Report of the
Karnataka Skill and Entrepreneurship Task Force for Career Guidance, Training, and Enhancement of Employment & Entrepreneurship Opportunities & Start-ups

(Mission Yuva Samruddhi)

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Department of Skill Development,
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List of Abbreviations / Acronyms

1.	CAGR	-	Compound Annual Growth Rate
2.	CG	-	Career Guidance
3.	DIC	-	District Industries Centre
4.	ESSCI	-	Electronics Sector Skill Council of India
5.	ICT	-	Information & Communication Technology
6.	IT & BT	-	Information Technology & Bio Technology
7.	KSDC	-	Karnataka Skill Development Corporation
8.	KSHC	-	Karnataka State Higher Education Council
9.	NEP	-	National Education Policy
10.	NIMHANS	-	National Institute of Mental Health & Nerves Sciences
11.	NSO	-	National Statistical Office
12.	NTU	-	Nanyang Technology University
13.	AI	-	Artificial Intelligence
14.	AVGC	-	Animation, Visual Effects, Gaming & Comics
15.	BDA	-	Big Data Analysis
16.	BETIC	-	Biomedical Engineering and Technology Innovation Centre
17.	CBSE	-	Central Board of Secondary Education
18.	CEDOK	-	Centre for Entrepreneurship Development of Karnataka
19.	CMKKY	-	Chief Minister Koushalya Karnataka Yojane
20.	CoE	-	Centre of Excellence
21.	CSR	-	Corporate Social Responsibility
22.	DCTE	-	Department of Colligate & Technical Education
23.	DSERT	-	Department of Education Research & Training
24.	EDP	-	Entrepreneurship Development Programme
25.	EFC	-	Enterprise Facilitation Centre
26.	EMC	-	Entrepreneurial Mindset Curriculum
27.	FICCI	-	Federation of Indian Chambers of Commerce & Industries
28.	FIG	-	Farmers Interest Group
29.	FPO	-	Farmers Produce Organisation
30.	GSDP	-	Gross State Domestic Product
31.	HEI	-	Higher Education Institutions
32.	ICAR	-	Indian Council of Agricultural Research
33.	ICSE	-	Indian Certificate of Secondary Education
34.	IFS	-	Integrated Farming System
35.	IISc	-	Indian Institute of Science
36.	ITI	-	Industrial Training Institutes

37.	KDEM	-	Karnataka Digital Economy Mission
38.	KITS	-	Karnataka Innovative and Technology Society
39.	KRIA	-	Karnataka Research & Innovation Authority
40.	KSRLP	-	Karnataka State Rural Livelihood Promotion Society
41.	MIS	-	Management Information System
42.	MIT	-	Massachusetts Institute of Technologies
43.	MoU	-	Memorandum of Understanding
44.	MSME	-	Ministry of Micro, Small & Medium Enterprises
45.	MVP	-	Minimum Viable Product
46.	NABARD	-	National Bank for Agricultural & Rural Development
47.	NAIN	-	New Age Incubation Network
48.	NASSCOM	-	National Association of Software & Service Company
49.	NCERT	-	National Council for Education Research & Training
50.	NIMI	-	National Instructional Media Institute
51.	NLM	-	National Livelihood Mission
52.	NSDC	-	National Skill Development Corporation
53.	NSQF	-	National Skill Qualification Framework
54.	NSRCEL	-	Nadathur S. Raghavan Centre for Entrepreneurial Learning
55.	NSS	-	National Service Scheme
56.	NUS	-	National University of Singapore
57.	ODOP	-	One District One Product
58.	PUC	-	Pre-University Course
59.	RDPR	-	Rural Development & Panchayat Raj Department
60.	SHG	-	Self-Help Group
61.	SSLC	-	Secondary School Leaving Certificate
62.	ToT	-	Training of Trainers
63.	TTOs	-	Technology Transfer Offices
64.	UNDP	-	United Nations Development Programme
65.	UNICEF	-	United Nations Children Fund
66.	VC	-	Venture Capital
67.	VLE	-	Village Level Entrepreneur
68.	VLSI	-	Very Large-Scale Integration
69.	VTPs	-	Vocational Training Providers
70.	VTU	-	Visveswaraya Technical University
71.	WDD	-	Workforce Development Department

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FOREWORD

Demographic dividend is one of the key advantages which will drive India with 100 million youth entering the workforce in next 10 years. Of the estimated 10 million youth who enter the workforce every year in India, around 5-7% will be from Karnataka (approximately 6 lakh youth every year). The State has an opportunity of achieving faster economic growth as it is one of the developed and industrialised States in the country and aspiration of the youth are at much higher level. Right interventions planned at the right time will facilitate the youth to reach the goals.

The nature of work and workplace is seeing significant changes due to increased automation, introduction of Industry 4.0 technologies, emergence of gig economy and ample entrepreneurship opportunities available for those planning to take up business or self-employment. Therefore, it was felt essential to have extensive discussions with all the stakeholders to chalk out a plan for the 6 million youth of Karnataka and reap the demographic dividend. There have been several initiatives by the Union/State Government/private organisations, academic institutions, corporates and CSR foundations in this regard. It is required to converge all these initiatives.

Therefore, it was felt there is a need to setup a Task Force where the social sector, private sector and the public sector come together as equal partners to explore synergies and co-create solutions in this pursuit of creating 10 million economic opportunities. With this objective, the Task Force undertook the task of studying the emerging career and entrepreneurial landscape of the State. Nearly thirty expert members of the Task Force both from within the government and outside with vast experience in related fields were divided into six functional sub-groups and have spent the last ten months studying ground realities, emerging trends and opportunities in the areas of study assigned to them. The final Report of the Task Force is an outcome of careful study and expert deliberations spanning over last 10 months. I am confident the Report will act as a actionable guide to transform the skill and entrepreneurial ecosystem of Karnataka.

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Task Force also thanks Shri. S.A. Katarki, Consultant, Department of Skill Development, Entrepreneurship & Livelihood for his assistance in drafting of final report and Shri. Rajesh Gopal, who volunteered his time as a consultant to co-ordinate various activities of the Task Force.

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BACKGROUND AND EXECUTIVE SUMMARY

India is poised to experience a demographic dividend for the next 25 years, due to an increase in the proportion of young and working-age groups to the total population. Such a rise in the youth population is a window of opportunity as it reduces the ratio of dependents to total workers leading to higher rates of savings, investment and growth. This change in the age structure, if properly utilized, will result in the demographic dividend, which provides immense growth opportunities to the nation. The provision of employable skills to youth remains to be an important challenge to reap opportunities of the demographic dividend.

Karnataka is a leading State in the establishment of knowledge-based industries such as Information Technology, Biotechnology and Engineering and also in the exports of Electronics and Computer Software. With 55% of the population in the working-age group of 20 to 59 years, Karnataka has an opportunity of achieving faster economic growth through favourable demographic dividend, provided that appropriate skills are imparted to the working population in general and youth in particular. Skilled persons will then be able to find employment in the State as well as outside (including other countries) where there is a demand for them. With the help of Census and NSSO data, the number of young persons (16 to 35 years) who require skilling in Karnataka is projected for the period 2016 to 2030. These estimates are of two types: i) Those persons who are in need of skills in 2016 (called as stock). ii) Fresh entrants for skill training during the period 2017 to 2030 (called as flow). The total number of youth to be trained during the period 2017 to 2030 is thus 1.88 Crore – both stock and flow.

With the development of digital technology and its application in all spheres of life, it becomes important that youth be exposed to digital skills and its application. With 21st century skills becoming important to survive in the information age, youth have to be experientially learning the skills. Skill like Critical thinking, Creativity, Collaboration, Communication, Information Literacy, Media Literacy, Technology Literacy, Flexibility, Leadership, Initiative, Productivity and Social Skills becomes essential tools for surviving in the new information age. Youth have to be prepared to face the new world with these essential skills. This applies to all spheres life be it employee or an entrepreneur to succeed in their lives. With the age of 5G technology dawning the world, it becomes indispensable for the youth to be communicative, creative and collaborative. Technology being pervasive these skills will be required irrespective of urban or rural setting. With technology getting into all fields of work and many of the earlier manual jobs disappearing youth have to aligned to the new challenges and new way of working. Jobs or creation of enterprises will be at the level of adapting for changes and life-long learning.

The provision of skills to 1.88 crore youth (both stock and fresh entrants) is a gigantic task that can only be successfully undertaken through concerted efforts by multiple stakeholders in a coordinated manner. Policy intervention strategies and roles of different stakeholders need to be therefore outlined. Therefore, it is essential to have an institutional mechanism and implementation framework that ensures an effective convergence. The programs and schemes of different line departments of the Government of Karnataka, Government of India, corporate sector, skill councils, civil society and bilateral / multilateral agencies and other organizations need to be converged at the implementation level for achieving the policy goal and ensure the best services to the primary stakeholders.

In this context that this multi-stakeholder Task Force–Karnataka Skills & Entrepreneurship Task Force (later named as Mission Yuva Samriddhi) was constituted under the Chairmanship of Dr. S. Selvakumar, IAS, Principal Secretary, Department of Skill Development, Entrepreneurship and Livelihood, Government of Karnataka with members from the private sector and the State Government vide Government Order No. SDEL 33ELM 2021 dated 08-04-2021 **(Annexure-1)** with the following objectives:

- Equipping the youth with digital skills and relevant 21st Century Skills with entrepreneurial mindsets.
- Preparing the future generation for the future of work - which is digitally and entrepreneurial based models with career counselling and internship / experiential mode.
- Aligning market opportunities in Digital Services, Agriculture / Agri-tech and various local job-creating verticals like handloom/handicrafts, manufacturing, tourism, retail / e-commerce and logistics.
- Local job creation and a nurturing entrepreneurial ecosystem at the District level so that these growth opportunities are spread equitably across the State.

The following were the members of the Task Force:

1	**Principal Secretary to Government, Department of Skill Development, Entrepreneurship & Livelihood**	**Chairperson**
2	Commissioner, Collegiate & Technical Education	Convenor
3	Shri. Prashanth Prakash, Chairman, Karnataka Vision Group for Start-up	Member
4	Shri. Madan Padaki, Co-founder and CEO, 1 Bridge	Co-Convenor
5	Commissioner, Department of Employment and Training	Member
6	Commissioner for Industrial Development and Director of Industries and Commerce	Member

7	Commissioner for Labour	Member
8	Commissioner for Public Instructions	Member
9	Managing Director, Karnataka Skill Development Corporation	Member
10	Mission Director, Rural and Urban Livelihoods	Member
11	Managing Director, Government Tool Room and Training Centre	Member
12	Managing Director, Karnataka Innovative and Technology Society (KITS)	Member
13	Director, MSME	Member
14	Director, Centre for Entrepreneurship Development of Karnataka (CEDOK)- Dharwad	Member
15	Commissioner, Agriculture	Member
16	Commissioner, Horticulture	Member
17	Director PU Board	Member
18	Executive Director, Karnataka State Higher Education Council	Member
19	Shri. Mekin Maheshwari CEO, Udhyam Learning Foundation	Member
20	Shri. Prasanna, CEO, Shikshana Foundation	Member
21	Shri. Murlidhar, CEO, Lodestar Career Guidance	Member
22	Shri. Murali Krishna, Child Protection Officer, UNICEF and Yuwaah	Member
23	Smt. Vijetha, Executive Director, TiE, Bangalore	Member
24	Shri. M Srinivas Rao, CEO, Global Alliance for Mass Entrepreneurship (GAME)	Member
25	Shri. Govindraj Jeyachandran, State Project Head Karnataka (UNDP)	Member
26	Shri. Pankaj, CEO, Head Held High Foundation	Member
27	Smt. Smita Malipatil, CEO, Indivillage	Member
28	Shri. C.M. Patil, CEO, Krishikalpa	Member

Further, vide Government Order No. SDEL 33 ELM 2021, Dated: 19-04-2021 (**Annuxure-2**) Lead Members were appointed to each the Sub-Groups to facilitate co-ordinate among group members.

Modalities of the Taskforce:

- The Taskforce was formally constituted for a period of 1 Year.
- The Taskforce was divided into six Sub Groups to study and recommend on six thematic areas with specific terms of reference. Details of which are placed in **Annexure-1**
- Each of these Sub-group leads was to co-opt 3-4 other experts from the industry into the working group.
- The Sub-working groups were assigned with the task of publishing a work plan with action items and milestones for 12 months.
- The Taskforce to be supported by a Secretariat of a dedicated team of 3-4 people to coordinate.

With this in mind, the Task Force went about its work and set up six sub groups consisting of members from both government and non-government/subject experts who have decades of experience in the subject assigned. These sub-groups took up the task of defining the objectives of the Taskforce which is given below:

1. *Digital Skills and Entrepreneurial Mindsets – Schools and Colleges*: To Co-create models of inculcating entrepreneurial mindsets, digital skills and 21st Century Skills in schools and colleges and to define measurements of the effectiveness of these models and laydown an implementation roadmap for the entire State.
2. *Career Information and Guidance:* To define effective models of career guidance that can be delivered at scale in all Govt. schools and colleges and co-create experiential learning through internships, projects, etc., and laydown implementation roadmap for the entire State.
3. *Youth Entrepreneurship Incubation @ Colleges:* To co-create a model for mass Entrepreneurship incubation in all colleges including building business plans, mentoring, financial linkages, etc. and laydown implementation roadmap for the entire State.
4. *Building Entrepreneurial Ecosystems at Districts and driving local jobs / services:* To build a playbook for energizing entrepreneurial ecosystems at District-level that promotes and celebrates the growth of local businesses and bring together all ecosystem actors in 5 identified potential sectors to work out a joint roadmap (incl. policy enablers) for enabling the growth of local products and services creating entrepreneurs and jobs– with synchronized commitments and milestones by all actors with special focus on potential sectors like handloom/handicraft, manufacturing, tourism, logistics, retail/e-commerce.

5. *Digital Services and Tech-Based Models:* Bring together all ecosystem stakeholders and work out a joint roadmap (incl. policy enablers) for creating local entrepreneurs and jobs across the State, with synchronized commitments and milestones by all actors.
6. *Agri and Agri-tech:* Bring together all ecosystem actors and work out a joint roadmap (incl. policy enablers) for enabling the agri-tech revolution to reach all Districts creating entrepreneurs and jobs at the local level, with synchronized commitments and milestones by all actors.

Each Sub group adopted a consultative approach to defining the scope of the intervention by talking and interacting with multiple stakeholders across the State & the country. Both the supply and demand side of skilled manpower was looked into. On the demand side, the objective was to be locally contextual and globally relevant by aligning to Karnataka's traditional strengths and its future ambitions in industrial and agricultural growth. On the supply side, the approach was to determine a convergence plan for Districts.

Based on the above-Stated objectives and scope of the study the sub groups of the Task Force have submitted detailed recommendations which have been compiled and presented in the subsequent chapters. These recommendations can be summarized as below:

I. Digital Skills and Entrepreneurial Mindsets – Schools and Colleges:

Task Force recommends conducting a sample survey of students teachers and available digital infrastructure in schools and colleges and generating a gap analysis report regarding the present status of digital skills in the State. It is recommended to develop standardized content and curriculum on digital skills to be taught in schools. Basic and easy to teach and learn course modules involving the use of audio / visual media may be developed in consultation with DSERT and NGOs like Shikshana Foundation. This new curriculum on digital skills may be piloted in a select few Governments High Schools and Gram Panchayats and learnings may be used for launching in all high schools for the academic year 2022-23. DSERT may be entrusted the task of developing a learning manual for training of trainers in digital skills. 21st Century skills framework for Class 6th to Class 12th is proposed to be created. UNICEF has launched a national level initiative in this regard titled – YW-NXT & YUWAAH skills. Dept of Higher Education/PU Board/ Directorate of Technical education may sign MoUs & engage with UNICEF to launch this program across the State. UNICEF / YuWaah has to put together a roadmap for the launch, along with a plan for the resources. UNDP is piloting the program in three districts on 21st century skills. The learning content for this program is available in Kannada. It is recommended to support this pilot program and evaluate outcomes and arrive at a State-wide model. Digital Skills program for colleges and beyond is being piloted in Gram Panchayat

Libraries set up by the Department of Rural Development and Panchayat Raj (RDPR). It is recommended that the Department of Higher and Technical Education / Department of Primary and Secondary Education may sign MoU with RDPR and Shikshana Foundation to bring digital skills for PUC / Vocational Students through these libraries.

On developing entrepreneurial mindset among the youth of the State the Task Force recommends the introduction of mandatory Entrepreneurial Mindset Curriculum (EMC) in school education beginning from High School (Class 9th). The Delhi model is titled "Business Blasters" where 7.5 lakh students government and aided school students are being taught such a curriculum may be adopted. Such a curriculum can be developed by DSERT in collaboration with non-governmental organizations like Udhyam Learning Foundation which has developed such a curriculum for Delhi and multiple other States. It is recommended that Entrepreneurship Mindset Curriculum (EMC) should be taught for one period daily in all schools, for Classes 9th to PUC, as a mandatory part of the academic curriculum. DSERT may create a trainers' manual for the Training of Trainers in EMC. Digital learning tools can be leveraged for the Training of Trainers. Every year more than 70,000 students pass out of ITIs in different trades in Karnataka. Since these courses are skill-specific and have high potential to turn ITI pass-outs into micro-entrepreneurs the Task Force recommends modifying the Employability Skills curriculum presently being taught in it is based on the Haryana State model. A draft curriculum to that effect has been recommended by the Task Force. To promote entrepreneurship incubation in it is the Task Force recommends establishing fifteen (15) ITI Entrepreneurship Incubation Hubs in Karnataka. Existing good government ITIs may be chosen as hubs. These hubs will incubate business ideas of ITI students and pass outs with provision for a seed fund of Rs. One Lakh for 100 select students in each of these 15 hubs. The Karnataka Skill Development Corporation (KSDC) will identify top job roles with high potential for entrepreneurship/self-employment and develop a short module on Entrepreneurial Mindset. Such a module can replace the existing soft skills module which forms 15% of the curriculum in all job roles under NSQF and can be implemented through CMKKY. A draft EMC curriculum module has been recommended by the Task Force. KSDC may also consider the possibility of providing seed funding to select a few candidates undergoing training under CMKKY for entrepreneurship incubation. The Task Force has recommended adopting a separate Entrepreneurship Mindset Curriculum for Diploma and Engineering Colleges as their requirement is different and more technical. Further, incubator hubs need to be set up for Diploma / Polytechnic and Engineering Colleges with provision for seed funding for select students. Also, Diploma students may be allowed to choose between a mandatory internship or a stint at startup incubators. For general graduate courses, the Task Force has recommended a mandatory 8 credit EMC program for all undergraduate courses spanning six semesters for implementation under National Education Policy (NEP).

