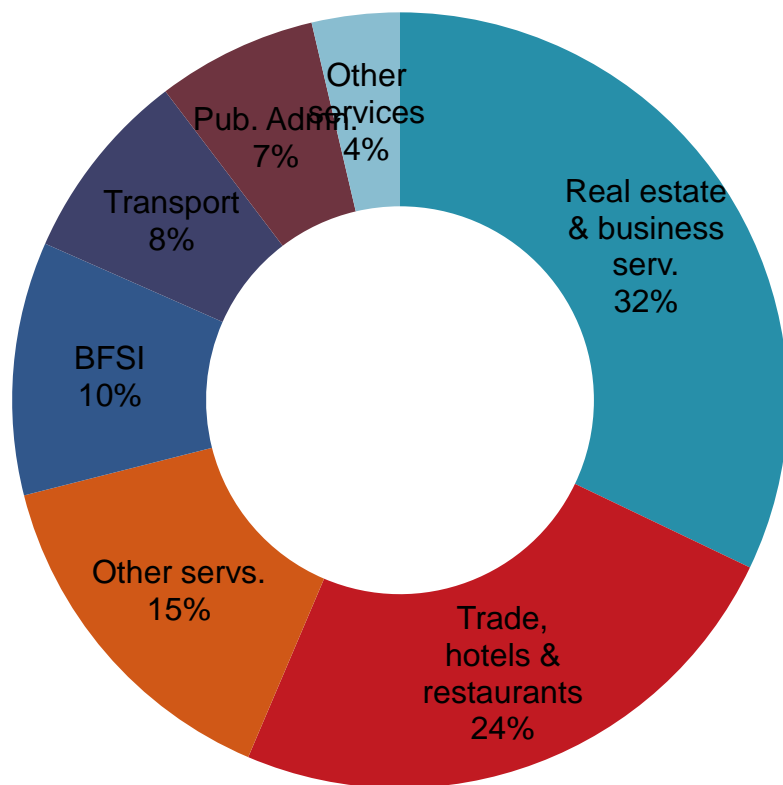
Bangalore Urban, Bangalore Rural, Mysore, Tumkur and Dakshin Kannada account for 70% of industrial activity in the State

Some of the key industrial players in Karnataka



Services sector growth in the State is fuelled by the presence of 'real estate & business services' and 'trade, hotels & restaurants'

Share of different services in service sector
GSDP; 100% = Rs. 262 thousand crore
As of 2011-12



Others services include communications, railways and storage.

Source: Economic Survey of Karnataka 2011-12

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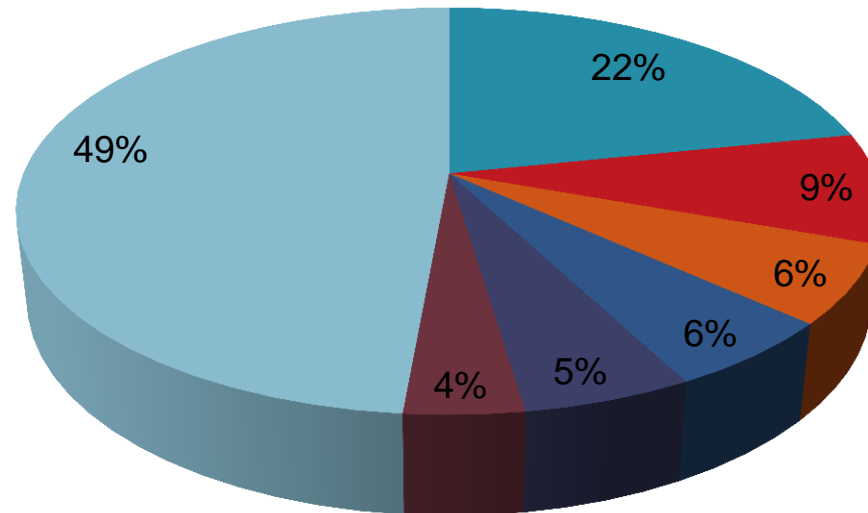
- ❖ As of 2011-12, services sector accounts for 56 % to the State's GSDP. Its share has increased from 51% in 2004-05.
- ❖ The biggest contributor to services is the 'real estate and business services' category.
- ❖ This is followed by trade, hotels and restaurants. Tourism industry in the State has boomed due to the presence of several tourism spots.

Demand side forecasts for Karnataka – by sector

Sectors	2012-17	2018-22	2012-22
Agriculture and allied	895	723	1,619
Auto and Auto component	15	43	58
BFSI	102	168	270
Building, Construction industry and Real Estate	595	770	1,365
Chemicals & Pharmaceuticals	3	7	10
Construction Materials and Building Hardware	59	36	96
Education and Skill Development	164	215	379
Electronics and IT hardware	7	8	16
Food Processing	25	16	41
Furniture and Furnishings	8	14	22
Healthcare Services	243	377	620
IT & ITES	540	891	1,431
Media and Entertainment	27	41	68
Organised Retail	75	160	235
Textile and Clothing	70	79	149
Transportation, Logistics, Warehousing and Packaging	288	351	640
Tourism, Travel, Hospitality & Trade	439	918	1,356
Unorganised	43	47	90
Mining	6	7	13
Total	3,604	4,872	8,476