II. Career Information and Guidance:

a) The Task Force recommends the development of a holistic definition and vision for career guidance and counselling which is specific for all levels (School Education, Higher Education, Vocational Education). Career guidance programs across all levels should be standardized with uniform curriculum, content and software. A Central Career Guidance Cell should be established for this purpose. Career guidance should be seen as a continuum from primary to the higher classes / vocational classes, from higher classes / vocational classes to employment / employability. It must be made a mandatory part of education from Class 8th onwards. Personalized career guidance is essential. For this, a specific teacher should be assigned the task of career guidance in every school and a quality career guide should be appointed in every school for career guidance. Each individual and career guide must have a Career Report Card. This Report Card should include a summary of his/her personal and professional achievements. Just like a health card that recommends diet, this career card should recommend career options, learning & development alternatives and competency development for skills required in the future. A mandatory assessment system should be introduced in all career guidance programs.

b) The Task Force recommends the establishment of a Central Career Guidance Cell (preferably a registered society) for career guidance with representatives from key Government departments/institutions like KSHC, Dept of Collegiate and Technical Education, Commissioner of Public Instruction, Pre-University Board, Department of Skill Development, Entrepreneurship and Livelihood. This body will also contain representatives from private/autonomous educational institutions of eminence, representatives from major industries/ large corporates, and non-governmental bodies working in the sphere of career guidance. The Governing Council of this body will be the apex body to implement the career guidance in Karnataka. This Centralized Career Guidance Cell will be responsible for the overall design, development, and implementation of policy mandates with respect to career guidance. It will develop content, curriculum, timetable, software platform, and algorithms for implementation of career guidance programs across the State. It will also develop training modules for career guidance facilitators and career counsellors. It will develop key modules for career guidance and supervise its implementation and monitor quality. The Task Force also recommends using additional channels like Kalike Kendras, Yuva Spandana Kendras, National Service Scheme (NSS), and social media to deliver the Career Guidance program.

III. Youth Entrepreneurship Incubation @Colleges:

The Task Force recommends creating a district-level hub and spoke model for entrepreneurship incubation where the Hub will be at the main center located in a District headquarters and all education institutions in that district are the

spokes where ideas are generated which can be incubated at the hub. The hub shall be responsible to nurture and support creativity, assist with any Intellectual asset or property management, providing mentoring assistance and conducting an annual showcase of incubatees to help them market and solicit business. All educational institutions or spokes shall nurture the idea and provide pre-incubation support to translate the idea from just an idea to a prototype or even better a Minimum Viable Product (MVP). Presently, under the NAIN (New Age Incubation Network) scheme the Government has already established incubation centers in 16 districts. The same can be further extended to the remaining 15 districts along with suitable modifications to the model as proposed. For leveraging the technology for entrepreneurship incubation, it is recommended that a tech-based web platform be developed similar to Singapore's 'Start-Up' portal to leverage technology along with AI to manage the complete 'ideation to start-up' lifecycle. The upcoming Startup Karnataka Portal of the Department of IT&BT can be used as a technology platform. It can be named IDEAL. For the mass entrepreneurship incubation, the Task Force recommends identifying a lead institution in each district that will house the incubation center and provide necessary physical infrastructure, especially a maker lab for all Incubatees in that district.

The Task Force recommends the establishment of single agency support and strengthening the incubation ecosystem through a networked approach on the lines of Technology Transfer Offices (TTOs) of Israel. It can be named Karnataka Research & Innovation Authority (KRIA). It will be the nodal agency for research and innovation in Karnataka. It is further recommended that to raise funding from various sources just like the IIT Chennai incubation centre, this authority should be a Not-for-Profit, preferably a Section 8 Company, established by the Government of Karnataka and governed by a good mix of business, education, and finance leaders who will help govern this authority. This entity will develop and manage the technology platform earlier. It will also house a dedicated digital and marketing unit that provides technology and marketing support as part of its centralized business services beyond what is provided by the incubator themselves. KRIA will also house a research unit to study and identify best practices that incubators can adopt to enable their incubatees to reach out beyond Indian borders to promote their products and services. Alternatively, Government can also explore the possibilities of assigning the functions of the proposed body to the already functioning Karnataka Digital Economy Mission (KDEM). The Government should enable KRIA / KDEM with the first seed funding. KDEM should develop a fund-raising strategy that appeals to each of the potential funders effectively. It is also recommended to institute a State award research and innovation to the best incubator.

The Task Force recommends introduction of a mandatory eight (08) credit course in all undergraduate courses on entrepreneurship development. This is in line with the National Education Policy (NEP). The Task Force has also recommended curriculum for this eight-credit course.

IV. Building Entrepreneurial Ecosystems at Districts and driving local jobs / services:

The Taskforce recommends setting up of Enterprise Facilitation Centre (EFC) at the District level to develop and sustain a district-level collaborative and institutional platform managed by CEDOK and anchored at the District Industries Centre (DIC) and to foster an ecosystem of innovation and enterprise creation by bringing together all ecosystem actors and stakeholders to facilitate enterprise creation and support early-stage enterprises and businesses. This will help in achieving scale and growth with a focus to promote local products and services and stimulate job creation. The EFCs will raise enterprise awareness, share information and best practices. The EFCs will also perform the function of Knowledge Sharing through market research / information, feasibility studies, Detailed Project Reports, developing business plans and business models, Start-Up Guides, template documents by sharing industry / sector reports, papers & manifestos, and other reports & publications. The EFCs will also perform the task of training, skilling, and capacity building to achieve Enterprise Readiness and ecosystem-level convergence. The EFCs will also provide linkages for enterprise creation like registration of the firm, IP support, trademark, and mandatory licenses and registrations support. The EFCs will facilitate access to incubation services and achieve investment readiness in the area of infrastructure & utilities like office / workspaces, showrooms, storage and warehousing, business incubators, transport, courier & logistics, IT, internet & telecom etc. The EFCs will also provide Technology & Product Development services like Product / Service design services and technical assistance and support services like legal / compliance services, financial and taxation advice, accountancy and book keeping, technical / sectoral training, consulting / advisory services, management training. Further, the EFCs will facilitate market access and support by providing information and facilitation in getting investment through Government schemes / programs, facilitating investments from angel investors, getting grants and soft loans from banks and financial institutions. The EFCs will also provide linkages to industry / sectoral experts and industry associations and facilitate enterprise scale-up and growth through facilitating scale-up funding, growth stage funding / investing, and linking with accelerators. The EFCs will also facilitate diagnosing enterprise health & enterprise health improvement measures.

It is recommended that the Deputy Commissioner of the District should be the Chairman of the EFC Steering Committee with members from Government departments / institutions involved in entrepreneurship promotion activities like DIC, CEDOK, NLM, etc., members from district level industries associations, local successful entrepreneurs and mentors, willing NGOs working in this sphere in the District and training institutions, incubation and startup cells in the District.

The Task Force recommends that for the creation of jobs locally in art & handicrafts the www.santhe.kaushalkar.com developed by UNDP may be used to digitally empower the SHGs and artisans to showcase their products on an online platform.

V. Digital Services and Tech Based Models

The Task Force recommends that to target creation of 2-3 million jobs by 2025 in Karnataka in the digital skills and tech-based industries the State needs to focus on bridging the skill gap in future skills by focusing and addressing on the demand side of the jobs in the digital economy via three focus areas: (a)GCCs/Mass job creators (b)Gig economy for flexi-workers and remote working opportunities (c)Startups by conducting consultation meetings with manpower consulting, recruitment firms, Chief HR officers of GCCs, Gig Companies (Ola, Flipkart, Uber, Amazon, Swiggy, Zomato, Dunzo, etc.) and startups and industry associations to understand the demand side of jobs (demand estimation of future skills). Based on the demand Karnataka should design and develop skillingprograms and skill courses which meet the requirement of this industry by developing a one-stop-place "Skilling Portal" to access all kinds of skilling programs on various domains. This task can be taken up by the Karnataka Skill Development Corporation (KSDC). KSDC should collaborate with reputed industry partners for structuring content and curriculum for these skilling programs. Industries must be encouraged to post their requirement on the one-stop-shop skilling portal developed by KSDC. It can connect with third-party services / job portals / hiring firms to understand the kind of jobs available and skill sets that companies are looking for. Further, KSDC should conduct Talent Accelerator Program in digital skills by roping in reputed industries as training partners. Niche skilling program in Digital skills, AVGC, Cybersecurity and VLSI should be developed by KSDC and implemented by signing MoUs with industry and training partners. KSDC in association with KDEM should conduct cluster-wise-job-fairs in digital skills to connect job-seeking youth skilled in future skills with industry. KSDC and Department of Higher Education may develop a Career Guidance Mentorship programme for mentoring talent in future skills. Department of Skill Development and Livelihood and KSDC may collaborate with the Department of Primary and Secondary Education for introducing short-term skill courses at High School and Pre-University level. The Department of Higher and Technical Education should reach out to reputed industries like Infosys, Microsoft, IBM in association with KDEM to create internship opportunities for graduates in future skills. Future Digital Jobs Initiative may be launched by the Department of Higher Education and the Department of IT for engineering colleges across Beyond Bengaluru Clusters. Department of IT should organise an annual National Talent Tech Summit (on the lines of Bengaluru Tech Summit) to bring both industry and academia. It can be a platform for big job and knowledge fairs.

VI. Agri and Agri Tech

The Task Force recommends the capacity building of Farmer Producer Organisations (FPOs) by utilizing the services of Centre of Excellence for FPOs, five farm universities, Rural Development and Panchayat Raj University and B-Schools in the State. These institutes can offer short term, medium-term and

long-term management development courses so that all training and capacity building needs of the FPOs are met. The Task Force has also outlined the syllabus for these courses**.** Additional support for these skill development programs may be extended to these institutions. The Task Force recommends that above mentioned institutions can also deploy their graduate and postgraduate students to do an internship in these FPOs. This will help FPOs in capacity building and in placing adequate systems in place to scale. Further, Agri-tech start-up firms may be linked to these FPOs based on the needs & demand. With focused interventions Government may turn a few potential FPOs in 5-6 identified Districts into Model FPOs. This will help the creation of a playbook for replication across the State. This Pilot program will help develop an implementation roadmap for the entire State. The State may also consider establishing exclusive food parks for FPOs in potential districts which may serve as Common Facility Centre for FPOs in processing and value addition. This will also support the mandate of secondary agriculture promotion. Self Help Groups (SHGs) may be leveraged to create market linkages and for demand generation in these FPOs. KSRLP and NLM may design this project in association with the Department of Agriculture, Horticulture, Sericulture and other allied departments. It is seen that where companies (Food & Agri tech companies) start to procure directly from FPOs the job creation and revenue of FPOs see a significant increase. This model of providing linkage between FPOs and Food and Agri tech should be scaled up across the State for creating a sustained job market in rural areas. With regular output market linkages opportunities for FPOs to have 5-8 fixed jobs can be easily achieved. There are over 750 such FPOs in Karnataka.

With respect to agritech start-ups and agripreneurs, the Task Force recommends measures to create and increase awareness regarding entrepreneurship opportunities in rural agri-ecosystem, particularly in FPOs, rural agripreneurs, particularly 1st generation entrepreneurs need to be provided a platform to gain hands-on experience by conducting the agri-entrepreneurship training program. The subgroups of the Task Force interacted with a few agritech companies & have identified the potential for job creation by these companies. Five pilot districts for promoting agripreneurs may be identified and they may be linked to five farm universities in the State to start with (Bengaluru, Dharwad, Shivamogga, Raichur and Bagalkot). Farm universities, ICAR institutes and B-schools in above / close to each of districts need to be identified to seek their support to help agripreneurs with interns, in capacity building & help them in providing business inputs help from a few private institutes may also be obtained to create ground teams at these districts. These start-ups also require specific support in the form of capsules in different sectors of interest to their potential customers like FPOs. Most of the universities have business incubators and thus extending support to these start-ups becomes easy. Under the ODOP scheme there is a provision to create food tech companies in each District. These companies can easily create 300-500 jobs and also provide buyback assurance of the crop grown in that district. It is essential to attract mission-driven entrepreneurs to set such

companies which will accord economic benefit for both the entrepreneur and the region. Further, in these pilot Districts, it is essential to identify agritech start-ups that can be scaled up.

With respect to Integrated Farming System (IFS) Model, the Task Force feels that there is huge potential to boost the IFS model in the Agri sector. This is particularly helpful for small and marginal farmers. However, this model requires initial finical assistance and technical mentoring to farmers. This involves constraints of sourcing of inputs and marketing of smaller volumes of products which are most of the time perishable in nature. However, community farming of IFS may be one approach to address the marketing issues. If implemented rightly there is every chance to ensure a regular monthly income to our farmers. It also encourages farmers to provide regular field jobs for 4-5 persons per acre land. There are a handful of farmers getting benefits of these already and have built their fortunes. Government should aim to promote best models recommended for each agroclimatic zone by the farm universities with required skill development through farm universities. These models can create ample job opportunities. Experiential centres of the farm universities need to be strengthened in pilot districts to catalyse technology adoption. Further, focused task groups need to be created in pilot districts.

DETAILED RECOMMENDATIONS

The working groups deliberated on various inputs obtained during consultations with stakeholders, the study of existing models andthe study of best practices. The recommendations of the Task Force have been placed below according to thematic areas as defined earlier:

I. Digital Skills and Entrepreneurial Mindsets- Schools and Colleges

1) Digital Skills

Digital skills cover a range of abilities related to the use of digital devices, communication applications, and networks to access and manage information. Digital skills are increasingly becoming an essential necessity for ensuring the basic minimum standard of life of a person. The increasing importance of Digital Skills is due to:

a) Rapid proliferation of technology in our everyday life. The gap between the digitally literate and the rest is ever-widening.
b) Social programs are increasingly being delivered on digital channels &the underprivileged are getting left out of the basic support services due to a lack of basic digital skills.
c) Existing urban/rural and gender gap which is also increasing even though their access to devices is improving, their ability to utilize the services needs to be addressed.
d) Just like how education can open up opportunities for economic and social progress, digital literacy is increasingly becoming as significant or even more to help the underserved move up the social and economic ladder.

Democratization of digital skills: There is a risk of pre-existing socio-economic disparities getting aggravated if vulnerable and disadvantaged sections of the society remain digitally illiterate. To prevent this democratization of digital skills is essential. This can be achieved by

a) Providing access and training in digital skills right from the upper Primary school/middle school level to ensure digital skills reach every person in the society.
b) Improving access to digital devices in public schools as it serves mostly students from underserved communities who may not be able to afford one on their own.

a. Approach adopted by the Task Force regarding Digital Skills

The Task Force adopted the following approach before recommending measures to improve access to Digital Skills:

a) The Current approach towards ICT skills in schools and colleges was studied.
b) Recommendations by NCERT and other boards like CBSE, ICSE, IG, etc were studied.
c) Global models used in countries like Singapore and Australia were looked into.
d) Recommendations by UNICEF and other multi-lateral bodies were studied.
e) Team members' personal experience of creating such frameworks and the current market expectations.
f) Work done by non-governmental organizations, like Shikshana Foundation's experience in running technology programs across thousands of schools in Karnataka over the last 14 years, in this regard was studied.

b. Recommendations on Digital Skills

Based on all these the Task Force recommends the following for consideration:

(i) A sample survey of both students and teachers is proposed to create a baseline and generate a gap analysis report regarding the present status of digital skills in the State.
(ii) The above sample survey should also include a survey of available digital infrastructure in schools and colleges.
(iii) It is proposed to develop standardized content and curriculum on digital skills to be taught in schools. Basic and easy to teach and learn course modules involving the use of audio/visual media may be developed. This task can be taken up by DSERT in consultation with non-governmental organizations like Shikshana Foundation working in this regard.
(iv) Launch of pilot initiatives is proposed in select few Government High Schools and Gram Panchayats for imparting digital skills using newly developed content and curriculum. Shikshana Foundation is already working with the DSERT to install and manage the device monitoring software across all the high schools in the State and is already running the Digital Skills program in several schools and the content may be suitably modified and used for the pilot. Learning from this pilot to be quickly codified and then plan to launch in all high schools for the 2022-23 academic year.
(v) For effective implementation of digital skills programs, it is essential to have instructors/teachers who are trained in this regard. It is proposed that DSERT may develop a learning manual for Training of Trainers (ToT).
(vi) 21st Century skills framework for Class 6th to Class 12th is proposed to be created. UNICEF has launched a national level initiative in this regard titled–YW NXT & YUWAAH skills. Dept of Higher Education/PU Board/ Directorate of Technical education may sign MoUs & engage with UNICEF to launch this program across the State. UNICEF / YuWaah has to put together a roadmap for the launch, along with a plan for the resources.

(vii) UNDP is piloting the program in three districts on 21st century skills. The learning content for this program is available in Kannada. It is recommended to support this pilot program and evaluate outcomes and arrive at a State-wide model.

(viii) Digital Skills program for colleges and beyond is being piloted in Gram Panchayat Libraries set up by the Department of Rural Development and Panchayat Raj (RDPR). It is proposed that the Department of Higher and Technical Education Department of Primary and Secondary Education may sign MoU with RDPR and Shikshana Foundation to bring digital skills for PUC / Vocational Students through these libraries.

2. Entrepreneurial Mindsets- Schools and Colleges

India has a fast-increasing youth population with Karnataka ranked third (among major States) with 68.3% of its population in the 18 years and above age group and where at present it has a low rate of unemployment (5.57% as of June 2021) as compared to the other States (fifth-best among major States). Of the estimated 10 million youth who enter the workforce every year in India, around 5-7% will be from Karnataka (approximately 6 lakh youth every year), and in the next 10 years, around 6-7 million youth will enter the workforce. The State has an opportunity of achieving faster economic growth as it is one of the developed and industrialized States in the country and the aspiration of the youth are at a much higher level. Right interventions and plans at the right time will facilitate the youth to reach their goals. Local job creation and nurturing entrepreneurial mindset right from the school education is necessary so that these growth opportunities are spread equitably across the State.

Students after passing out of schools and colleges under pressure from parents or peers mostly focus on seeking employment or pursuing higher education. Entrepreneurship is not an option considered by most non-Engineering students. The reasons for which entrepreneurship has not been seen as a lucrative career option are lack of entrepreneurial mindsets among students, lack of support from parents, lack of entrepreneurial orientation among faculty / teachers, and lack of institutional support. There needs to be a behavioural change amongst students, teachers, and parents alike to explore the possibility of a student setting up his / her own business post-education. Further, it is to be understood that entrepreneurship cannot be learned only by chalk and talk. ‘Real world’ activities outside the confines of the textbook are imperative to develop leadership and team-building skills that are necessary for entrepreneurship. It is necessary to encourage activities within educational institutions, where entrepreneurial abilities find opportunities and fertile ground to grow. Student-led and faculty-supported activities have to be established to create awareness and prepare necessary mindsets about Entrepreneurship.