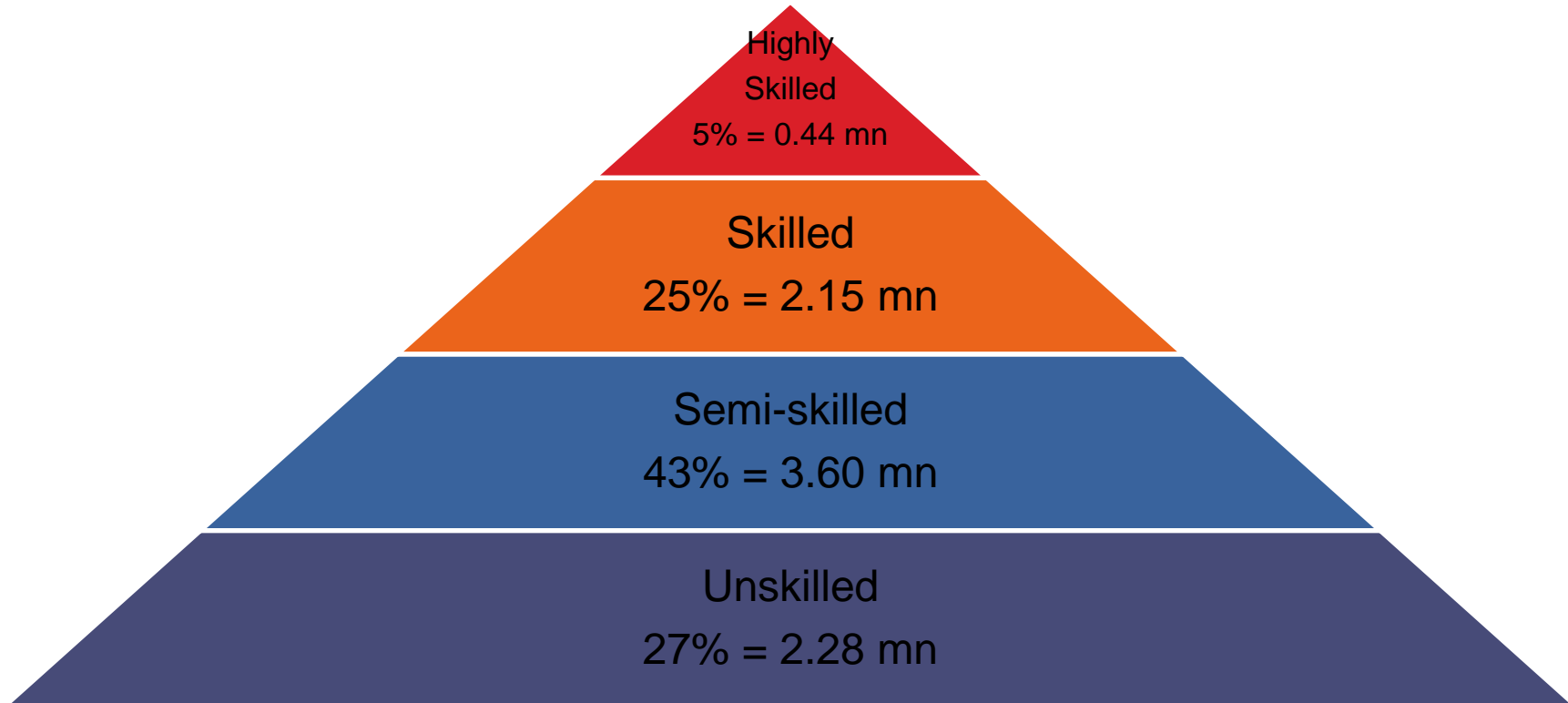
Source: IMaCS Analysis

Demand side forecasts for Karnataka – by district



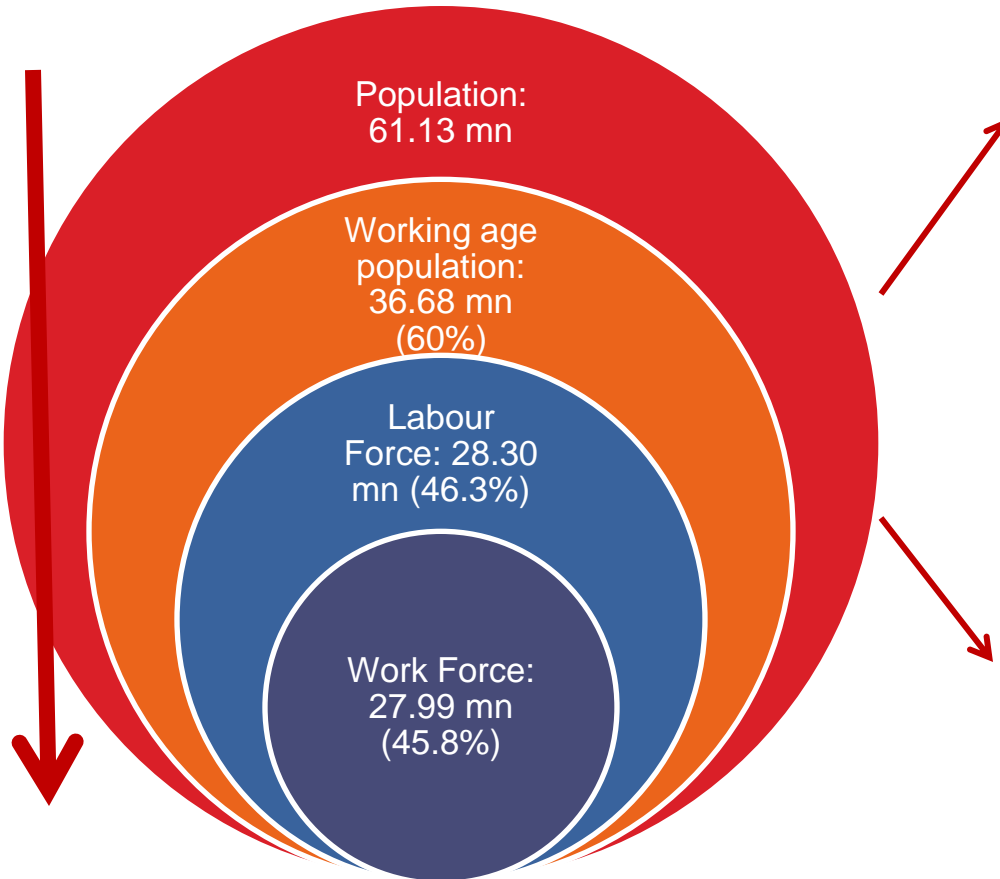
- Top 6 districts account for 51% of the estimated incremental demand to be generated in Karnataka between 2012 and 2022.
- Bangalore Urban district alone accounts for 22% of the estimated incremental demand