Developing entrepreneurial mindsets means creating an environment for developing creative thinkers/innovators. Developing an entrepreneurial mindset among students encompasses a range of activities aimed at building abilities like

critical thinking, achievement orientation, idea generation, and a problem-solving attitude amongst students. This can be strengthened through live interactions with successful entrepreneurs, developing a business plan, entrepreneurship incubation, and acceleration of start-ups.

In order to encourage and generate mass entrepreneurship, we need to look beyond traditional EDP programs, workshops, incubation cells, seminars in a few select institutions to develop an entrepreneurial mindset across the student community beginning from the High School level. The Task Force has adopted this approach to turn students passing out of schools and colleges from 'job seekers' to 'job givers / job creators' and add value to society.

a. Recommendations on developing an entrepreneurial mindset in schools and colleges

(i) Entrepreneurial Mindset Curriculum (EMC) in all schools: In order to foster mindsets that enable students to inculcate entrepreneurial mindset, it is necessary to introduce Entrepreneurial Mindset Curriculum in school education beginning from High School (Class 9th). The Task Force studied various Entrepreneurial Mindset models under implementation in different States. Of particular interest was the '**Business Blasters'** program introduced for 7.5 lakh students of 1024 government and aided schools in Delhi since 2019. Based on the learnings the Task Force recommends the following:

A comprehensive Entrepreneurial Mindset Curriculum (EMC) should be developed and introduced as a mandatory part of the School Curriculum from Class 9th to PUC. The curriculum should include and provide for: (1) Opportunity to interact with entrepreneurs to learn from their journeys. (2) Problem-solving team projects (3) Student-led activities to build communication skills (4) a web app supported by a chatbot for career explorations. (5) Micro research projects in entrepreneurship (6) Provision for giving seed money to students in Class 10th and PUC to run business projects in teams.

Such a curriculum can be developed by DSERT in collaboration with non-governmental organizations like Udhyam Learning Foundation which has developed such a curriculum for Delhi and multiple other States.Mindsets are built through habit and consistent practice. Hence it is essential for EMC to be taught for one period daily in all schools, for Classes 9th to PUC, as a mandatory part of the academic curriculum.

It is necessary to equip the teachers of schools and colleges to implement EMC. For this Department of Primary and Secondary Education can identify willing and capable teachers from among a cluster of schools and train them as Master Trainers who will in turn train the teachers in their cluster. The expertise of organizations working in this area can be obtained. DSERT may create a trainers' manual for the Training of Trainers in EMC. Digital learning tools can be leveraged for the Training of Trainers.

(ii) **Every year more than 70,000 students pass out of ITIs** in different trades in Karnataka. Since these courses are skill-specific and have high potential to turn ITI pass-outs into micro-entrepreneurs the Task Force recommends the following:

a) The Employability Skills curriculum developed by NIMI which is being implemented presently in ITIs should be made more participatory and encourage experiential learning. The Haryana model of implementing such a curriculum in ITIs should be adopted in Karnataka. A draft Entrepreneurial Mindset Curriculum which complements the Employability Skills module prescribed by DGT, Government of India which can be adopted for ITIs in Karnataka is placed at **Annexure-3** for reference.

b) It is proposed to establish 15 ITI Entrepreneurship Incubation Hubs in Karnataka. Existing good government ITIs may be chosen as hubs. These hubs will incubate business ideas of ITI students and pass outs with provision for a seed fund of Rs. One Lakh for 100 select students in each of these 15 hubs.

(iii) **The Karnataka Skill Development Corporation (KSDC)** will identify top job roles with high potential for entrepreneurship / self-employment and develop a short module on Entrepreneurial Mindset. Such a module can replace the existing soft skills module which forms 15% of the curriculum in all job roles under NSQF and can be implemented through CMKKY. A draft EMC curriculum module is placed at **Annexure-4** for reference. KSDC may also consider the possibility of providing seed funding to select a few candidates undergoing training under CMKKY for entrepreneurship incubation. KSDC should develop a module for training trainers in the entrepreneurship mindset curriculum.

(iv) There is a good possibility of **students passing out of Diploma, Engineering Colleges and other technical institutions** turning out to be entrepreneurs. However, the Entrepreneurial Mindset Curriculum/ EDP courses designed for general graduates cannot be adapted in toto to technical training institutions. Draft EMC curriculum for technical institutions is placed at **Annexure-5** for reference. Therefore, it is recommended to develop a separate EMC curriculum for these students. It can be developed by the Directorate of Technical Education. Further, Incubator Hubs need to be set up for Diploma/Polytechnic and Engineering Colleges with provision for seed funding for select students. Also, Diploma students may be allowed to choose between a mandatory internship or a stint at startup incubators.

(v) **Regarding EMC for general graduate courses** the sub-committee of this Task Force looking into Youth Entrepreneurship Incubation @ Colleges has recommended a mandatory 8 credit EMC program spanning six semesters for implementation under the National Education Policy (NEP). Details of which are available elsewhere in this report.

II. Career Information and Guidance

The job market in India is undergoing massive change and there is a need for fresh thinking to address current and emerging challenges. The world is being transformed by scientific and technological advances and these changes are also impacting education systems and processes. They are altering the learning infrastructure. The shift from high school to the world of colleges can be as scary as it is exciting for students. With the fast-evolving world of careers and hundreds of career options, students today have the opportunity to convert their passions and hobbies into lucrative careers. However, more choices can often mean more confusion. Add to that the weight of knowing that the decision they make today will impact their lives for many years to come and the decision becomes monumental. In order to ensure that students make well-informed and best-fit higher education decisions, proper Career Guidance (CG) and counselling at this stage becomes extremely critical.

1. Importance of Career Guidance

Guidance is an imperative term that has a far-reaching impact on individuals' lives. From the cradle to the career, correct career guidance plays a vital role in shaping the path of life. When it comes to career, we know that we are living in a very competitive era where one has to compete in every section of their life to obtain the ultimate goal. In the modern era of globalization, where we have innumerable career options, a complete and comprehensive career guidance strategy is the only precise option that will provide the student with the desirable goal.

2. Impact of Career Guidance:

a) ***Reduction in education Drop Out Rate****:* One out of every eight students enrollled in a school or college tends to drop out midway without completing the education and over 62% of all dropouts happen at the school level, a survey by the National Statistical Office (NSO) of the Government of India has revealed. Career guidance can help not only to increase participation but also reduce dropout rates.

b) ***Reduction in unemployment / under employment*****:** Career Guidance can assist in reducing unemployment: for example, by helping to reduce the incidence of voluntary employment terminations or by reducing periods of job search (thus reducing frictional unemployment); or by encouraging those made redundant to improve their qualifications or to seek new types of work in different regions (thus addressing structural unemployment).

c) ***Alleviates talent gap for the industry - avoids herd mentality****:* Career Guidance can increase job exploration and information search activities. It also rests upon higher allocative efficiency as the result of a better match between individual talents and qualifications on the one hand and the skills and qualifications demanded by employers on the other.

d) ***Improves efficiency of skill training - the right skills for the right student – who wants it:*** Career guidance helps people to reflect on their ambitions, interests, qualifications, and abilities. It helps them to understand the labour market and education systems, and to relate this to what they know about themselves. Comprehensive career guidance tries to teach people to plan and make decisions about work and learning.

e) ***Goal orientation in Students:*** In Canada (Quebec), schools are being encouraged to develop the concept of the "guidance-oriented school" (l'écoleorientante). This is linked to wider competency-oriented school reforms. Personal and career planning is defined as one of five "broad areas of learning" throughout schooling.

f) ***Higher career/educational outcomes possible:*** A recent review of the economic benefits of career guidance has concluded that evidence for its positive impact upon short-term learning, motivational and attitudinal outcomes can be treated with a high degree of confidence, and in the case of its impact upon actual behaviour with moderate confidence.

3. Criticality of Career Guidance in a student's life:

a) ***At the stage of Secondary Education:*** SSLC or class 10 plays a pivotal role in deciding the career choices of a student as it is at this stage the student decides whether he/she will study science, commerce or liberal arts at the Higher Secondary or the PUC level.

b) ***At the stage of Higher Secondary Education:*** Higher secondary education is a very crucial stage of students' academic careers. After a careful selection of subjects, students need to stay focused by avoiding all the distractions. The selection of subjects is very important, and one should conscientiously analyze his strengths and weaknesses before selecting the subjects. Complete guidance by a professional career guidance counselor helps a lot to ease the process.

c) ***After completing Higher Secondary Education:*** At this stage the student who has already made a career decision should stay focused and keep working to attain the necessary skills of the career choice made its path.

4. Problems faced by the students while selecting career options

a) ***Lack of awareness:*** Many students want to pursue their careers in a particular field but have no clarity on how to proceed. Career guidance and counselling play a vital role in such cases, with an expert guiding the student by analyzing their interest, strength, capability and making them able to transit successfully towards a career option.

b) ***Numerous options and dilemmas:*** When it comes to selecting a better career option, it is not just confined and restricted to stream and subject selection. Career guidance plays a big role in resolving these issues and making their path crystal clear.

c) ***Facts and Myth****:* Before taking admission in any educational institution and opting for any subject to study, students are advised to do well research and fact-check all the details.

d) ***Impact of surroundings****:* Let not the surroundings have an impact on one's career; they need to stay away from pessimistic people who are always ready to drag down the morale.

5. Task Force's Deliberations:

a) ***Consultations with Key Stakeholders*****:** The Task Force's consultations were wide-ranging with detailed discussions and consultations with various stakeholders. A questionnaire was circulated and then structured discussions were conducted. The objectives of the consultations were:

(i) To understand the current State of implementation of career guidance in Karnataka & India. (The Task Force also did research of published material to understand the State of implementation in other countries).

(ii) To understand the key stakeholder expectations from a proposed Career Guidance system.

The consultation with the following stakeholders was held:

Sl. No.	Category	Institutions
1.	Government	• Department of Collegiate and Technical Education, • Karnataka State Higher Education Council, • Samagra Shikshana Abhiyan, • Yuva Spandana of NIMHANS and Department of Youth Empowerment and Sports, • National Institute of Open Schooling, • Government Tool Room and Training Centre
2.	Non-Government	• UNDP on Code Unnati, • Head Held High Foundation, • Mindler Education Private Limited, • Lodestar Career Guidance Private Limited, • Aasman Foundation of I Dream career, • Connecting the Dots Private Limited, • Udhyam Learning Foundation, • Magic Bus India Foundation, • Dream a Dream, Youth for Seva, • Samarthanam Trust, Labhya Foundation.

6. Current Status of career guidance in Karnataka**:** Task Force's deliberations brought out the current status of career guidance in Karnataka.

a) Absence of systematic program implementation in schools & PU colleges: There is an absence of systematic career guidance program implementation

in Schools and PU Colleges, as there is no uniform curriculum and lack of dedicated resources.

b) ***Placement-related guidance by DCTE & VTU through Job portals:*** Centralized Placement Cell of VTU and job portal of Department of Collegiate and Technical Education posts the jobs and helps the students in finding out their right job.

c) ***Yuva Spandana*****:** Yuva Spandana is a program of NIMHANS and the Department of Youth Empowerment and Sports to bridge the gap between youth, their families, and the ever-changing society in order to enable a smooth transition of youth from childhood to adulthood.

d) ***UNDP Code Unnati Program****:* The Department of Youth Empowerment and Sports in association with UNDP is implementing the Code Unnati program with the aim of improving access to entrepreneurship and employment opportunities among the youth, including women.

7. ***Limitation of the existing system of Career Guidance in Karnataka:***

a) Most of the Career Guidance Programs being conducted do not have assessments as a part of the program.
b) The Programs lack a systematic curriculum. They are mostly theory and lecture-based.
c) Only a few private schools are implementing programs through professional agencies.
d) Most programs do not have a structured approach with proper entry and exit outcomes.
e) Counselling support is missing in most of the programs.

8. Status of Career Guidance in other States in India**:**

a) UNDP – Disha program is under implementation in five States under which awareness sessions on career skills and life skills are being conducted. In some cases, assessment and reporting are also being held.
b) Telangana Government has mandated career guidance for government colleges.
c) Delhi Govt has implemented a career guidance portal but has seen limited usage. Career counselors are being appointed for every school now.
d) Even while there have been isolated efforts towards introducing a system of career guidance in a few States the issues of lack of personalized guidance, follow through and outcome measurement persists.

9. ***Limitations of Career Guidance programs in India*****:**

a) Most career guidance is through web portals which are limited to High School students and not for college.
b) Webinar-type content but no curriculum.

c) Course/college information is mostly at the national level – State colleges and **Tier- 3 Careers missing.**
d) Government Program experience limited
e) Intuitive Intelligence mapping is missing in the portal
f) Automated Personalized journey is missing
g) Process for college students is missing

10. *Career Guidance around the Globe*:

a) Germany's Federal Employment Office's career counsellors visit schools, run class talks, and provide small-group guidance and short personal interviews in the penultimate year of compulsory schooling.
b) Ireland's Secondary Schools have one guidance counsellor for every 500 students. Guidance counsellors are teachers, with a reduced teaching load to provide career advice, to help students with learning difficulties, and to help those with personal problems.
c) Australia's National Careers website (www.myfuture.edu.au) contains information about courses of education and training, about labour market supply and demand at the regional level, on the content of occupations, and on sources of funding for the study. Users can explore their personal interests and preferences, and relate these to educational and occupational information.
d) Canada's public employment services contract many career guidance services to community organizations, which are often seen as more attuned to the needs of particular groups. Some of these organizations focus mainly on career development activities, such as information services, career counselling, and job-search workshops.
e) In Spain, the international company Altadis has a career development program, built around a database of employees' qualifications and descriptions of existing positions in the firm.
f) In the United Kingdom call centre technology is being used to widen adults' access to education. The service, learn direct, provides both information and more extensive career advice to callers.

***11. Expectations of the stakeholders*:**

a) Start early in High School–A career guidance program should be introduced early in high school. This will help in orienting children to various roles and responsibilities, breaking stereotypes, and developing life skills to build their capacity to learn
b) Customization is important–The career guidance programs must be customized according to the needs of rural V/s urban, science V/s arts/commerce students keeping in mind the social and economic requirements.
c) Assessment is very important–students don't know their strengths. Assessment should be conducted at every stage and the feedback should be

shared with the students clearly explaining the changes they need to make for further progression.

d) Dedicated personnel at schools and colleges to implement career guidance programs. Assign a specific teacher and appoint a quality career guide in every school for career guidance, clearly defining their roles in this process and across all levels.

e) Students are not mature enough to decide career goals. They need help. Most of the decisions are based on peer and family pressure. Therefore, students need proper handholding by the Career Counsellors to navigate the challenges during their academic life.

f) Grade-wise evolving goals: Every class has unique needs. Career guidance should not stop in any one class. There is a need for career guidance from 9th std to graduation. Any career guidance system has to address these grade-specific needs. The grade-specific career guidance needs as deliberated by the Task Force are placed at **Annexure-6** for reference.

g) Make it Mandatory: Because every student needs career guidance and benefits from it as outlined in the earlier section. Career guidance goals can only be realized if all students are guided. Mandatory career guidance will lead to improved employability and lower dropout rates.

12. Recommendations of the Task Force

a) High School to College Convergence–It is recommended to develop a holistic definition and vision for career guidance and counselling that is specific for all levels (School Education, Higher Education, Vocational Education)

b) Career guidance programs across all levels should be standardized with uniform curriculum, content, and software. A Central Career Guidance Cell should be established for this purpose. The Career guidance needs & goals at various levels in the education system are placed in **Annexure-6.**

c) Introduce formal career guidance services from Class 8th onwards. Career guidance should be seen as a continuum from primary to the higher classes/ vocational classes, from higher classes/ vocational classes to employment/employability.

d) Career guidance programs should be integrated with school and college curriculum.

e) Assign a specific teacher and appoint a quality career guide in every school for career guidance clearly defining their roles in this process and across all levels.

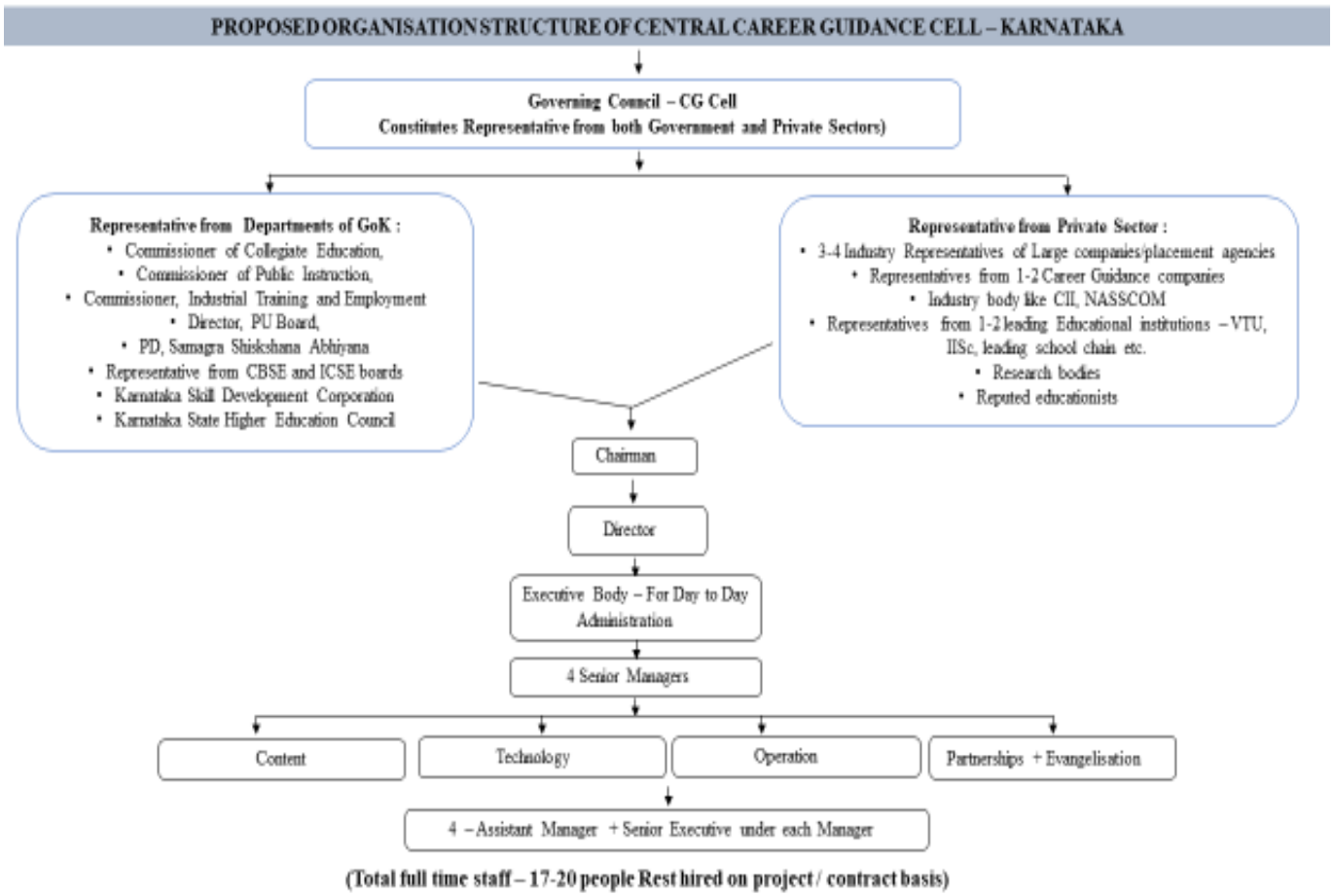
f) Career Report Card for Each Student: Each individual and career guide must have a Career Report Card. This Report Card should include a summary of his/her personal and professional achievements. Just like a health card that recommends diet, this career card should recommend career options, learning & development alternatives, and competency development for skills required in the future.

g) Assessment: For career guidance, assessment of personality, interests, and aptitude is essential. A mandatory assessment system should be introduced in all career guidance programs. It is recommended that we use Holland's Code Framework for the personality assessment.