Demand side forecasts for Karnataka – by skill level

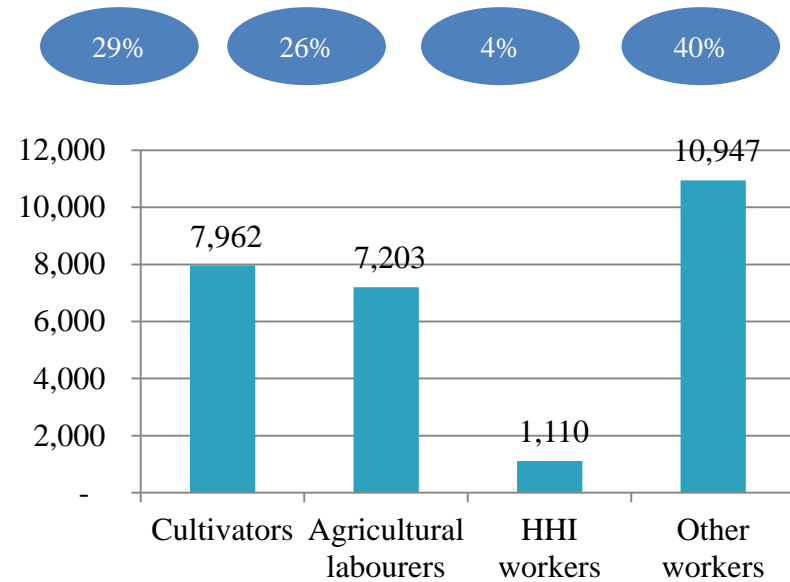


Maximum demand is estimated to be generated for semi-skilled labour, followed by unskilled labour, skilled labour and highly skilled labour between 2012 and 2022.

Karnataka has a workforce of about 28 million people



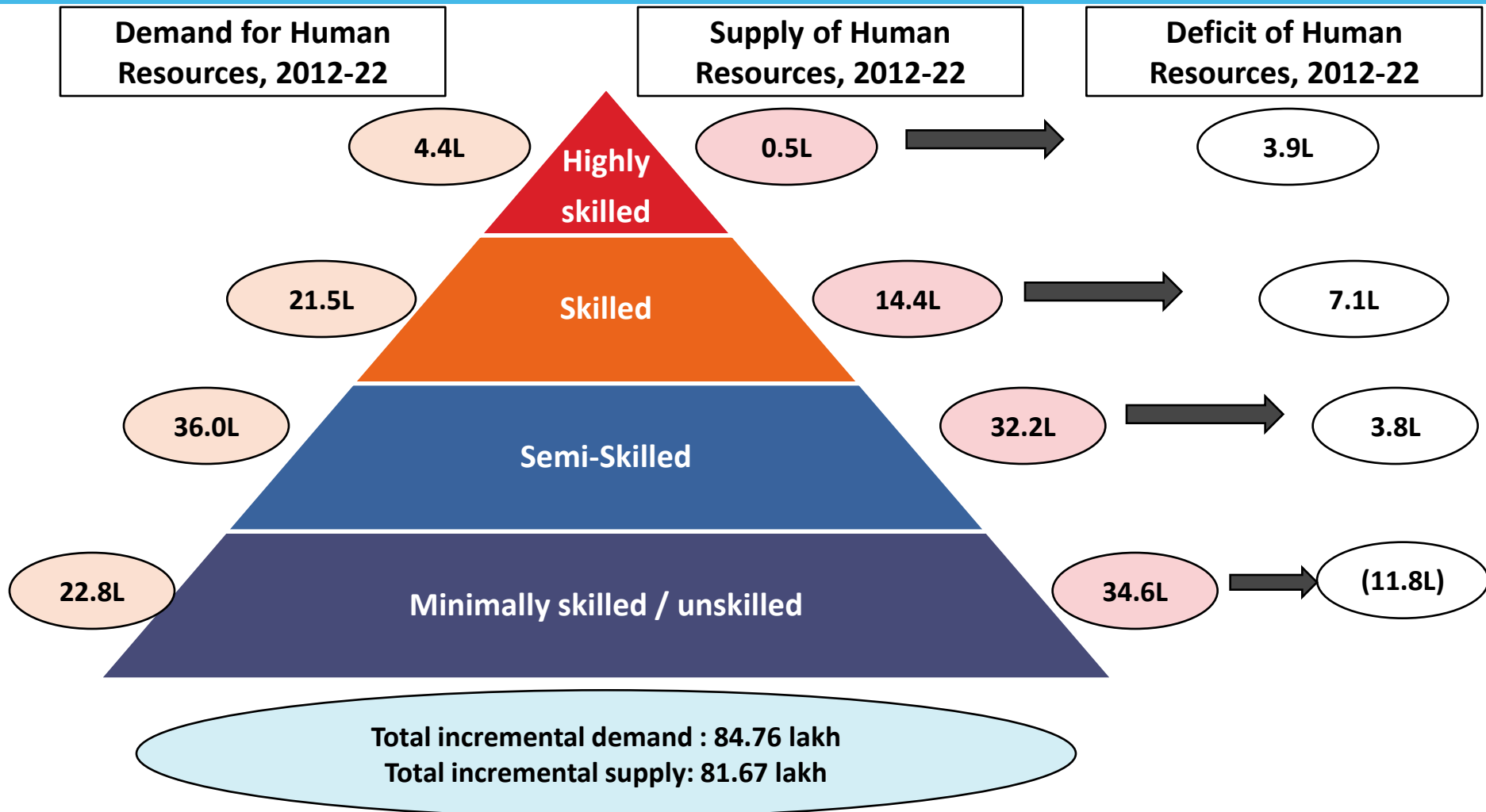
Karnataka worker profile, as of 2011, in thousands



HHI: Household Industry; Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers, are 'Other Workers'.

Source: Census 2001, Census 2011, NSSO 66th Round

Summary – The State is likely to face a deficit of 10 to 14 lakh skilled persons



About 20-30% of the current supply of human resources is unemployable, thus widening the skill deficit to 10 to 14 lakh.

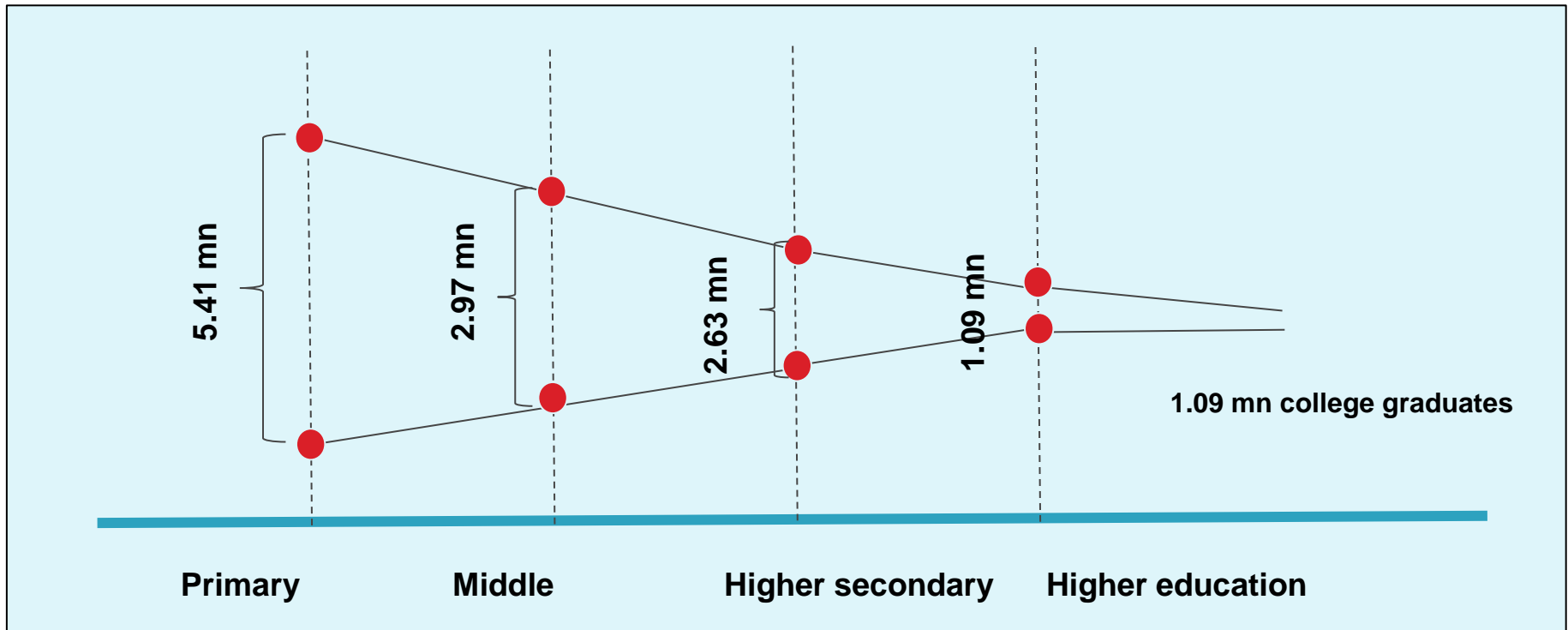
State Overview – Demand and supply gap

- Based on our forecasts, we estimate that between 2012 and 2022, an ***incremental demand (cumulative for ten years) for 8.47 million people*** will be generated in Karnataka.
- ***Maximum demand*** will be generated from sectors such as agriculture and allied (mainly allied such as horticulture, fishery, animal husbandry, poultry and sericulture); IT & ITES; building, construction industry and real estate; travel, tourism, hospitality and trade etc.
- On the supply side, we have estimated that between 2012 and 2022, ***about 8.16 million persons*** will join the workforce in Karnataka.