13. Implementation Strategy

a) It is proposed to establish a Central Career Guidance Cell (preferably a registered society as CoE) for career guidance with representatives from key Government departments/institutions like KSHC, Dept of Collegiate and Technical Education, Commissioner of Public Instruction, Pre-University Board, Department of Skill Development, Entrepreneurship and Livelihood. This body will also contain representatives from private/autonomous educational institutions of eminence, representatives from major industries/ large corporates, and non-governmental bodies working in the sphere of career guidance. The Governing Council of this body will be the apex body to implement the career guidance in Karnataka.

The proposed structure of this body is detailed below:



b) This Centralized Career Guidance Cell will be responsible for the overall design, development, and implementation of policy mandates with respect to career guidance. It will develop content, curriculum, timetable, software platform, and algorithms for implementation of career guidance programmes across the State. It will also develop training modules for career guidance facilitators and career counsellors. It will develop key modules for career guidance and supervise its implementation and monitor quality.

c) Delivery by Departments**:** The respective government departments/ institutions will carry forward the systems, modules developed by the Centre of Excellence and implement it as these departments are having the requisite manpower for doing this. Example teachers can be trained and part responsibility is given. This will also ensure capacity building and sustainable long-term implementation**.** The role of implementing departments will be to

(i) Plan the career guidance activity as per recommendation by the Centre of Excellence and instruct its constituent schools and colleges to implement it accordingly.
(ii) Plan for resources for implementing- teachers, trainers, counselors, etc.
(iii) Take the modules from CoE – adapt and implement.
(iv) Monitor the implementation and achieve desired goals.

d) Additional channels for implementing career guidance programs:As recommended above educational institutions are the primary delivery channels. However, the committee proposes some additional channels which can play a supportive role in implementing career guidance programs:

(i) Kalike Kendras and Yuva Spandana Kendras to address students who drop out after 10th, 12th, or degree. These youth may have taken up jobs and may still need guidance to get back to education and career. These can also be used for youth who do not get good inputs in their institution – where it's not implemented properly.
(ii) NSS officers–can be trained as counsellors.
(iii) Use Chandana channel and FM Radio–to beam a regular set of classes, lectures based on this curriculum and framework.
(iv) Create a separate YouTube Channel, and develop a repository of videos on Career Guidance.

14. Implementation plan

As explained above the system for any Class requires a) Knowledge Module (Curriculum + Timetable, b) Decision system (Test, Software, handholding) etc.

Therefore, it is recommended that both of these can be implemented in a phased manner. The implementation can be started with the 10th standard and then expand to PU and then to colleges.

Phase – 1 -Implementation for 10th Standard

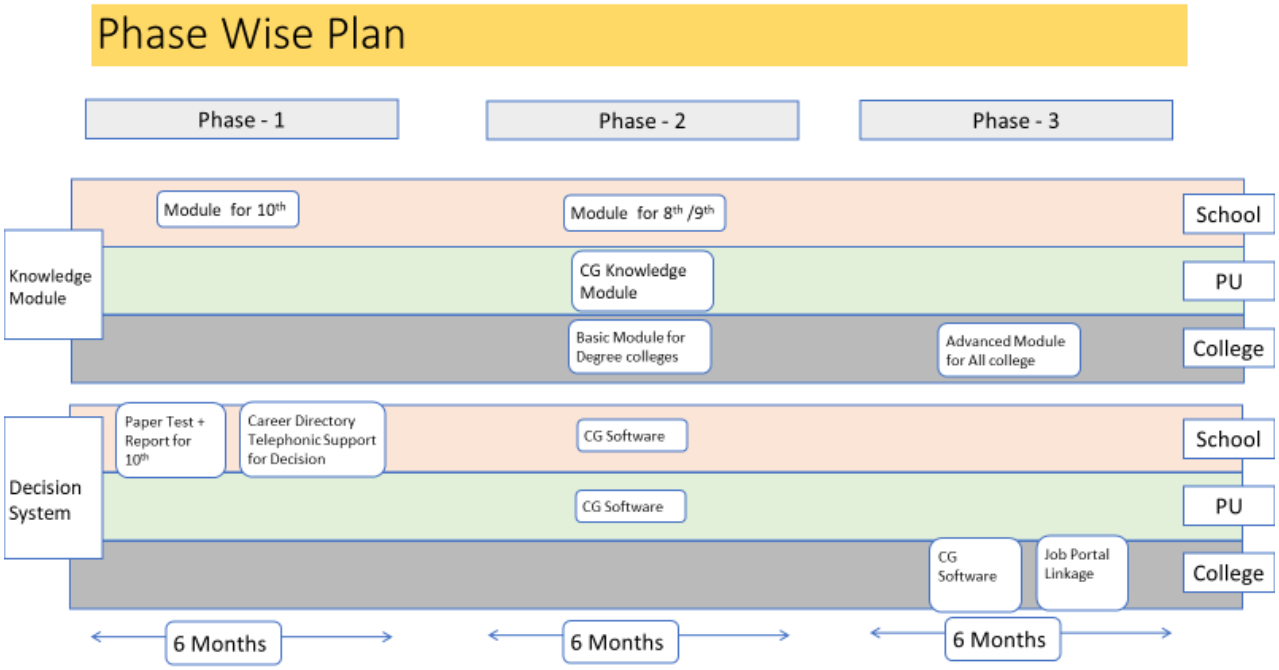
This will be a module for 10th standard which will necessarily be a module focusing on building the knowledge of the student. It will be for a duration of 6 months and there will be a paper-based Assessment at the end of the module. Career Directory will be discussed and shared with the student and there will be Tele Support for decision making.

Phase – 2 - Implementation for PUC and general degree courses

This will be a module for 8th and 9th Standard students, which will necessarily be a module focusing on building the knowledge of the student. It will be for a duration of 6 months and there will be a paper-based Assessment at the end of the Module. For the PU students, the Module will focus on Career Guidance Knowledge, similarly, for non-technical degree students it will be a basic module. It will be for a duration of 6 months and there will be a paper-based Assessment at the end of the Module.

Phase – 3 - Implementation of school module, PU module and an advanced module for all colleges. It will be for a duration of 6 months and there will be a paper-based Assessment at the end of the Module.

The phase-wise implementation plan is detailed below:



Pilot Program: In order to understand issues of delivery and understanding stakeholder response it is proposed to conduct a pilot program as detailed below:

Initiative	Objective	Timeline	Resources
Career guidance curriculum	Create career guidance curriculum for School and PU courses	2 Months	Rs. 2.5 Lakhs The task may be assigned to a non-governmental organization with expertise in this sphere.
The pilot of career guidance in School and PU colleges	Trial run of Curriculum and process in 5 schools in rural and 5 in schools in semi-urban areas covering 1000 students (Define the process, ask vendors to use their existing tools) Delivery in Kannada	4 Months	Rs. 20 Lakhs. Teachers to do the Lectures Assuming External Counselors.
The pilot of career guidance in Colleges	Trial run of curriculum and process. Give go-ahead to Code Unnati Project	3 Months	Mostly No Expense

III. Youth Entrepreneurship Incubation @Colleges

Karnataka has been the leader in the Indian Innovation Index and has always taken the lead on initiatives to encourage start-ups not just in technology, but in many frontier areas of manufacturing, research, public service, etc. The Government has over the years launched many schemes to support and promote entrepreneurship or self-employment funded both at the State as well as at the Union levels. It has invested in dedicated support facilities in maker labs, fab labs, studios, and many such infrastructures needed for entrepreneurs across industry sectors. Many programs have also helped build infrastructure in institutions of higher education.

The new National Education Policy (NEP) 2020 document also mentions that Higher Education Institutions (HEI) will focus on research and innovation by setting up start-up incubation centres; technology development centres; centres in frontier areas of research; greater industry-academic linkages; and inter disciplinary research including humanities and social sciences research". Thus, NEP aspires to make the younger generation more imaginative, innovative, ingenious, proactive, pioneering, and prospect oriented and it also aims to make it industry-oriented with emphasis on entrepreneurship. Under NEP, efforts are being made to integrate vocational education with educational offerings in all HEIs by choosing focus areas based on skills gap analysis and mapping of local opportunities.

The objective of the Sub-Group 2 of this Task Force was to focus on Youth Entrepreneurship Incubation at Colleges, which are institutions of higher education and that is the reason why this report focuses on only the opportunities and threats that exist for youth entrepreneurship. Many higher education institutions have enrollled and availed benefits from schemes but there is a lack of sustained efforts in building an entrepreneurship ecosystem for their students. Students under pressure from parents or peers mostly focus on seeking employment or pursuing higher studies post completion of the under graduation. Entrepreneurship is not an option considered by most students. Student projects that have the potential to become businesses sadly remain as project reports. Yes, some colleges have taken the initiatives and established incubation centres but there as well the lack of sustained support has led some to failure or closure and very few have been successful.

The three main reasons for which entrepreneurship has not been seen as an employment opportunity are Parents, Faculty, and lack of Institutional support. Hence, any Youth Entrepreneurship Incubation at Colleges needs all these three stakeholders addressed.

There needs to be a major behavioural change in parents to allow their children in college to explore the setting up of a start-up at the college incubation. All faculty in institutions of higher education need to be trained and exposed to entrepreneurship to help them better understand how it is not just an employment opportunity, but an employment generator for their students.

Both these require behavioural changes and hence it is proposed to run campaigns to build entrepreneurship awareness not just among students, but primarily among parents and faculty. Students also need to be taught a curriculum that is entrepreneurship friendly and opportunities provided for them to explore various ideas in consultation with faculty or industry mentors that the institutions can help provide or facilitate.

This also involves upgrading research infrastructure across higher education institutions, especially with regards to laboratories and computer access. The major issue that are the biggest obstacle to Youth Entrepreneurship Incubation @ Colleges is the infrastructure support that is needed by every aspiring entrepreneur. While the government has invested in various maker labs, fab labs, studios, and many other facilities, each of these facilities functions in silos and have not been integrated under a common ecosystem, so that students could seamlessly move from the institution of higher education where they are studying into these world-class facilities for prototyping, business planning, minimum viable product development, etc.

The same goes for the various schemes offered by the State and well as federal governments. There is an urgent need for the government to create a technology platform to allow all signed-up Incubatees to get access to these facilities, schemes, funding, and many other services the government offers for young entrepreneurs.

The government should also look at the various models and evolve a mechanism to have one management structure for managing all incubations across institutions of higher education to ensure true enablement of youth entrepreneurship. It is also important to benchmark these models with other national and international models and adopt best practices, to ensure that Karnataka takes the lead in Youth Entrepreneurship and jumps to a leadership position for Youth Entrepreneurship in India.

1. Entrepreneurship Incubation Models in India

The group studied various entrepreneurship models, especially the New Age Innovation Network (NAIN) Model that has started working on the thematic area of Youth Entrepreneurship Incubation at Colleges and the IIT Madras Incubation Cell, BETIC, IISc, and NSRCEL.

a. The New Age Incubation Network Model (NAIN)

The New Age Incubation Network (NAIN) is an Entrepreneurship Development Program launched under the Start-up Policy 2015. It focuses on creating an ecosystem to promote innovation and entrepreneurship in Karnataka. Under this scheme, K-tech Innovation Hubs are established in various districts of Karnataka which are fully funded by the Government of Karnataka. The students studying in different disciplines are motivated by project funding and mentoring to set up their own start-ups for self-employment. Under NAIN the students are encouraged to identify local problems and address those problems using concepts

of frugal innovation to develop appropriate technology-based solutions and working prototypes. The mentors assigned to the students help them to formulate a Business Model based on this new technology and encourage them to think like entrepreneurs.

The NAIN model operates at both institution and student levels. At the institution level, it provides funding for both CAPEX and OPEX. The CAPEX is limited to Rs. 10 Lakhs for Government Institutions but restricted to only be invested in computers, office space, and internet connectivity and no funding for either maker labs or other labs that Incubatees need to build their MVP. The OPEX has two components a) Operating and managing the NAIN centre would receive Rs. 10 Lakhs per annum and b) Seed fund to the student innovators @ Rs. 3 Lakhs per student innovator and a maximum of 10 innovators per institution. The plan was to establish NAIN centres in 50 institutions of higher education and to date 30 have been established, while 11 are under establishment. To date over 300 student projects have been evaluated, touching over 990 students.

The NAIN model is a good concept and can be further built upon to enable youth entrepreneurship at colleges. While the model is good, it does have some concern areas that need to be addressed;

- Only encourages projects in teams (three members), individual ideas are not encouraged
- Institution innovation council has the majority of academicians, very few entrepreneurs
- Parameters for evaluating an institution by NAIN also is based on academic terms than entrepreneurial
- Too closed a model as it does not enable networking, collaboration, or partnerships for infrastructure, mentoring, or taking a product to market

b. IIT Madras Incubation Cell

IIT Madras Incubation Cell is one of the most successful incubation models and has over the last eight years since its incorporation built a credible track record of supporting 233 start-ups of which 88 are already in the market (a near 40% success rate), created over 4,000 jobs, filed over 125 patents, raised over Rs. 2,197 Crores, the total start-ups valued at Rs. 10,500 Crores and with the incubation cell itself having annual revenue of Rs. 366 Crores. They have built a sustainable ecosystem that enables a seamless transition from graduation to incubation and also supports all services needed for an incubatee. The ecosystem includes a research park, a rural technology business incubator, two centres for innovation and entrepreneurship, and also hosts the IIT Madras Entrepreneurship forum. They are established as an independent Section 8 company to provide the incubation centre with autonomy, governed by an industry board, has a dedicated team of advisers, investment managers to manage the funding, State of the art infrastructure for Incubatees, well-trained engineering students as interns, industry-experienced faculty and a brand, all of which has taken them 8 long years to achieve.

c. BETIC, IIT Mumbai

The Biomedical Engineering and Technology Innovation Centre (BETIC) has built an ecosystem by connecting all its stakeholders – government, academia, medical community, industry, investors, and facilitators. They have worked with several hundred doctors, identified 400 unmet needs, created 200 novel concepts, and filed 50 patents. Further, they have developed 20 devices, incubated 15 start-ups, licensed 5 products to the industry, and launched a few in the market. The BEITC Process for Medical Device Innovation is; DEFINE (unmet clinical need), DEVELOP (Innovative Solution), DELIVER (Certified Product), DEPLOY (Product in Market). The key ecosystem elements include team structure, Innovation culture, infrastructure, and standard procedures.

d. Indian Institute of Science (IISc)

IISc has a well-defined playbook for their scientists and start-ups along with a faculty entrepreneurship program for their faculty. They have over the years created an ecosystem that includes access to world-class Laboratories, domain experts from Industries in India and abroad, their alumni networks, access to funding through Angel Investors, VCs and Alum Networks, world-class learning through relevant courses, MOOCs and Workshops. Some of the other services provided by IISC include IP Services through their IPTel Office, EIR Program to validate ideas with less risk, STEM Innovation Entrepreneurship for Start-ups, Entrepreneurial scientists have a stake in the start-ups

e. Nandathur S Raghavan Centre for Entrepreneurial Learning (NSRCEL)

NSRCEL runs a structured world-class incubation program at IIM Bangalore and over the years has incubated over 585 start-ups, engaged with over 115,600, created over 6,900 jobs, and has a combined value of US $ 1.5 Billion of the incubated ventures. NSRCEL has dedicated women start-up Program in partnership with Goldman Sachs and CapGemini. Incubatees have access to strong alumni networks combining IIMB & NSRCEL along with a strong mentor team. They run both online and offline sessions around Investor Connect + Start-up Showcase. The Start-ups can apply and are ready for the Elevate Program.

In conclusion, while NAIN provides a model for State-wide youth entrepreneurship incubation which can be further expanded and developed to become a vibrant and successful model for Karnataka, the IIT Madras Incubation Cell, BETIC, IISc or NSRCEL provide a case-in-point for an institutional incubation model. It is also important for the Government of Karnataka to stay invested for the long term to achieve results like successful institution incubators.

2. Global Best Practices

The Task Force has identified the following successful global best practices in entrepreneurship incubation:

a) Academic Innovation and Technology Transfer in Israel

The character of innovation in Israel is largely attributable to the academic excellence of its research universities and institutes. In Israel, there are seven university-associated Technology Transfer Offices (TTOs) that provide a valuable forum for connecting Israeli researchers and early-stage projects with the industry through their commercialization efforts; investments, sponsorships, and partnerships from national and multinational companies enthusiastic to benefit from Israeli born innovations. Israeli universities were among the first in the world to develop TTOs and is home to some of the oldest, largest and most profitable TTOs in the world.

Management Practices in Israeli TTOs

In Israel, it is found that the TTO staffing model is made up of a combination of three types of employees; scientists (31%), lawyers (21%), and businessmen (48%). Five of the Israeli TTOs have employees with science, marketing, business development, patent registration, and legal backgrounds. They hire people who have industry experience with academic qualifications. The consensus similarity in the organizational structure of the TTOs portrays the understanding that a well-rounded, diverse, and qualified team is necessary for a successful technology transfer office to function and in the reorganization of commercial opportunities. Due to this many of the world's leading IT and medical equipment companies have set up R&D centres and laboratories in Israel either on or close to campuses amongst them; IBM, Cisco, Motorola, Intel, Applied Materials, HP, Nestle, Marvell, Microsoft, Yahoo!, Philips, Elbit Systems and Google.