- Based on the demand and supply side estimates above, ***Karnataka is likely to have an incremental demand for 8.47 million persons and incremental supply of 8.16 million persons between 2012 and 2022. This will lead to a supply gap of 0.31 million persons.*** However, considering unemployability*, the gap will increase to 1.9 million to 2.7 million persons.

* According to our industry interactions, we have found that at least 20-30% of the workforce passing out from the educational institutions is unemployable.

There are high drop-out rates from lower to higher education

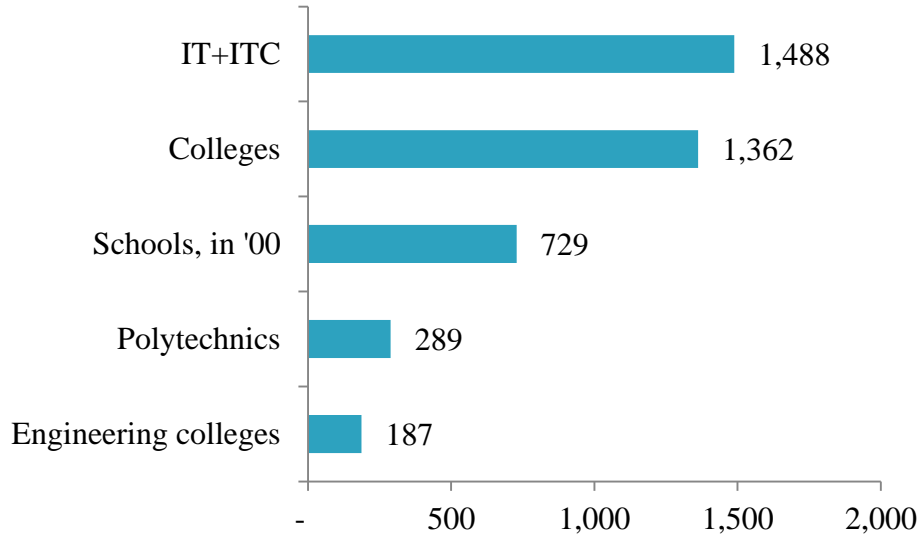
High drop outs in the education space



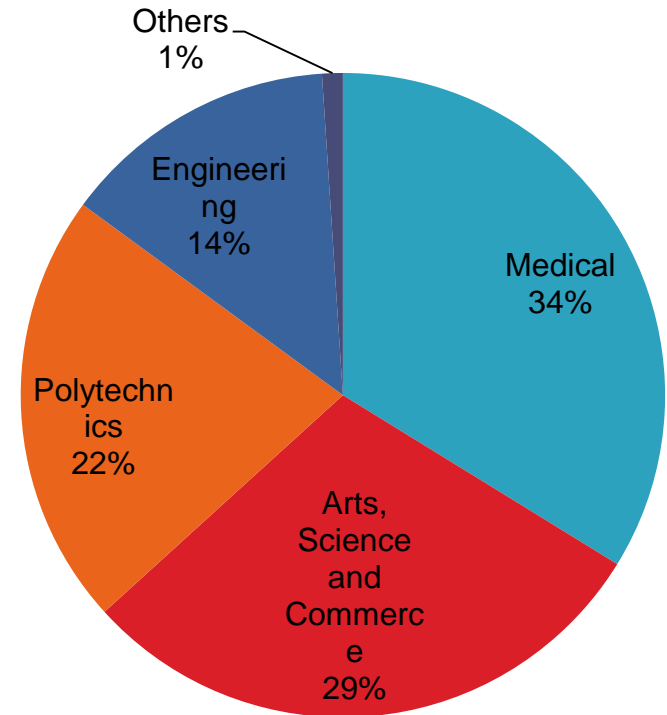
Source: MHRD

Existing education infrastructure in the State

No. of educational institutes



Distribution of higher education institutions in Karnataka; 100% = 1,362 colleges



Category	No. of institutes	Student intake
Engineering colleges	187	56,235
Polytechnics	289	57,038
Schools, in '00	729	782,799
Colleges	1,362	515,838
IT+ITC	1,488	156,465