Industry Relations: How IP Translates into Commercialized Technologies in Israel

Israeli TTOs have collaborated with industrial companies in many aspects and through different channels. The technology transfer process begins when research money is granted to a research project, which facilitates in a discovery that the researcher can submit for disclosure, followed by the TTOs obligation to protect the IP in the form of a patent, once the technology is patented, the university owns the intellectual property rights and is able to license the technology and commercialize it, which then is matched with an industry partner willing to pay for the license to use the IP, and finally the return of monies which flow back into the university in which the royalties are granted to the researcher and the university.

Licensing

The TTO will search for potential licensees that have the technical, financial, and marketing capabilities to develop the invention into a product or service and to bring it to market.

Spin-Offs

University originated research-based spin-off companies are an important channel of technology transfer. A separate corporate entity is formed for the development and exploitation of the university invention (Rubin et al., 2003, Lockett et al., 2003, Zomer et al., 2010) These entities are owned jointly by the private sector and the university. Spinoffs are an alternative solution to licensing.

b) Massachusetts Institute of Technologies (MIT)

Massachusetts Institute of Technology (MIT)is one of the first universities that transformed their educational processes to achieve business objectives. Most of the educational programs at MIT are based on a short lecture course and are more associated with the practical activity that takes place under the supervision of existing businesses. In addition, MIT has been developing its own educational programs to improve entrepreneurial skills for over two last decades. The table below provides a summary of the key indicators of entrepreneurial activities in the educational processes at MIT.

SN	Activity	Indicator
1	Project Study	Wide usage of laboratory work and attracting undergraduate students in research projects.
2	Wide variety of educational programs	Programs provide an opportunity of adding extra disciplines to the student timetables.
3	Interdisciplinary approaches	A great variety of interdisciplinary projects were initiated by students from different schools and departments.
4	Business participation in the educational process	Most educational courses are taught by acting entrepreneurs.
5	Involvement of students in the work at a company	Students do research in collaboration with leading regional companies.
6	Key characteristic	Development of educational programs aimed at obtaining business skills, involvement of experts from the company as mentors.

c) National University of Singapore (NUS)

The National University of Singapore (NUS)is one of a few leading universities located in Asia which has its own unique educational approaches that are implemented in order to increase the entrepreneurial activity in the university. NUS educational programs include a variety of activities such as the exchange of

students, internships at enterprises, and they offer the possibility to obtain a double degree diploma. The development strategy of NUS highlights 4 main priority areas:

- a practice-oriented educational process;
- NUS uses a project-based learning model and implements funding of student ideas (Extra Chapter Challenge, and Innovation & Entrepreneurship Practicum Seed Grant);
- business development consulting services and accelerator programs, as well as creating platforms for start-ups interaction (Start-up @ Singapore, Techno-Venture Forums, Social Business Week);
- development of infrastructure;
- development of research activities.

One of the priorities of the National University of Singapore is to encourage interdepartmental cooperation for students, academics, and university staff. Students are free to study subjects that they want for the first two terms. An essential stage of finishing the study at NUS for both undergraduate and graduate students is working on projects that are implemented within a specific existing business or in cooperation with the government. The table below provides a summary of the key indicators of entrepreneurial activities in the educational processes in NUS.

Sl.	Activity	Indicator
1	Project Study	The project study is an integral part of graduation.
2	Wide variety of educational programs	Students may choose to study discipline by themselves for the first two terms, even if they want to visit classes of other departments. Students also have the opportunity to be taught under the program of double diplomas (Bachelor of Engineering and Business, Bachelor of Business and Law).
3	Interdisciplinary approaches	The main focus is on building communication between departments and faculties, engaging students in different aspects of a single project.
4	Business participation in the educational process	Participation of large State-owned corporations in educational projects.
5	Involvement of students in the work at a company	The cooperation of the University with the major national companies: HP/Compaq, GE, Philips, Siemens, Matsushita/Panasonic, Microsoft, Toshiba, Seagate.
6	Key characteristic	Focus on project study and case study models.

d) Nanyang Technological University (NTU)

Senior Leadership in NTU Technopreneurship Centre is managed by a team of relatively young and energetic managers who focus more on linking entrepreneurship to academic programs. The mission of the NTU Technopreneurship Centre is "to inspire and develop entrepreneurs with the heart, will and capability to make a positive and meaningful difference to society" NTU offers an undergraduate minor in entrepreneurship program for all undergraduate students regardless of their major. The program constitutes a total of 16 academic units and can be completed in one academic year. It emphasizes international experience by arranging for graduate students to visit technology hubs. Offers a Master of Science Degree in Technopreneurship & Innovation. NTU has established an Entrepreneurship Development Program that provides short-term training programs for entrepreneurs or intrapreneurs within organizations through customized courses.

University has formed Nanyang Technopreneurship Centre (NTC)to focus on technopreneurship education and to foster a culture of innovation and entrepreneurship. NTU hosts the East Asia roundtable for the Venture Capital Investment Competition, a global business plan competition. The Nanyang Technological University-NTUitive Pte Ltd (NTUitive) is a comprehensive incubator system to help aspiring entrepreneurs through the start-up phase. NTUitive provides a supportive environment in which young innovators can exchange, discuss, and try out new ideas.

3. Role of Technology Platforms in Entrepreneurship Incubation:

The sub-group studied the technology platforms of Start-Up Singapore and IIT Madras. They have five key modules on the platform that includes a) Start-up Registrations (Founder, Employee, Service Provider); b) Investors (Angel, VC, Corporate, Other Investors); c) Intermediaries (Incubator, Accelerator, Venture Builder); d) Mentors (Existing, New); f) Others (Collaborators, Researchers). Students choose the area they need help and they can change this as they progress. Each student builds a profile of their own with a portfolio of work they have done. The platform enables a directory of service providers and supporters who can help the incubatee. Students are also linked to Universities where they can enroll for learning any specific knowledge or skills they need and also get access to all sources of funding including grants, gifts, donations, etc. The key is access to resources, collaborations, and partnerships, all enabled by a single platform that is easily accessible from their website.

4. Funding of Incubators

Two key critical success factors for the Youth Entrepreneurship program is the establishment of an expert or mentor network and the second is a sound funding strategy that would make an incubator self-sustaining. While the first is addressed by technology and tools that have been highlighted in the previous

chapter, incubators need to secure and carefully manage financial resources. Financial resources are needed to:

- Establish the business incubator;
- Start its activities;
- Market its services and why it is the best choice;
- Operate efficiently but ensure to achieve goals;
- Become sustainable; and
- Seed fund incubatee.

It is therefore important that the incubator should also have an entrepreneurial mindset.

By exploring the different funding opportunities available across boundaries, incubators should develop a targeted fundraising strategy in order to secure the most appropriate sources of funding to their funding requirements. Apart from bringing in funds and revenues, Incubators should also carefully manage their financial resources and ensure judicial investments along with strict record-keeping. Hence, incubators should not just monitor cash flow, projected and real revenues, investments, and expenditures but periodically seek assistance from a panel of mentors with experience in managing funds to ensure it meets its self-sustainability goal by the targeted date.

There are many models in India with most of them either institutions based on industry or agency partnership. All these drive a silo-based incubation as explained above, unique to the domain of their interest. The Youth Entrepreneurship Program being a State-wide initiative, there are no models in India that we can emulate. Hence, we need to look at international models, where we have studied two models; one from Singapore (startupsg.gov.sg) and Israel (innovationisrael.org.il), and what is common between both of them is Technology and Funding strategy. While the Technology and Tools are addressed in the previous chapter, this section shall focus on the Funding Strategies. Both these countries have established dedicated organizations as Stated above to help with funding start-ups. This helps not just effectively and efficiently manage both the horizontal partners to create a network or an ecosystem and a vertical for various funding and investments. Both these models have been successful in creating successful start-ups within the country and beyond.

Challenges of funding:

- ***Cost of Funding:*** The cost of funding is the most constraining feature of any incubation environment as they are faced with high collateral requirements, lots of paperwork, a high-interest rate, and the need to have special connections. This obstacle is a serious threat to the growth and investment plans of any business incubator, thus making it hard for any funding agency to contribute to the establishment of the incubator and the overall economic development of that region.

- ***Knowing they exist:*** Information gaps between incubators and supporters make the task of obtaining funding very difficult. Many incubators are perhaps less well-known than other ventures and funding institutions often do not have enough information about their existence.
- ***Lack of Institutional Development:*** Be it legal systems or assistance with intellectual property management, especially with strict Acts that protect indigenous intellectual property, allows less room for true benefit sharing to happen and nature-based solutions to reach the world. There is also a huge information gap here as well, as very few people know of business opportunities for nature-based solutions. This gap is one of the reasons why investors are hesitant to invest in remote business opportunities.
- ***Uncertainties of Governmental and Donor Funding:*** Most incubators today (except the private ones) are dependent on the government and donor funds for survival and such incubator will have to deal with the lack of reliability and uncertainty, particularly about when funds will be received, as well as whether government agendas change following political change. This is key to all stakeholders, especially to the Incubatees who need to have rigorous budgets, timelines and disbursement plan to be successful. Delays in funding can, therefore, result in the failing of otherwise viable businesses.

These challenges are key to be addressed if Karnataka needs to successfully implement any Youth Entrepreneurship program that would be inclusive of youth across the State. There are two solutions that need to work hand in glove to address these challenges. The first has been explained in the previous chapter; Technology–A Critical success factor for this program as that helps in providing an informed and efficient ecosystem for the entrepreneurship program, and post-pandemic technology has a key role in delivering services to the last mile. The second is the funding strategy that ensures funds are available consistently, sufficiently, and efficiently managed.

5. Entrepreneurship Curriculum

To create an environment of creative thinkers / innovators in turn to nurture entrepreneurs, these entrepreneurship incubation centres or entrepreneurship incubators are required. In this background Entrepreneurship Motivation Programmes (EMPs), Entrepreneurship Awareness Programmes (EAPs), Entrepreneurship Development Programmes (EDPs), and Sector-Specific EDPs (SEDPs) need to be adopted in incubation centres (programmes can be staggered throughout the year).

6. Entrepreneurship Promotion

Entrepreneurship cannot be learned only by chalk and talk. Shared activities outside the confines of the textbook are imperative to develop leadership and team-building skills that are necessary for Entrepreneurship. It is necessary to encourage activities within educational institutions, where entrepreneurial abilities

find opportunities and fertile ground to grow. Student-led and faculty-supported activities have to be established to create awareness and prepare necessary mindsets about Entrepreneurship. The various ways to promote competitiveness are the conduct of Technical workshops, Seminars or Talks on related topics like Developing Business Models, Marketing, Technology Support, Financial Assistance, etc. through online virtual meetings and other social media like Facebook, Twitter, Instagram, YouTube, and LinkedIn, etc. These centres should engage in activities such as business plan contests, assisting start-ups, etc. Initiatives such as business plan contests (with angel / VC / private sector assistance, which could directly become entrepreneurial ventures with rewards in terms of seed funding), instructional programs that deal with the basic practicalities of entrepreneurship and platforms to interact with other entrepreneurs and the financial community (especially VCs and angels) need to be intensified and encouraged. The Promotion of Entrepreneurship Incubation using social media through Start-up celebrities can help the students get motivated, learn entrepreneurial & managerial skills and confidence of getting mentored, etc.

7. Recommendations of the Task Force.

The sub-committee after due research, deliberation, and review are pleased to make the following recommendations to the Government of Karnataka for co-creating a model for mass entrepreneurship incubation @ colleges.

a. Co-creating a district-level hub and spoke incubation model

Each education institution be it a school, college, or university all of them host young minds that have the potential to generate great ideas to solve societal problems or a future business proposition. It is difficult and expensive to establish incubation centres in each education institution. Also, not all ideas translate to businesses. Hence, the task force recommends that Government should adopt a hub and spoke model, where the Hub will be at the main centre located in a district headquarters, and all education institutions in that district are the spokes where ideas are generated which can be incubated at the hub. The hub shall be responsible to nurture and support creativity, assist with any Intellectual asset or property management, providing mentoring assistance and conducting an annual showcase of incubatees to help them market and solicit business. All educational institutions or spokes shall nurture the idea and provide pre-incubation support to translate the idea from just an idea to a prototype or even better a Minimum Viable Product (MVP). Presently, under the NAIN scheme, the Government has already established incubation centres in 16 districts. The same can be further extended to the remaining 15 districts along with suitable modifications to the model as highlighted in the remaining recommendations. It is also key that for making the ecosystem efficient and effective, a suitable oversight mechanism for ensuring good functioning and proper governance, should be put in place and which is why the sub-committee recommends a research and innovation authority, details of which are presented in recommendation ‘e’.

b. Technology-based platform for entrepreneurship incubation

A mass entrepreneurship program that envisions to encompass the entire State of Karnataka requires managing multiple entities, many ideas, funding, mentoring, etc. The key to ensuring effective and efficient management of the whole ecosystem is to have a technology platform. A platform that will help manage both the innovation lifecycle all the way from idea to incubation and the MIS. The sub-committee recommends a model similar to Singapore start-up, which has leveraged technology along with AI to manage the complete ideation to start-up lifecycle. The system is easy to enroll, get all information needed from one single point, and also a system that is transparent for any aspiring entrepreneur. The upcoming Start-up Karnataka Portal of the Department of IT&BT can be used as a technology platform. It can be named "IDEAL". It will have modules for (i) idea Management, (ii) Development of the idea, (iii)Exploring business opportunities, (iv) Access to infrastructure and business services, and (v) Learning to become a successful entrepreneur.

c. Creating the local, district, and State-level ecosystem

The success of any ecosystem is the clear definitions of roles and responsibilities for all key stakeholders. Hence, for the mass entrepreneurship model, the sub-committee recommends there should be;

(i) a lead institution in each district which will house the incubation centre and provide necessary physical infrastructure, especially a maker lab for all Incubatees in that district;
(ii) a legal institution in each district that will provide all the necessary business services needed by the Incubatees in that district;
(iii) a business institution that will provide the learning services to design, build and train budding entrepreneurs in entrepreneurship in that district; and
(iv) an industry association that has a local chapter in that district that will provide the needed industry connect to the incubates in that district.

Every other institution in that district shall encourage its students to think and solve problems that are local so that they can benefit from those solutions apart from having an opportunity to translate that idea into a business opportunity.

d. Establishing an umbrella organization

Managing an ecosystem to ensure successful outcomes needs a lead manager who can help sharing of resources and best practices, and also bring in synergies among incubatees, which individual incubation centres will find it difficult to support. Small countries like Israel have been successful in building an innovation and start-up ecosystem by having a single agency support and strengthen the incubation ecosystem through a networked approach. Hence, the sub-committee recommends that the Government of Karnataka create a nodal agency that is responsible for innovations and it is suggested to name it "Karnataka Research & Innovation Authority (ಕ್ರಿಯ, KRIA)". Alternatively,

KDEM can be assigned with the role of being a research and innovation authority. It is further recommended that to raise funding from various sources just like the IIT Chennai incubation centre, this authority should be a Not-for-Profit, preferably a Section 8 Company, established by the Government of Karnataka and governed by a good mix of business, education and finance leaders who will help govern this authority. This entity will develop and manage the technology platform as suggested in recommendation number two above. ಕ್ರಿಯ or KDEM should have a dedicated digital and marketing unit that provides technology and marketing support as part of its centralized business services beyond what is provided by the incubator themselves. This will help build consistent and factual messaging across the State and periodic market research will help incubatees improve their market reach apart from reducing their cost of marketing and sales. The unit should also be responsible to promote entrepreneurship success stories that will help motivate more youth to enroll or take up the entrepreneurship journey in Karnataka.

Further, this umbrella organization should also house a research unit to study and identify best practices that incubators can adopt to enable their incubatees to reach out beyond Indian borders to promote their products and services.

e. Funding research, innovation, and incubation

The Government of Karnataka should enable the first seed funding that will help establish the Karnataka Research and Innovation Authority (ಕ್ರಿಯ) or the seed fund may be planted in KEDM along with the district level incubators housed in an education institution. ಕ್ರಿಯ or KEDM should develop a fund raising strategy that appeals to each of the potential funders effectively. When approaching funding agencies, ಕ್ರಿಯ or KDEM should highlight different benefits and supporting data to convince them to fund both Research in education institutions and the Youth Entrepreneurship Program. Depending on the funding agency and the funding objective, the benefits and supporting data should be customized. The typical funding opportunities include CSR Foundations, Developmental Agencies, Developmental Banks, Academic & Research bodies, banks, industry, investors and internal revenues. ಕ್ರಿಯ or KDEM should ensure its priority of building the ecosystem with robust facilities that will help build future products and services and become the glue that ties all entities and institutions within the ecosystem, enabling sharing of resources, leveraging each other's strengths and market reach, bidding for joint projects, networked business development and pushing Government to support the incubatees with business opportunities. The key to the success of ಕ್ರಿಯ or KDEM will be the autonomy it will have based on its transparent governance led by people of eminence who clearly lay down the annual goals for it.

f. A State award for research and innovation to the best incubator

ಕ್ರಿಯ or KDEM should institute a research and innovation award that provides motivation to institutes of higher education to indulge in cutting edge

research that leads to new technologies or solutions that has business potential or leads to a patent. The award should recognize an incubator that has excelled in bridging the gaps between academia, industry, and innovators by providing an effective collaboration and partnership ecosystem. Over a period of time, the sub-committee envisions two awards with one focusing on cutting-edge research and the other on innovation leading to business.

g. Collaboration and partnership with Industry

The industry has a very important role to play in building and supporting youth entrepreneurship. Industry collaboration with incubators is key to providing access to technology, testing services, and other infrastructure which can be provided to the incubatees on pay as you use basis. Partnership with industry can provide incubatees with various opportunities like joint research, joint marketing and sales, new product development, and training for capacity building. Incubation should not be based only on new products, but could also include product distribution with enhancements or modifications to meet local needs, a franchise model for services to be offered across the State, community programs to build next-gen NGOs, and research opportunities to help build new research organizations.

h. Entrepreneurship Curriculum

Entrepreneurship education in the higher education system should satisfy the need for entrepreneurship by selection, motivation, training, and support. The contents and teaching methods have to be differentiated between entrepreneurship and traditional business courses. It is proposed to motivate the students on entrepreneurship at the end of 5+3+3. Two sessions of Entrepreneurship Awareness / Motivation are proposed for all the students (all the classes). The subjects covered would be Self-employment v/s Wage employment and entrepreneurial success stories. Dynamic teachers could be identified school wise preferably with a Social Studies background and trained at the district level on Entrepreneurship through DIETs.

With respect to Higher Education, the curriculum of Entrepreneurship is proposed for all the 4 years of Higher Education (Degree). 2 credits per year is planned i.e., 32 hours in a year. (Assumption: 4 months per semester, 1 hour per week). Totally 2 x 4 = 8 credits are proposed for the entire course. It should be taught as part of ability enhancement/skill development and vocational courses including extra curriculum activities. The course may be common to all students. The domain experts in the field of entrepreneurship could be identified and trained subjecting them to Faculty Development Programs on Entrepreneurship through staff training colleges. The content and teaching methods have to be differentiated between Entrepreneurship and Traditional Business Courses. The details of the proposed entrepreneurship curriculum is placed at **Annexure-7** for reference.

IV. Building Entrepreneurial Ecosystems at Districts and driving local jobs / services

About 60 percent of the population in Karnataka is in the working-age group (15 to 59 years), while only about 45 percent is actually working. Between 2012 and 2022, Karnataka is likely to have an incremental demand for 8.47 million persons and incremental supply of 8.16 million persons. This leads to a supply gap of 0.31 million persons (Census, 2011). While on the one hand, Karnataka is facing the issue of migration of educated and talented youth migrating out of their home districts and small towns due to lack of employment opportunities at the local level on the other hand the immense potential for local entrepreneurial activitieswhich not only requires budding entrepreneurs but also creates jobs locally and add value to society remains underutilized. The Taskforce aims to build an 'Entrepreneurial Ecosystem' in Karnataka and to ramp up State capacity, the Government, UNDP, and NGO's/Private Sector along with the eminent leaders.

Study methodology: In order to understand the current support system for promoting local and micro-entrepreneurship the Taskforce studied the (i) existing entrepreneurship training programs provided by government departments/agencies, NGOs/CSOs/VTPs, private sectors/CSR initiatives (ii) Other Stakeholders supporting entrepreneurship such as industry associations, lion's clubs (iii) Incubation/acceleration support system (iv) Infusing entrepreneurs / Mentors' network (v) Technological interventions to promote entrepreneurship (vi) Advisory committee members/organizations and Roles and Responsibilities

1. **Issues identified with current efforts by State and non-governmental bodies in local entrepreneurship promotion:**
   a. ***Lack of standardization of the entrepreneurship training programs:*** Presently many departments/organisationtions are imparting entrepreneurship training programs like CEDOK, District Industries Centre, under project Sanjeevini (National Livelihood Mission) for rural and urban women Self-Help Groups, Department of Rural Development and Panchayat Raj, UNDP, Department of Social Welfare, Department of Women and Child Welfare, etc. There is a need to standardize these training programs as most are theory and classroom lecture-driven. The issue of assessment post these training programs also needs to be addressed.

   b. ***Creating convergence with Govt, NGOs and Pvt sector initiatives:*** As explained above there is a need for convergence of efforts put in by the Government, multi-lateral bodies, and NGOs. Presently, all these are running their initiatives sometimes parallelly. For cross-learning from the experiences of different organizations and for optimum utilization of resources, it is essential to converge the efforts of these bodies.

c. ***Promoting entrepreneurial mindset***-Educational and Vocational institutions: Presently most of the students passing out of educational institutions do not even consider entrepreneurship as a career option. Most students go in search of elusive jobs. This is partly due to prevailing societal mindset, parental and peer pressure, and partly due to lack of systematic efforts in school, college, and vocational education to develop entrepreneurship mindset among students.

d. ***Technological interventions to scale:*** The present efforts to build an entrepreneurial ecosystem by imparting entrepreneurial training, incubation of startups, mentorship, finance andmarket linkage are not sufficiently exploiting the advantage that technological interventions providein scaling these efforts. Training continues to be classroom driven, mentorship continues to be limited to local resources and enterprises setup due to these efforts do not look beyond the local market for sales.

e. ***Financial and Marketing linkages:*** Motivated and eligible budding entrepreneurs who are undergoing entrepreneurship training in government and non-governmentorganizations do not receive credible and sustained support in either obtaining loans from finance institutions nor in marketing their products. This leads to multiple cases of failed enterprises.

f. ***Mentorship and Handholding support:*** Entrepreneurship efforts require sustained and continuous guidance, handholding for finance, market linkages and mentorship beyond initial training. Present EDP programs do not much beyond initial training. Therefore the rate of success in terms of the number of candidates undergoing such EDP programs and the number of them actually setting up an enterprise successfully remains quite low.

2. Recommendations of the Task Force

a. The Taskforce recommends setting up of Enterprise Facilitation Centre (EFC) at the District level to :

(i) To develop and sustain a district-level collaborative and institutional platform managed by CEDOK and anchored at the District Industries Centre

(ii) To foster an ecosystem of innovation and enterprise creationby bringing together all ecosystem actors and stakeholders to facilitate enterprise creation and support early-stage enterprises and businesses.

(iii) To achieve scale and growth with a focus to promote local products and services and stimulate job creation.

b. Background and Rationale for establishing of Enterprise Facilitation Centre (EFC) at the District level:

(i) The District Industries Centre (DIC) acts as a single-window interacting agency at the district level which provides service and

support to small entrepreneurs. DIC also provides financial support under various schemes for promoting the growth of rural and cottage industries and MSMEs.CEDOK is spearheading the entrepreneurship movement throughout the State by offering structured and specific entrepreneurship development programs of value and assistance to the first generation potential entrepreneurs. Project Code Unnati of UNDP aims at empowering Youth and Women for Future Employability Skills and Entrepreneurship. It is a three-year partnership project between UNDP and UNV, and SAP Labs India.The project aims to improve access to entrepreneurship and employment opportunities for 20,000 youth and 5000 women, while also empowering them to make informed decisions.

(ii) The Enterprise Facilitation Centre (EFC) is being conceived in the backdrop of the significant convergences existingbetween the scope and activities of DIC, CEDOK, and UNDP Project Code Unnati. The EFC aims to build a collaborative platform to leverage the unique strengths of DIC and CEDOK with the technical support of UNDP.

(iii) Leveraging the strong presence and resourcefulness of the DICs, CEDOK, and Project Code Unnati, the rationale is to demonstrate that such a platform could work effectively at the district level to overcome a host of functional and contextual challenges such as:

- Gaps in awareness creation, information sharing, and absence of unified and reliable platforms
- Functioning of skilling/ capacity-building agencies and programs in siloes with limited post-training support
- Lack of convergence and integration among the various actors and stakeholders including Government departments, private sector, academia, NGOs/CSOs, and development agencies
- Lack of access to mentoring, industry/sectoral expertise, and existing industry association resource base
- Little to no market/ business development support post-funding stage of the enterprises by the financial institutions/ funding agencies
- Lack of effective monitoring and evaluation of the success and impact of the existing programs, schemes, and initiatives

c. The Task Force recommends establishing Enterprise Facilitation Centre (EFC) in the following Five Districts initially- Bangalore Rural, Raichur, Dakshina Kannada, Mysuru, and Koppal. UNDP Project Code Unnati is already being implemented in three of the five focus districts.

d. Objectives of Enterprise Facilitation Centres (EFCs): The Task Force envisages the following objectives and functions for EFCs:

(i) Raising Enterprise Awareness, sharing information and best practices: Entrepreneurship Awareness Programs through the conduct of webinars,workshops, print/ social media campaigns, videos & animations,

branding, collaterals, and increasing visibility through website and social media. The EFC will also perform the function of Knowledge Sharing through market research/ information, feasibility studies, Detailed Project Reports, developing business plans and business models, Start-Up Guides, template documents by sharing industry/ sector reports, papers & manifestos, and other reports & publications.

(ii) Training, skilling, and capacity building to achieve Enterprise Readiness and ecosystem-level convergence through Entrepreneurship Development Programs (EDPs), training & capacity-building, conducting business plan competitions, boot camps, stakeholder consultation workshops delivering the EDP programs through online and blended learning.

(iii) Facilitating Enterprise Creation and linkages to initial support services through facilitation in choosing the business name, facilitation in registering as the right form of business- proprietorship, partnership, LLP, private limited, etc., IP Support- trademark registrations, mandatory licenses, and registrations.

(iv) Facilitating access to Incubation Services and achieving Investment Readiness in the area of infrastructure & utilities like office / workspaces, showrooms, storage and warehousing, business incubators, transport, courier & logistics, IT, internet & telecom, etc.

The EFCs will also provide Technology & Product Development services like Product/ Service design services, facilitating technology procurement, equipment purchase, leasing and rental, linking with technology suppliers, quality assurance programs, technology transfer/commercialization.

The EFCs will also provide the following technical assistance and support services like legal / compliance services, financial and taxation advice, accountancy and book keeping, technical / sectoral training, consulting / advisory services, management training.

(v) Facilitating market access and support by providing information and facilitation in getting investment through Government schemes / programs, facilitating investments from angel investors, getting grants and soft loans from banks and financial institutions. The EFCs will also provide linkages to industry / sectoral experts and industry associations

(vi) Facilitating enterprise scale-up and growth through facilitatingscale-up funding, growth stage funding/investing, and linking with accelerators. The EFCs will also facilitate diagnosing enterprise health & enterprise health improvement measures.

e. Focus beneficiaries of EFCs will be Self Help Groups (SHGs) under National Livelihood Mission, existing entrepreneurs aspiring entrepreneurs, and college students.

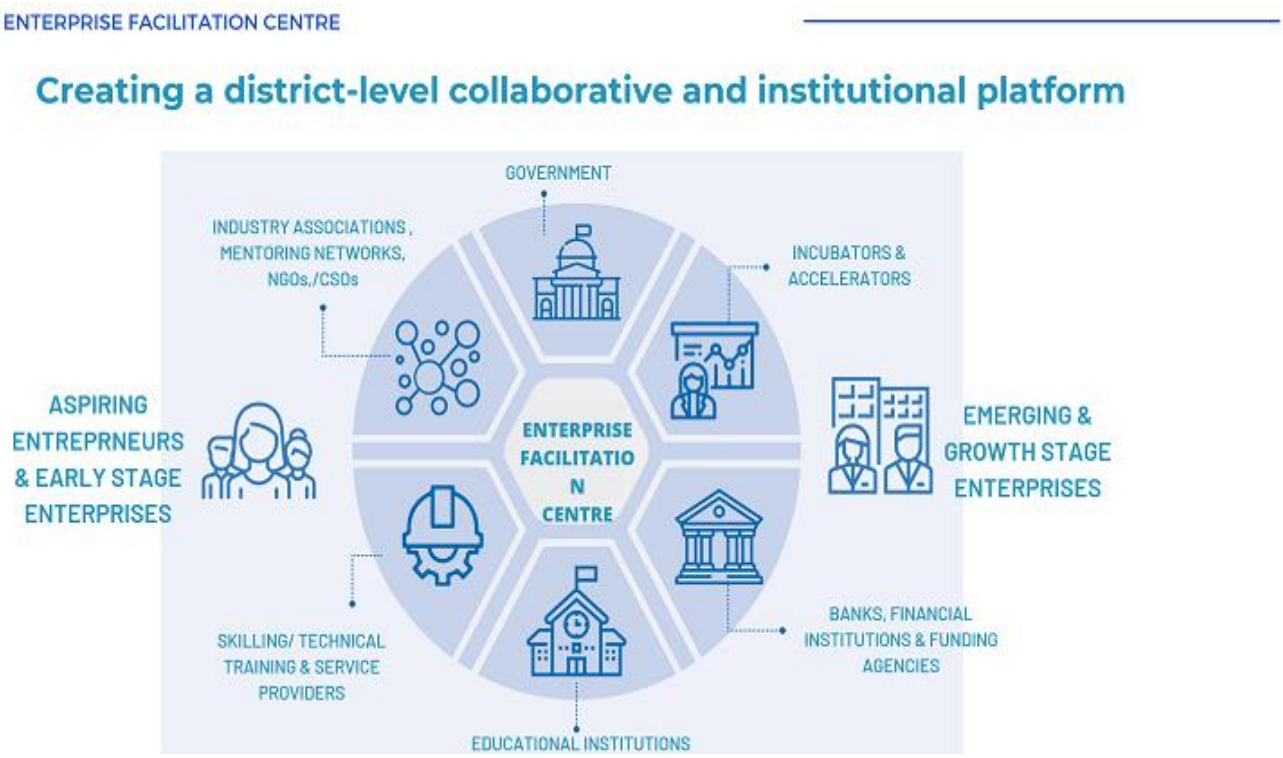


Fig: An Indicative Figure of the Enterprise Facilitation Centre (EFC)

f. Governance structure of the EFCs: It is recommended that the Deputy Commissioner of the District should be the Chairman of the EFC Steering Committee with members from Government departments/ institutions involved in entrepreneurship promotion activities like DIC, CEOK, NLM, etc., members from the district level industries associations, local successful entrepreneurs and mentors, willing NGOs working in this sphere in the District and training institutions, incubation and startup cells in the District. This Committee will :

(i) Facilitate implementation of the proposed EFC functions by conducting periodic review meetings.

(ii) Provide strategic guidance to the EFC and onboard like-minded organizations and sector expertsinto the EFC.

(iii) Facilitate the creation of a vibrant entrepreneurship ecosystem in the District.

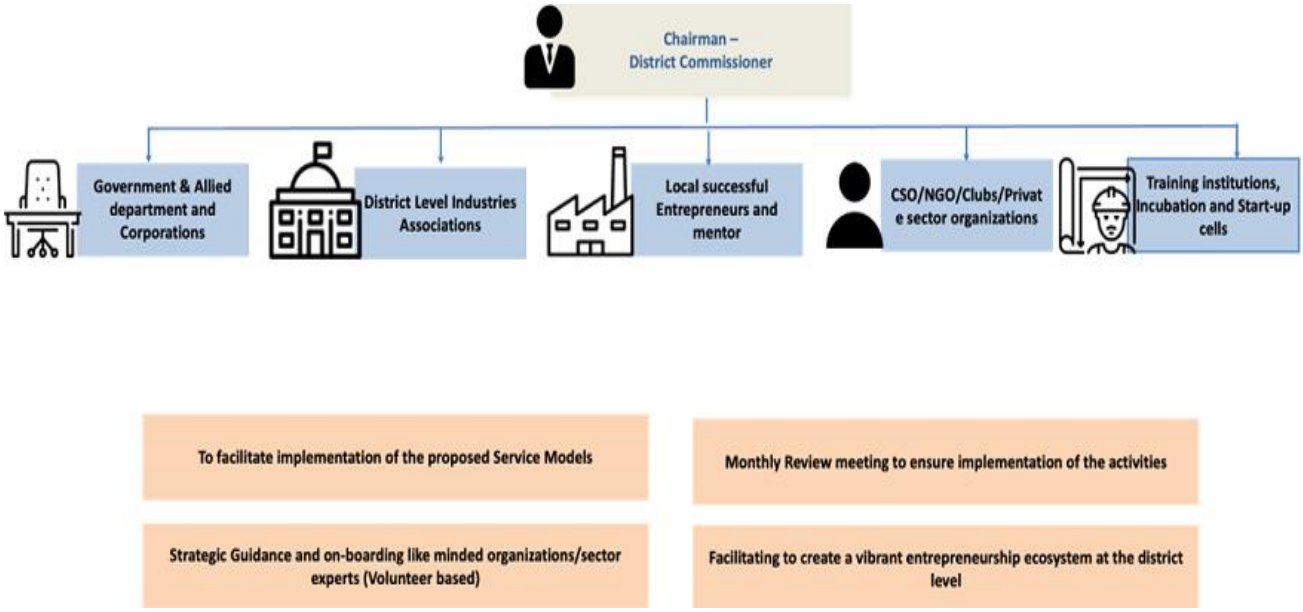


Fig: Governing structure of the proposed Enterprises Facilitation Centre(EFC) Steering Committee

g. The Task Force recommends that for the creation of jobs locally in Art & Handicrafts the www.santhe.kaushalkar.com developed by UNDP may be used. It is now hosted under Karnataka Skill Development Corporation. It is an SHG enterprises' products profiling platform which is a digital software cum web portal developed with an objective to create a product registry and inventory of SHG enterprises/products in Karnataka and to digitally empower the SHGs and artisans by showcasing their products in an online platform in order to enhance their business opportunities. It offers the SHG entrepreneurs with digital identity, online presence for their products and services, increased business and networking among B2B and B2C.

h. Local Jobs in Tourism: Karnataka is blessed with many natural and historic tourist destinations. Tourism offers tremendous potential for creating local entrepreneurs. The Task Force recommends setting up of a separate sub-group to evaluate local opportunities in tourism, based on the Karnataka Tourism Policy 2020-25.

V. Digital Services and Tech Based Models

Gross State Domestic Product (GSDP) of Karnataka is estimated at about Rs. 18.06 trillion which is US$ 258.37 billion expected in 2020-2021. Out of which 28 % is contributed by the digital economy, i.e around US$ 72.43 billion in 2021 by Karnataka. The Indian IT industry's revenue is estimated to reach US$194 billion in FY21,an increase of 2.3% YoY.India's IT industry is expected to contribute 10% to India's GDP by 2025. As of FY21, the IT industry employed more than 4.3 million people. Out of which, 33% is Karnataka's share.

So, we expect Karnataka to grow at 10% CAGR from 1.4 million people in FY21 to 2 Million people in FY25 to be employed in digital skills. As per a survey by AWS (2021), India is expected to have nine times more digitally skilled workers by 2025. This indicates that a total of 3.9 billion digital skill trainings will be expected by 2025. As of 2021,digitally trained employees constitute 12% of the country's workforce.

1. Demand for Digital Skills in Karnataka:

KDEM was assigned the responsibility of conducting a detailed study on the digital skills demand in Karnataka. The study revealed that Karnataka ranks top 2 in the job demand in Digital skills. A total of 1973 companies in Karnataka are involved in Information Technology related business. The IT industry continues to be a net hirer of skilled talent, adding 138,000 people in FY2021 and robust hiring plans for FY22. The top 5 Indian IT companies planning to add over 96,000 employees. Upskilling more than 250,000 employees in digital skills and has hired more than 40,000 fresh digitally trained talent. (Source: NASSCOM and Draup's Proprietary Talent Database)

Karnataka has a total of 257 engineering colleges. Out of which, 28 are Government & Government aided engineering colleges. Nearly 1 Lakh engineers graduate from colleges in Karnataka each year. Nearly 60% of these are unemployed after campus placements. B.E/B.Tech and MBA holders as the highest employable populace with an employability score of 47%. Bangalore city retains its position as the top preferred city to work in India, having one of the highest hiring rates in the country.

a. The estimated distribution of the Future Digital Skills talent pool for the FY2020 is given below:

Table

Estimated Distribution of Future Digital Skills Talent Pool (FY2020E)	Percentage Range %
Web & Mobile	42-44%
Cloud Computing	20-22%
AI & BDA	13-15%
IoT	7-9%
Cyber Security	4-6%
Robotics Process Automation	3-5%
IT Marketing	1-3%
Others	~3%
Total	100%

Source: NASSCOM and Draup's Proprietary Talent Databases

Note: The demand data needs to be revalidated by the industry, considering the post-pandemic effect.

b. Top job domains and roles in demand in future skills is given below: As per NASSCOM and Draup's Proprietary Talent Database forecasts the top domains and job roles that will be in demand in future skills is given in the table below.