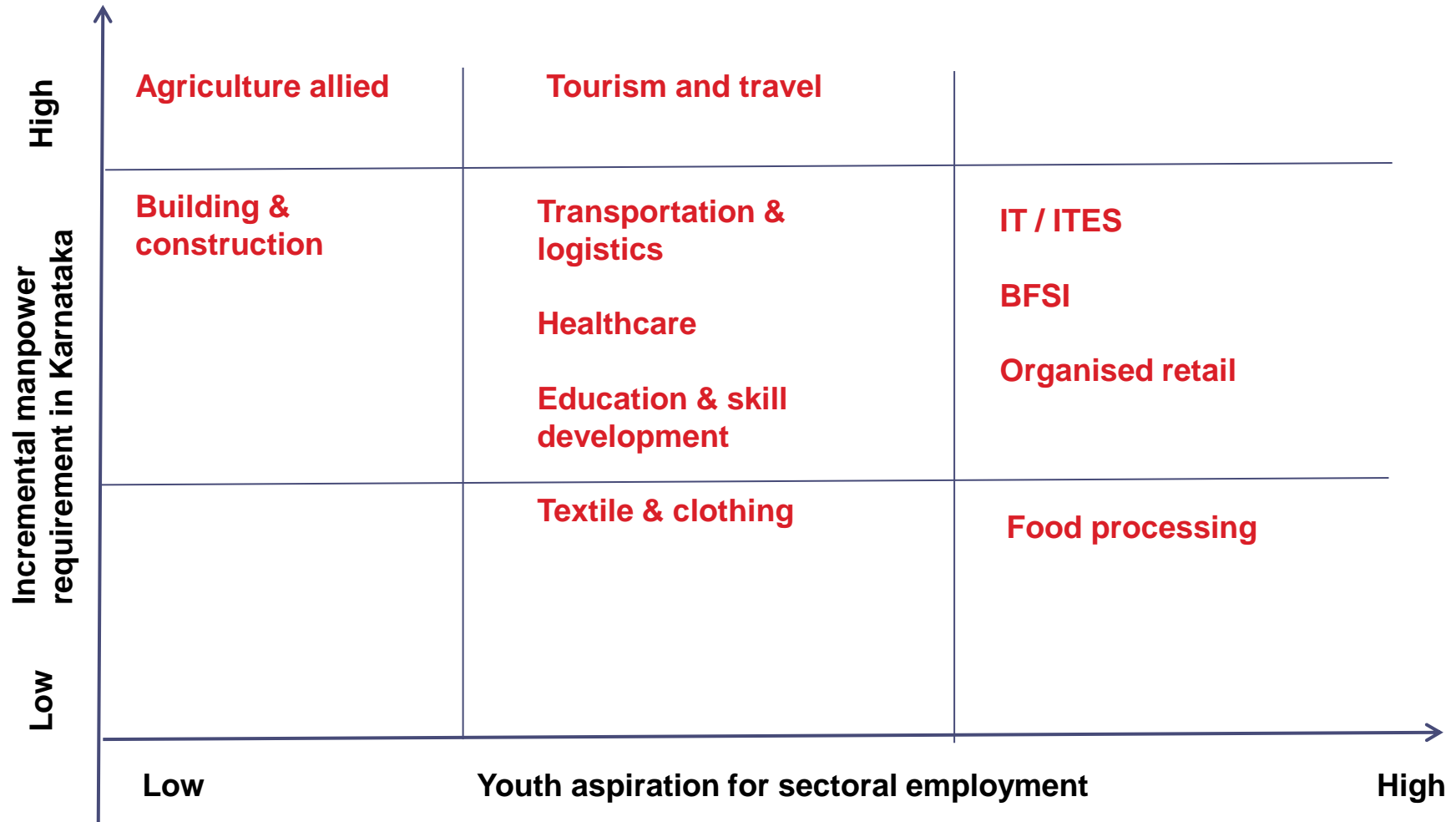
Top private training institutes in Karnataka have seating capacity for over 22,000; about 50% of it is concentrated in IT/ITES

District	No. of private training institutions	Seating capacity
Bangalore	500	15,000
Others	200	7040
Total	700	22,040

- ❖ Based on the top training institutes mapped in the 30 districts, we found that 70% of training institutes are concentrated in Bangalore, while the remaining 30% are in other districts.
- ❖ **Of the courses which are taught in the training institutes, close to 50% are for IT/ITES sector (software, hardware, animation, multimedia, BPO training etc.)**
- ❖ In addition, soft skills training is also provided in some of the Government colleges in the districts.

Note: Numbers based on coverage of 5-10 top private training institutes in each district.
Source: IMACS Primary Survey

Youth aspirations – mismatch between industry demand and aspirations



The State Government is proactively promoting skill development in the State

The State Government established its own Skills Commission with representatives from trade and industry.

Developed Skill Development Policy on the lines of National Skill Policy.

Department of Employment and Training established two Multi Skill Development Centres (MSDCs) of international standards in collaboration with German Technical Cooperation.

Karnataka Vocational Training and Skill Development Corporation (KVTSDC) established in 2008. Target – imparting skills and employment to 10 lakh persons in the next five years.

KVTSDC converting a few employment exchanges in the districts into HRD centres in PPP with Team Lease.

KVTSDC launched India's first Retail Training Centre in PPP with Bharti Wall Mart in Govt. ITI in Peenya, Bangalore

List of initiatives might not be exhaustive.