Table

Domain	Job Roles in Demand	Domain	Job Roles in Demand
AI and BDA	• Data Scientist • DevOps Engineer • ML Engineer • Data Architect • Solutions Arch. • Data Quality Analyst • Database Admin • Data Engineer • BI Analyst	Cloud Computing	• Data Scientist • DevOps Engineer • ML Engineer • Data Architect • Solutions Arch. • Data Quality Analyst • Database Admin • Data Engineer • BI Analyst
Cyber security	• Security Arch • Penetration Tester • App Security Analyst • Compliance Audit Analyst • Endpoint Security Analyst • IDAM Analyst • IDAM Architect • SOC Analyst	IoT	• IoT Software Analyst • IoT Security Specialist • IoT Network Specialist • IoT Product Manager • IoT Domain Specialist • IoT HW Solution Designer • IoT Solution Architect • IoT Test Analyst

	• Forensic Specialist • NW Security Consultant • SecurityInfra Specialist		• Control Room perator
RPA	• Implementation Specialist-RPA • RPA Solution Architect • RPA Developer • RPA Solution Manager • RPA Process Consultant • RPA Test Engineer • RPA Support Engineer • RPA Trainer		

c. Semiconductor industry and demand for Future Skills

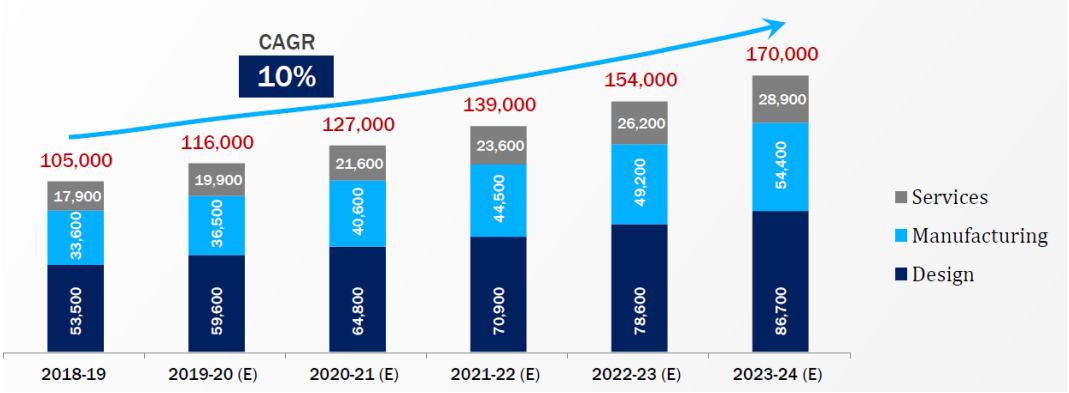
The semiconductor industry has been growing at a CAGR of 10 percent which is expected to continue, and to touch USD 27 billion mark by 2023-24. The industry currently employs close to 105,000 people in various functions & capacities. Due to the large presence of the fab labs industry in India, the industry has a strong base of employees in the design function in specific the VLSI design skills.There is high demand for employment generation by the industry but there is a huge gap in the skillsets expected by the industry from the new recruits. The future estimate for employment in the SemiConductor Sector and future employment scenario in Indian Semiconductor and Components Industry are given in the tables below:

Table: Estimate for employment in Semiconductor Industry

Estimate for employment in the Semiconductor	
2021-22	**139,000**
2022-23	**154,000**
2023-24	**170,000**

Source: Report from Study to Assess Employment Potential and Skilling Requirement by ESSCI

Table: Future Employment Scenario in Indian Semiconductor and Components Industry



Source: Report from Study to Assess Employment Potential and Skilling Requirement by ESSCI

2. Gig Economy Potential in Karnataka

KDEM has estimated the size of the gig economy in Karnataka according to the estimates. Bengaluru is one of the Indian cities with the highest number of blue-collared workers for the Gig Economy. As per a recent report by BCG, Gig jobs in India will approximately reach 90 Million in the next 8-10 years. The potential demand for White Collared Gig workers for 2022 in Karnataka is approximately **6 Million.**

Bengaluru is one of the Indian cities with the highest number of blue-collared workers for the Gig Economy. As per a recent report by BCG, Gig jobs in India will approximately reach 90 Million in the next 8-10 years.The potential demand for White Collared Gig workers for 2022 in Karnataka is approximately 6 Million.

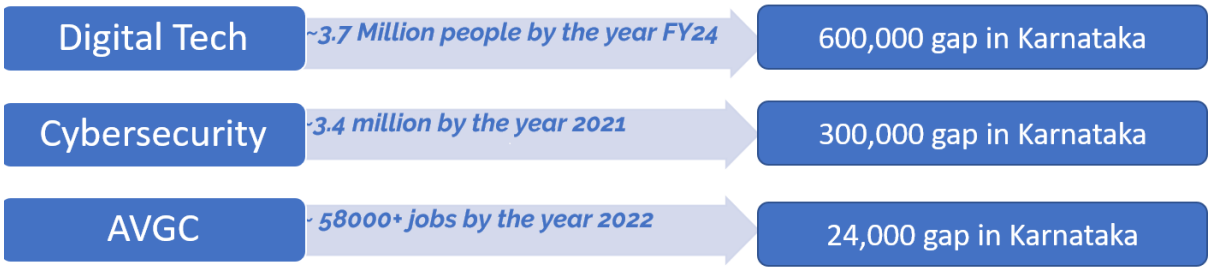
The total potential demand for Gig workers for 2022 in Karnataka is approximately7.91 Million. Further, the potential demand for Blue Collared Gig workers for 2022 in Karnataka is approximately 1.91 Mn. Major Sectors employing Gig workforce in Karnataka are (i)Information technology (ii)Content Creation (iii)Social Media Marketing (iv)Communications (V)Food & Beverages (Vi)Creative fields such as Art & Design (Vii)Independent contractors (Viii)Consultants

Source: Insights from the rising gig economy of India report by Primus partners, Worked on three models for estimation of white-collared workers and two models for blue-collared workers by KDEM.

3. Talent Gap in Digital Economy in Karnataka

As per the National Skill Development Corporation's (NSDC) Skill Gap Report for Karnataka, the State will require 8.47 million skilled workforce in various sectors between the year 2012-22. A report of EY commissioned by FICCI and NASSCOM has said 70-75 percent of the jobs in the IT-BBPM sector will require new skill sets in 2022. Below are the major industries that are looking for hiring talents in a large scale in Karnataka:

Table: Major industries looking for hiring talents on large scale in Karnataka:s



Source: India Skill Report 2021, Draup'sProprietary Talent Database, IBEF, News Articles, Karnataka Cyber Security Vision 2025; Study to Assess Employment Potential and Skilling Requirement by ESSCI

4. Recommendations

Detailed discussions were held with KDEM to look into actions required to provide digital skills in Karnataka. Based on the discussion with KDEM the following recommendation has been framed.As an industry-government bridge, KDEM would need to synergize with various government departments such as KSDC, DCTE, IT&E and KITS for these recommendations to be implemented. KDEM is will act as an arm of the State government and work as program manager for the execution of these initiatives.

After careful study of the existing job market for Future Skills and forecasts by various bodies the Task Force recommends the following to target creation of 2-3 million jobs by 2025 in the digital skills and tech-based industries.

a. Karnataka needs to focus on bridging the skill gap in future skills by focusing and addressing demand side of the jobs in the digital economy via three focus areas: (a)GCCs/Mass job creators (b)Gig economy for flexi-workers and remote working opportunities (c)Startups by conductingconsultation meetings with manpower consulting, recruitment firms, Chief HR officers of GCCs, Gig Companies (Ola, Flipkart, Uber, Amazon, Swiggy, Zomato, Dunzo, etc.) and startups and industry associationsto understand the demand side of jobs (demand estimation of future skills).

b. Based on the demand Karnataka should design and develop skillingprograms and skill courses which meet the requirement of this industry by developing a one-stop-place “skilling portal” to access all kinds of skilling programs on various domains. This task can be taken up by the Karnataka Skill Development Corporation (KSDC).

c. KSDC should collaborate with reputed industry partners for structuring content and curriculum for these skilling programs.

d. Industries must be encouraged to post their requirement on the one-stop-shop skilling portal developed by KSDC. It can connect with third party services / job portals / hiring firms to understand the kind of jobs available and skill sets that companies are looking for

e. KSDC shouldconduct Talent Accelerator Program in digital skills by roping in reputed industries as training partners.

f. Niche skilling program in Digital skills, AVGC, Cybersecurity ,and VLSI should be developed by KSDC and implemented by signing MoUs with industry and training partners.

g. KSDC in association with KDEM should conduct cluster-wise-job-fairs in digital skills to connect job-seeking youth skilled in future skills with industry.

h. KSDC and Department of Higher Education may develop a Career Guidance Mentorship program formentoring talent in future skills.

i. Department of Skill Development and Livelihood and KSDC may collaborate with the Department of Primary and Secondary Education forintroducing short-term skill courses at High School and Pre-University level.

j. The Department of Higher and Technical Education should reach out to reputed industries like Infosys, Microsoft, IBM in association with KDEM to create internship opportunities for graduates in future skills.

k. KSDC should conduct boot camps on bringing awareness on emerging technologies and how to learn them from platforms available in association with the Department of Higher Education and Department of Primary and Secondary Education.

l. KSDC in association with KDEM may run online quizzes to bring awareness on emerging technologies.

m. Department of IT should organize an annual national talent tech summit (on the lines of Bengaluru Tech Summit) to bring both industry and academia. It can be a platform for big job and knowledge fairs.

n. Department of Higher Education, IT, and KSDC may collaborate to organize regular digital tech talent shows for graduates.

o. FutureDigital Jobs Initiative may be launched by the Department of Higher Education and the Department of IT for engineering colleges across Beyond Bengaluru Clusters.

p. 70% of the outcome of all initiatives will be from Beyond Bengaluru Clusters.

Detailed discussions and consultations were held with KDEM to look into the action items required to enhance digital skills in Karnataka. It was felt that, as an industry-government bridge, KDEM would need to synergize with Government departments / organisations functioning in this area such as KSDC, DCTE, Dept. of IT & BT and KITS. KDEM may act as program management consultant for executing initiatives in this regard.

VI. Agri and Agri Tech

The subgroup on Agri and Agri Tech was tasked with the objective of bringing together all ecosystem actors and working out a joint roadmap (including policy enablers) for enabling the agri-tech revolution to reach all Districts by creating entrepreneurs and jobs at the local level with synchronized commitments and milestones by all actors.

The Subgroup adopted the following approach in this regard (i)Creating and increasing awareness for entrepreneurship in our rural agri-ecosystem particularly in FPOs (ii)Providing a platform for 'Agripreneurs' to get hands-on experience in entrepreneurship, particularly first-generation entrepreneurs in the rural ecosystem (iii)Connecting Agri. tech start-ups to farmers' consortium (FPOs & progressive farmers) (iv)Working with all four agricultural universities, one Horticultural university, and Rural Development and Panchayat Raj University / organizations involved in similar activities and reputed B-Schools to act as nodal points for 'Agripreneurship' development and skill-building.

The Task Force was entrusted with the Mission of getting agricultural domain into the mainstream for youth and thereby creating 3 million jobs by 2024-25, to increase export of our agricultural, horticultural produce and, other allied sector produce and to have the necessary infrastructure to boost processing and value addition and thus strengthen entire agri-value chain. The Task Force deliberated on two crucial elements in Agri and Agritech sphere: on the demand creation side, there are agri-tech start-ups, mid-sized companies, large-scale processing centres, and exporters. On the supply side, Karnataka has a large number of FPOs and Farmers Co-operatives.

1. Status of Farmer Producer Organisation (FPO) and Constraints associated with them:

Karnataka is in the forefront with regard to the mobilization of Farmer Producer Organizations to collectivize small and marginal farmers and address their challenges through this innovative institutional mechanism. Karnataka is one of the few States in the country to have a separate policy for the FPOs and has the vision to have at least one FPO per Hobli. It has promoted over 750 FPOs under State government programs, NABARD, and central government schemes. The State is also promoting 750 additional FPOs under the Amrut FPO scheme to commemorate the 75 years of independence with special coverage of fishermen and weavers. Further, the State has taken initiatives to handhold and support these FPOs through different programs by providing the required impetus to make these FPOs emerge as Farmer-owned and farmer-managed business organizations. The concept of FPOs is new, experiences are few and diversity is large, this has resulted in differential growth among the existing FPOs. In order to handhold and cater to their training, capacity development, and skill-building, the State government has set up a Centre of Excellence for FPOs, nominated PMUs under

each promoting department, and WDD as State nodal agency for all coordination and support. Many of the FPOs have set up their input business, some have already started their output business operations and few are struggling to take their activities further. However, most of these FPOs face the following constraints with regard to their technical and managerial skills.

a. Constraints pertaining to the skills sets among various stakeholders associated with FPOs:

(ii) Insufficient conceptual clarity, lack of deeper understanding of the concept, policy, and guidelines on FPOs among the officers of the implementing departments
(iii) Insufficient skillsets among the empanelled Community-Based Business Organizations and Resource Institutions involved in the promotion and handholding of FPOs.
(iv) Non-availability of qualified /skilled/ trained Chief Executive Officers for FPO management.
(v) Non-availability qualified /skilled/ Accountants for FPO accounts management.
(vi) Lack of managerial, technical, and community mobilization skills among the FIG leaders.
(vii) Lack of managerial and technical skills among the Board of Directors of FPOs

2. Current issues with Village Level Entrepreneurs (VLEs):

The existing VLEs aren't doing focused jobs and there is a huge vacuum in the flow of information and support to these VLEs. They do not have a system in place as they lack the required entrepreneurial skills. Most VLEs do not interact with end customers like agritech start-ups and processing units who consume agricultural produce in a large scale. Most VLEs lack basic infrastructure. Further, they do not have a forum for discussing issues they face or for capacity building.

3. Current issues with Agritech Start-ups:

Though a large number of agri-start-ups are being incorporated in the State many of them do not have domain experts on their boards. Most of the starts-ups work only on ICT-based technologies and mostly on felt needs. There is a need for start-ups to conduct the actual need survey before getting into the development of any product and services. Start-ups also do not have ground staff to take their products and services to the end-users. In a majority of the cases, they rely on intermediaries. The penetration of technologies developed by Agritech start-ups is also poor with less than 10% penetration in rural areas. Farmers' interaction with these companies too is very limited. Most of these start-ups do not have decentralized offices.

4. Recommendations

After careful study of the functioning of FPOs, VLEs, agri-start-ups in the State and the issues they are currently facing the Task Force recommends the following:

a) *Farmer Producer Organizations (FPOs):*

(i) The Farmers Producer Organizations are built and structured in a start-up way they have the potential to create value for farmers by providing direct output market access and creating employment opportunities in rural areas by doing value addition. The Task Force considered different cases where FPOs can make good business and generate notable revenue if they are supported in business linkages and proper training to the members in business negotiations through entrepreneurship workshops. This can result in the transformation of FPOs in the State.

(ii) There are approximately 750 FPOs in Karnataka. These FPOS are potential entities to create livelihood opportunities in rural areas. For capacity building of these FPOs, it is essential to utilize the services of the Centre of Excellence for FPOs, five farm universities, Rural Development and Panchyatraj University and B-Schools in the State. These institutes can offer short-term, medium-term, and long-term management development courses so that all training and capacity-building needs of the FPOs are met. The outline of the syllabus for these courses is given in **Annexure 8.** Additional support for these skill development programs may be extended to these institutions.

(iii) These institutions can also deploy their graduate and postgraduate students to do an internship in these FPOs. This will help FPOs in capacity building and in placing adequate systems in place to scale. The job of these interns would be to identify a suitable market for the produce gathered by the FPOs in the nearby vicinity farmers. If these interns are able to help FPOs identify the top three surplus crops and direct market access to these crops each FPO can easily create 10 direct and 30-50 indirect jobs per crop cumulatively resulting in the creation of 20000 jobs.

(iv) Agri-tech start-up firms may be linked to these FPOs based on the needs & demand. Further, with focused interventions Government may turn a few potential FPOs in 5-6 identified Districts into Model FPOs. This will help the creation of a playbook for replication across the State. Further, this Pilot program will help develop an implementation roadmap for the entire State.

(v) The State may also consider establishing exclusive food parks for FPOs in potential districts which may serve as Common Facility Centre for FPOs in processing and value addition. This will also support the mandate of secondary agriculture promotion.

(vi) Self Help Groups (SHGs) may be leveraged to create market linkages and for demand generation in these FPOs. KSRLP and NLM may design this project in association with the Department of Agriculture, horticulture, sericulture, and other allied departments. If they are able to use SHGs for all the value

addition for the Agri produce it not only increases the price they get for the produce but will also provide employment opportunities in rural areas. Most of the value addition activities are concentrated in metro cities using the workforce from rural areas. The training and capacity-building needs may be met through the farm universities and business incubators established in these universities.

(vii) Further, it is seen that where companies (Food & Agri tech companies) start to procure directly from FPOs the job creation and revenue of FPOs see a significant increase. This model of providing linkage between FPOs and Food and Agri tech should be scaled up across the State for creating a sustained job market in rural areas. With regular output market linkages opportunities for FPOs to have 5-8 fixed jobs can be easily achieved. There are over 750 such FPOs in Karnataka.

b) *Agritech Start-ups and Agripreneurs*:

(i) Measures need to be initiated to create and increase awareness regarding entrepreneurship opportunities in rural agri-ecosystem, particularly in FPOs, rural agripreneurs, particularly 1st generation entrepreneurs need to be provided a platform to gain hands-on experience by conducting the agri-entrepreneurship training programs. The subgroups of the Task Force interacted with a few agritech companies & have identified the potential for job creation by these companies. Five pilot districts for promoting agripreneurs may be identified and they may be linked to five farm universities in the State to start with (Bengaluru, Dharwad, Shivamogga, Raichur and Bagalkot). Farm universities, ICAR institutes, and B-schools in above/close to each of districts need to be identified to seek their support to help agripreneurs with interns, in capacity building & help them in providing business inputs help from a few private institutes may also be obtained to create ground teams at these districts.