Some of the training programmes / schemes run by the State Government

KVTSDC

- Organise skill & job fairs
- Skill training programs under MES
- Establishing HRD centres in employment exchanges in PPP
- Launch of India's first retail training centre in PPP
- Target of skilling 10 lakh persons

Gol and GoK

- Oil Palm Development Program
- Exposure visits and training programs for farmers on advance practices in oil palm cultivation

Department of Horticulture

- Annual training programs
- Post-harvest management programs
- Setting up of Mango Development Centres

Karnataka Co-operative Poultry Federation

- Short term training in poultry provided to farmers

Dept. of Animal Husbandry

- Pig breeding programs
- 793 farmers trained in 2011-12
- Established polytechnic centre in Tumkur in 2011-12

Brackish water fish farmers development agency

- Development of brackish water area
- BFDA established at Karwar and Udupi

KEONICS

- Karnataka State Electronics Development Corporation (KEONICS) provide IT& ITES training
- Has a network of 289 centres across State

Dept. of Collegiate Education

- Hosa Hejje programme for teachers
- Key initiatives – Sahayog, Manavathe, Angala, Sampark, Aptamitra, Shikshana Adalat, Daksha

Dept. of Agriculture

- Karnataka Krishi Mission
- National Project for Cattle and Buffalo Development

Source: Economic Survey of Karnataka 2011-12 and IMaCS Analysis

Note: The list of programmes mentioned above is not exhausted and only representative.

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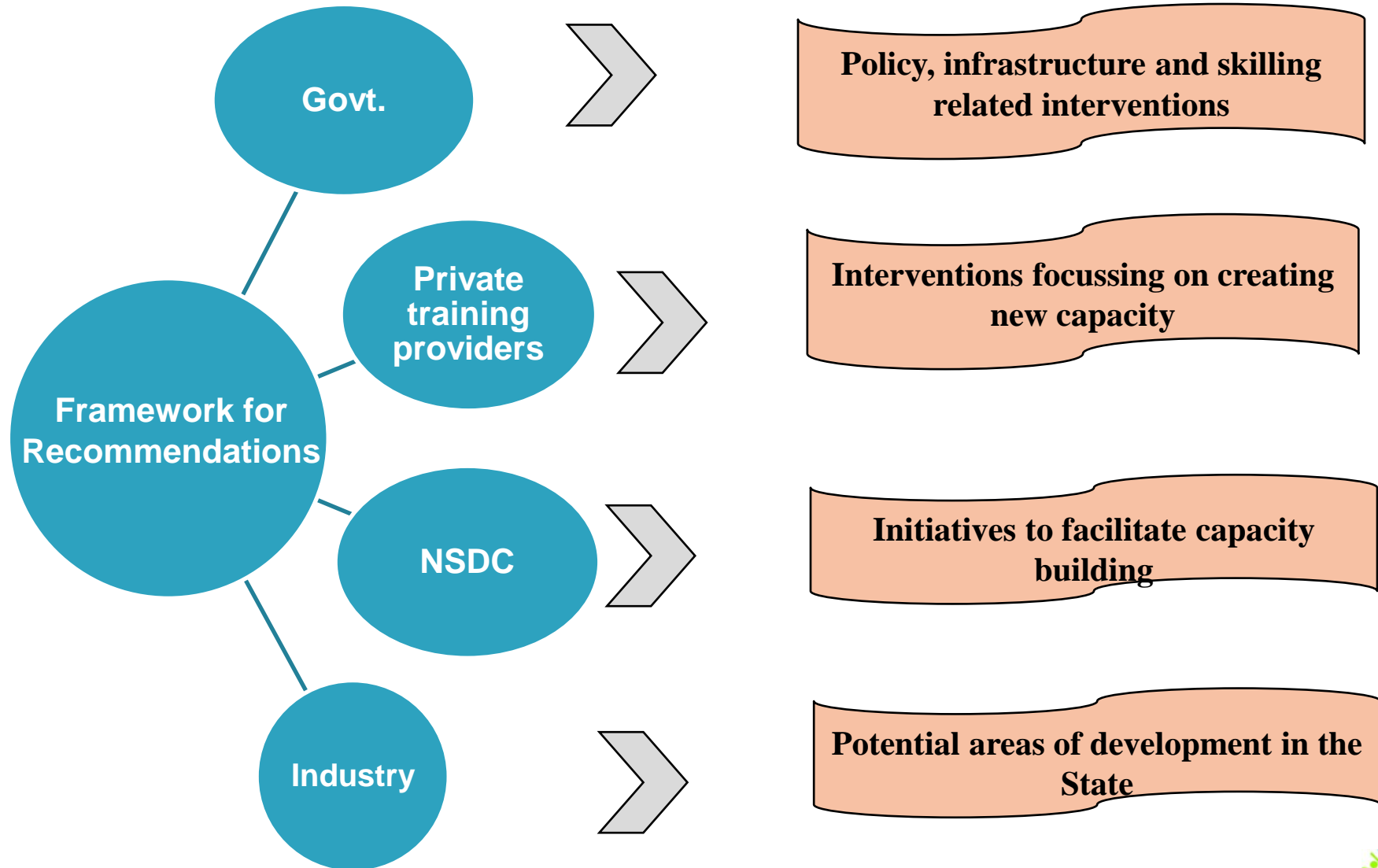
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Our framework for recommendations focuses on specific themes for respective stakeholders



Broad level recommendations (1/4)

Sector	For Government	For Industry	For Private training providers	For NSDC
Agriculture and allied sector	<ul style="list-style-type: none"> Setting up of agriculture colleges Increasing scope and coverage of programs run by different departments Collaboration with NSDC for training of faculty Focus in irrigation schemes Partnerships between DRDAs and private players 	<ul style="list-style-type: none"> Partnership with different State Government departments for providing market linkage to the people who are trained 	<ul style="list-style-type: none"> Opportunities available in allied activities such as horticulture, floriculture, honey making, fisheries etc. 	<ul style="list-style-type: none"> Focus through agriculture SSC on coffee, spices, flowers and coconut products etc. Silk competency standards for sericulture Assisting Government departments in industry integration and training
Auto and auto components	<ul style="list-style-type: none"> Revision of technical syllabus based on industry feedback Upgradation of machinery and equipment in ITIs. Explore PPP for the same Introduction of new courses Increase industry exposure for students Establish LMIS for ITI students 	<ul style="list-style-type: none"> Continued focus on in-house training programs Close collaboration with training providers 	<ul style="list-style-type: none"> Same as those made for Government training institutes 	<ul style="list-style-type: none"> ASDC to focus on helping the training providers , providing accreditation and certification Training the trainers Assist foundry sector through formation of foundry SSC

Detailed recommendations for all stakeholders are detailed in the main report.

Broad level recommendations (2/4)

Sector	For Government	For Industry	For Private training providers	For NSDC
Banking, financial services and insurance	<ul style="list-style-type: none"> Continue to play the supervisory role and ensure that RBI guidelines and regulations are adhered to 	<ul style="list-style-type: none"> To collaborate with private training providers 	<ul style="list-style-type: none"> To collaborate with industry and also with NSDC for accreditation and certification Focus on quality 	<ul style="list-style-type: none"> Training the trainers Assistance in formulation of syllabus Help in accreditation and certification
Building, construction and real estate	<ul style="list-style-type: none"> Increase capacity of courses pertinent to construction industry Campaigns to bring attitudinal changes in the youth towards this industry Setting up of a construction academy in a hub and spoke model 	<ul style="list-style-type: none"> Adding more prestige to the profession to attract youth Tie ups with ITIs and ITCs 	<ul style="list-style-type: none"> Setting up of training institutes 	<ul style="list-style-type: none"> Assist the Government in setting up of the construction academy Setting up of training modules and course curriculum Training the trainers

Detailed recommendations for all stakeholders are detailed in the main report.

Broad level recommendations (3/4)

Sector	For Government	For Industry	For Private training providers	For NSDC
Food processing	<ul style="list-style-type: none"> Active implementation of the announced plans Government departments to provide thrust on training in the sector Encouragement of PPPs 	<ul style="list-style-type: none"> Immense scope for setting up of food processing units 	<ul style="list-style-type: none"> Ample opportunities for training in the sector 	<ul style="list-style-type: none"> Collaboration with Government for creation of training capacity in the State Focus of sector skill council on the State
IT & ITES	<ul style="list-style-type: none"> Increased focus on English speaking and communication skills as a part of technical training programs Increased flow of guest lecturers from the industry and high industry exposure Upgradation of labs in ITIs and polytechnics 	<ul style="list-style-type: none"> Continued focus on in-house training Higher coordination with training providers Increased focus on NASSCOM's LMIS 	<ul style="list-style-type: none"> To collaborate with industry 	<ul style="list-style-type: none"> To assist Government and private training providers
Organised retail	<ul style="list-style-type: none"> Opening of PPP based retail training centres Opening of bigger institute / academy in PPP 	<ul style="list-style-type: none"> Collaborate with Government in its training initiatives 	<ul style="list-style-type: none"> Scope for more training institutes Increased integration with industry 	<ul style="list-style-type: none"> Assist the Government in setting up of retail academy in the State

Detailed recommendations for all stakeholders are detailed in the main report.

Broad level recommendations (4/4)

Sector	For Government	For Industry	For Private training providers	For NSDC
Textile and Clothing	<ul style="list-style-type: none"> Up-gradation of existing training infrastructure in collaboration with industry / NSDC Offer modern courses in design and technology Establishment of model weaving set ups Promotion of cluster training programs Opening of colleges for textile technology 	<ul style="list-style-type: none"> Continued focus on in-house training Collaboration with Government promoted NGOs Association level training programs 	<ul style="list-style-type: none"> Collaboration with industry 	<ul style="list-style-type: none"> Assisting the Government in formation of LMIS Collaboration with Government for opening of training and research institutes
Tourism, Travel, Hospitality & Trade	<ul style="list-style-type: none"> Create significant training capacity and infrastructure Branding and awareness Promotional events Increased coverage of training programs Focus on new forms of tourism 	<ul style="list-style-type: none"> Setting up of hotels, resorts and theme parks Introducing formal taxi services in many districts Focus on eco and adventure tourism 	<ul style="list-style-type: none"> Setting up of new training institutes 	<ul style="list-style-type: none"> Collaborating with Department of Tourism and Department of Higher Education English communication and soft skill labs

Detailed recommendations for all stakeholders are detailed in the main report.



For Further Details



National Skill Development Corporation
Block-A, Clarion Collection, (Qutab Hotel)
Shaheed Jeet Singh Marg
New Delhi 11 0 016
T: +91-11-47451600
F: +91-11-46560417
Email : skillgapstudies@nsdcindia.org