(ii) These start-ups also require specific support in the form of capsules in different sectors of interest to their potential customers like FPOs. Most of the universities have business incubators and thus extending support to these start-ups becomes easy. Under ODOP scheme there is a provision to create food tech companies in each District. These companies can easily create 300-500 jobs and also provide buyback assurance of the crop grown in that district. It is essential to attract mission-driven entrepreneurs to set such companies which will accord economic benefit for both the entrepreneur and the region. Further, in these pilot Districts,it is essential to identify agritech start-ups that can be scaled up.

c) *Integrated Farming System (IFS) Model:*

There is a huge potential to boost the IFS model in the Agri sector. This is particularly helpful for small and marginal farmers. However, this model requires initial finical assistance and technical mentoring to farmers. This involves constraints of sourcing of inputs and marketing of smaller volumes

of products which are most of the time perishable in nature. However, community farming of IFS may be one approach to address the marketing issues. If implemented rightly there is every chance to ensure a regular monthly income to our farmers. It also encourages farmers to provide regular field jobs for 4-5 persons per acre of land. There are a handful of farmers getting the benefits of these already and have built their fortunes. Government should aim to promote best bet models recommended for each agroclimatic zone by the farm universities with required skill development through farm universities. These models can create ample job opportunities. Experiential centres of the farm universities need to be strengthened in pilot districts to catalyze technology adoption. Further, focused task groups need to be created in pilot districts.

End of the Report

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Annexure-1

Proceedings of Government of Karnataka

Sub: Constitution of Karnataka Skill and Entrepreneurship Task Force for career guidance, training and enhancement of employment & entrepreneurship opportunities with representatives of private and public sector

*****

Preamble

Demographic dividend is one of the major advantages for our country with 100 million youth entering the workforce in next 10 years. In Karnataka around 30% of the population is in the working age group of 15 to 29 years. Around 3-4 million youth are unemployed. The State has an opportunity of achieving faster economic growth as it is one of the developed and industrialized State in the country and aspiration of the youth are at much higher level. Right interventions and planned at the right time will facilitate the youth to reach goals.

With the development of digital technology and its application in all spheres of life, it becomes important that youth be exposed to digital skills and its application. With 21st century skills becoming important to survive in the information age, youth have to be experientially learning the skills. Skill like Critical thinking, Creativity, Collaboration, Communications, Information literacy, Media literacy, Technology literacy, Flexibility, Leadership, Initiative, Productivity and Social skill becomes essential tools for surviving in the new information age. Youth have to be prepared to face the new world with these essential skills. This applies to all spheres life be it employee or an entrepreneur to succeed in their lives. With the age of 5G technology dawning the world, it becomes indispensable for the youth to be communicative, creative and collaborative. Technology being pervasive these skills will be required irrespective of urban or rural setting. With technology getting into all fields of work and many of the earlier manual jobs disappearing youth have to aligned to the new challenges and new way of working. Jobs or creation of enterprises will be at the level of adapting for changes and life-long learning.

Therefore, it is essential that with extensive discussions with all the stakeholders are to be held to chalk out a plan for the 6 million youth of Karnataka. With huge technological change coming up in the State working on mission mode is required to utilise the demographic dividend and to bring the State on top in the Country. Several initiatives by the Central/State Government /Social organization academic, academic institutions, Corporates/CSR and Foundations. It is required to converges all these initiatives and collaboration by leveraging resources and strength to deliver significant impact on the ground.

Hence, there is a need to operate on a Mission mode where the social sector, private sector and the Public sector come together to explore synergies and co-create solutions in this pursuit of creating 10 million economic opportunities.

Therefore, it has been decided in the meeting held by Hon'ble Deputy Chief Minister on 8th, 9th March 2021 to constitute a multi stakeholder taskforce viz Karnataka Skill and Entrepreneurship Task Force with members from social / privates sector / State govt to drive collaborate and to create models. The thematic areas and terms of references with representatives of depts are detailed with modalities of each Task Force.

Hence the Government Order.

Government Order No. SDEL 33 ELM 2021, Bengaluru,

Dated:08-04-2021

As explained in the preamble, Govt is pleased to constitute a multi stakeholder Task Force viz. **Karnataka Skill and Entrepreneurship Task Force** with members from Social Sector/Private Sector and State Govt. representatives to drive collaborations and to create development models with the following objectives.

- Equipping the youth with digital skills and relevant 21st Century Skills with entrepreneurial mindsets.
- Preparing the future generation for the future of work –which is digitally and entrepreneurial based models with career counselling and internship/experiential mode.
- Aligning market opportunities in the Digital Services, Agriculture/Agri-tech and various local job-creating verticals like handloom/handicrafts, manufacturing, tourism, retail/e-commerce and logistics.
- Local job creating and a nurturing entrepreneurial ecosystem at the District level so that these growth opportunities are spread equitably across the State.

The Karnataka Skill and Entrepreneurship Task Force is constituted with the following members:

1.	**Secretary to Government, SDEL**	**Chairperson**
2.	Commissioner, Collegiate & Technical Education	Convenor
3.	Prashanth Prakash, Chairman, Karnataka Vision Group for Start-up	Member
4.	Madan Padaki, Co-founder and CEO .1 Bridge	Co-Convenor
5.	Commissioner, Department of Employment and Training	Member
6.	Commissioner for Industrial Development an	Member

	Director of Industries and Commerce	
7.	Commissioner for Labour	Member
8.	Commissioner for Public Instructions	Member
9.	Managing Director, Karnataka Skill Development Corporation	Member
10.	Mission Director, Rural and Urban Livelihoods	Member
11.	Managing Director, Government Tool Room and Training Centre	Member
12.	Managing Director, Karnataka Innovative and Technology Society (KITS)	Member
13.	Dorector, MSME	Member
14.	Director, Centre for Entrepreneurship Development of Karnataka (CEDOK) –Dharwad	Member
15.	Commissioner, Agriculture	Member
16.	Commissioner, Horticulture	Member
17.	Director PU Board	Member
18.	Executive Director, Karnataka State Higher Education Council	Member
19.	Mekin Maheshwari CEO, Udhyam Learning Foundation	Member
20.	Prasanna, CEO, Shikshana Foundation	Member
21.	Murlidhar, CEO, Lodestar Career Guidance	Member
22.	Murali Krishna, Child Protection Officer, UNICEF and Yuwaah	Member
23.	Vijetha, Executive Director, TiE, Bangalore	Member
24.	M Srinivas Rao, CEO, Global Alliance for Mass Entreprenership (GAME)	Member
25.	Govindraj Jeyachandran, State Project Head Karnataka (UNDP)	Member
26.	Pankaj, CEO, Head Held High Foundation	Member
27.	Smita Malipatil, CEO, Indivillage	Member
28.	C.M.Patil, CEO, Krishikalpa	Member

The Modalities of the Taskforce are as under:

- The Taskforce is formally constituted for a period of 1 year and can be extended if required.
- Each of these Sub-group leads will co-opt 3-4 other experts from the industry into the working group.
- The Sub-working groups will publish a work-plan with action items and milestones for 12 months.
- The Core Taskforce Members to meet once a month for a detailed review and synchronization.
- The Taskforce to be supported by a Secretariat of a dedicated team of 3-4 people to co-ordinate.

The details of Sub groups and the thematic areas and terms of reference with Govt and Private representatives are as follows:

Sub Group	Thematic Area	Terms of Reference	GoK Departments	Private representatives
1A	Digital Skills and Entrepreneurial Mindsets – Schools and Colleges	• Co-create models of inculcating entrepreneurial mindsets, digital skills and 21st Century Skills in schools and colleges. • Define measurements of effectiveness of these models. • Implementation roadmap for the entire State	• DCTE • Industrial Trg and Employment • GTTC • Secondary Education • PU Board • KSHEC	1. Sri. Mekin Maheshwari, CEO, Udhyam Learning Foundation 2. Sri Prasanna CEO Shikshana Foundation
1B	Career Information and Guidance	• Define effective models of career guidance that can be delivered at scale in all Govt. Schols and colleges. • Co-create experiential learning through internship, projects, etc. • Implementation roadmap for the entire State	• DCTE • Industrial Trg and Employment • GTTC • Secondary Education • PU Board • KSHEC • KSDC	1. Sri. Murlidhar, CEO, Lodestar Career Guidance 2. Sri. Murali Krishna, UNICEF /Yuwaah
2	Youth Entrepreneurship Incubation	• Co-create a model for mass Entrepreneurship incubation in all	• IT/BT • DCTE • GTTC	1. Smt. Vijetha, Executive Director, TiE.

	@ Colleges	colleges-including building business plans. Mentoring financial linkages, etc. • Implementation roadmap for the entire State	• KSHEC • Karnataka Digital Economy Mission (KDEM) • CEDOK	Bangalore. 2. KDEM
3	Building Entrepreneurial Ecosystems at Districts and driving local jobs/services	• Build a playbook to for energizing entrepreneurial ecosystems at District-level that promotes ad celebrates the growth of local business • Bring together all ecosystem actors in 5 identified potential sectors to work out a joint roadmap (incl. policy enablers) for enabling the growth of local products and services creating entrepreneurs and jobs-with synchronized commitments and milestones by all actors • Potential Sectors: Handloom/Handicraft, Manufacturing Tourism, Logistics. Retail/E-Commerce	• IT/BT • KSDC • Livelihood Mission • CEDOK • Dept of Industries (C &I) & (MSME) • KSHEC	1. Sri. M Srinivas Rao, CEO, Global Alliance for Mass Entrepreneurs hip (GAME) 2. Sri. Govindraj Jeyachandran, UNDP 3. Sri. Pankaj, Head Held High Foundation
4	Digital Services and Tech Based Models	• Bring together all ecosystem stakeholders and work out a joint roadmap (incl. policy enablers) for creating local entrepreneurs and jobs across the State, with synchronized commitments and milestones by all actors	• IT/BT • Karnataka Digital Economy Mission (KDEM)	1. Ms. Smita Malipatil, CEO, Indivillage 2. KDEM
5	Agri and Agri-tech	• Bring together all ecosystem actors and	• IT/BT • Dept of	1. Sri. C.M.Patil, CEO,

		work out a joint roadmap (incl. policy enablers) for enabling the agri-tech revolution to reach all Districts creating entrepreneurs and jobs at the local level, with synchronized commitments and milestones by all actors	Agriculture Dept. of Horticulture	Krishikalpa

A room in Secretariat to be allotted for functioning of the six sub-groups and the said Taskforce to be supported by Secretariat of a dedicated team of 3 to 4 people to co-ordinate.

By order and in the name of
Governor of Karnataka
Sd/-
(Siddiq Pasha)
Deputy Secretary to Government
Skill Development, Entrepreneurship
And Livelihood Department.

To:

1. Additional Chief Secretary to Government and Development Commissioner
2. Secretary to Govt., SDEL Dept.,
3. Commissioner, Industrial Training and Employment, Koushalya Bhavan, Bengaluru.
4. Commissioner, Collegiate & Technical Education
5. Commissioner for Industrial Development and Director of Industries and Commerce.
6. Commissioner for Labour
7. Commissioner for Public Instructions
8. Commissioner, Agriculture
9. Commissioner, Horticulture
10. Prashanth Prakash, Chairman, Karnataka Vision Group for Start-up
11. Madan Padaki, Co-fouder and CEO .1 Bridge
12. Mission Director, Rural and Urban Livelihoods
13. Managing Director, Karnataka Skill Development Corporation, Dairy Circle, Kaushalya Bhavan, Bengaluru-29.
14. Managing Director, Government Tool Room and Training Centre, Rajajinagar Industrial Area, Bengaluru.
15. Director, CEDOK, Dharwad
16. Managing Director, Karnataka Innovative and Technology Society (KITS)
17. Joint Secretary, KGTTI

18. Director, MSME
19. Director, PU Board
20. All Deputy Commissioners
21. All CEOs of Zilla Panchayats
22. Executive Director, Karnataka State Higher Education Council
23. Mekin Maheshwari CEO, Udhyam Learning Foundation
24. Prasanna, CEO, Shikshana Foundation
25. Murlidhar, CEO, Lodestar Career Guidance
26. Murali Krishna, Child Protection Officer, UNICEF and Yuwaah
27. Vijetha, Executive Director, TiE, Bangalore
28. M Srinivas Rao, CEO, Global Alliance for Mass Entrepreneurship (GAME)
29. Govindraj Jeyachandran, State Project Head Karnataka (UNDP)
30. Pankaj, CEO, Head Held High Foundation
31. Smita Malipatil, CEO, Indivillage
32. C.M.Patil, CEO, Krishikalpa
33. PS to Deputy Chief Minister, Higher Education, Electronics, IT-BT and S&t and SDEL
34. All DSDO/ACs of the District/All Taluk Eos of TPs
35. Internal Financial Advisor, C & I Department, Vikas Soudha
36. Deputy Secretary to Government, Skill Development, Entrepreneurship & Livelihood Department.
37. Guard Fil/Extra Copy.

Annexure-2

Proceedings of Government of Karnataka

Sub: Constitution of Karnataka Skills and Entrepreneurship Task Force for career guidance, training and enhancement of employment & entrepreneurship opportunities with representatives of private and public sector.

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Preamble

GO has been issued constituting Karnataka Skills and Entrepreneurship Task Force for career guidance, training enhancement of employment and entrepreneurship opportunities with representatives of private and public sector.

In the said Task Force 6 Sub Groups have been formed with thematic areas and terms of reference with govt and private representatives. Virtual meeting was held on 17.04.2021 with all the members of the Task Force. In the meeting it was decided that Lead members for the Sub Committees to be appointed for all the 6 Sub Groups. It is also decided to fix a timeline of 3 months for completion of the tasks allotted to each group. The Lead members of the Sub Committees to co-opt members / experts in the field for finalising the task. Maximum of 2 interns can also be appointed to help the Sub Group and the remuneration for the interns, meeting expenses could be met out of funds allocated to KSDC from the Head of Account **2230-02-101-0-09-059.**

Hence the Government Order.

Government Order No. SDEL 33 ELM 2021, Bengaluru,
Dated: 19-04-2021 (Revised)

As explained in the preamble, Govt is pleased to appoint Lead members for the 6 Sub Committees of the Karnataka Skills and Entrepreneurship Task Force for career guidance, training and enhancement of employment & entrepreneurship opportunities with representatives of private and public sector. The details of thematic area, Lead members, Conveners, terms of references and details of govt and private representatives of the Sub Committee is given in **Annexure**.

The Lead members of the Sub Committees may co-opt members / experts in the field for finalising the task. Maximum of 2 interns can also be appointed to help the sub group and the remuneration for the interns, meeting expenses could

be met out of funds allocated to KSDC from the Head of Account **2230-02-101-0-09-059.**

By order and in the name of
Governor of Karnataka
Sd/-
(Ranganatha)
Under Secretary to Government,
Skill Development, Entrepreneurship
and Livelihood Department.

To:

1. Additional Chief Secretary to Government & Development Commissioner
2. Secretary to Govt. SDEL Dept.
3. Commissioner, Industrial Training and Employment, Koushalya Bhavan, Bengaluru
4. Commissioner, Collegiate & Technical Education
5. Commissioner for Industrial Development and Director of Industries and Commerce
6. Commissioner for Labour
7. Commissioner for Public Instructions
8. Commissioner, Agriculture
9. Commissioner, Horticulture
10. Prashanth Prakash, Chairman, Karnataka Vision Group for Start-up
11. Madan Padaki, Co-founder and CEO, 1 Bridge
12. Mission Director, Rural and Urban Livelihoods.
13. Managing Director, Karnataka Skill Development Corporation, Dairy Circle, Kaushalya Bhavan, Bengaluru – 29.
14. Managing Director, Government Toolroom and Training Center, Rajajinagar Industrial Area, Bengaluru
15. Director, CEDOK, Dharwad
16. Managing Director, Karnataka Innovative and Technology Society (KITS)
17. Joint Secretary, KGTTI
18. Director, MSME
19. Director, PU Board
20. All Deputy Commissioners
21. All CEOs of Zilla Panchayats
22. Executive Director, Karnataka State Higher Education Council
23. Mekin Maheshwari CEO, Udhyam Learning Foundation
24. Prasanna, CEO, Shikshana Foundation
25. Murlidhar, CEO, Lodestar Career Guidance
26. Murali Krishna, Child Protection Officer, UNICEF and Yuwaah
27. Vijetha, Executive Director, TiE, Bangalore
28. M Srinivas Rao, CEO, Global Alliance for Mass Entrepreneurship (GAME)
29. Govindraj Jeyachandran, State Project Head Karnataka (UNDP)

30. Pankaj, CEO, Head Held High Foundation.
31. Smita Malipatil, CEO, Indivillage.
32. C.M. Patil, CEO, Krishikalpa.
33. PS to Deputy Chief Minister, Higher Education, Electronics, IT-BT and S&T and SDEL.
34. All DSDO / ACs of the District / All Taluk EOs of TPs.
35. Internal Financial Advisor, C & I Department, Vikas Soudha.
36. Deputy Secretary to Government, Skill Development, Entrepreneurship & Livelihood Department.
37. Guard File / Extra Copy.

Annexure to GO No. SDEL 33 ELM 2021, Bengaluru, dt.19.04.2021

Sub group	Thematic Area	Lead members of the sub committees	Conveners of the Sub-Committees	Terms of Reference
1A	Digital Skills and Entrepreneurial Mindsets – Schools and Colleges	Commissioner Collegiate and Technical Education	Sri Prasanna V, CEO Shikshana Foundation	• Co-create models of inculcating entrepreneurial mindsets, digital skills and 21st Century Skills in schools and colleges. • Define measurements of effectiveness of these models. • Implementation roadmap for the entire State
1B	Career Information and Guidance	Managing Director, KSDC	Sri Murlidhar S, CEO, Lodestar Career Guidance	• Define effective models of career guidance that can be delivered at scale in all Govt. schools and colleges. • Co-create experiential learning through internships, projects, etc. • Implementation roadmap for the entire State
2.	Youth Entrepreneurship	Managing Director,	M Srinivas Rao, CEO, (GAME)	• Co-create a model for mass Entrepreneurship

	Incubation @ Colleges	GTTC, Bengaluru		incubation in all colleges- including building business plans, mentoring, financial linkages, etc. • Implementation roadmap for the entire State
3.	Building Entrepreneurial Ecosystems at Districts and driving local jobs/services	Mission Director, National Livelihood Mission (R & U)	Sri. Govindraj Jeyachandran, UNDP	• Build a playbook to for energizing entrepreneurial ecosystems at District-level that promotes and celebrates the growth of local businesses • Bring together all ecosystem actors in 5 identified potential sectors to work out a joint roadmap (incl. policy enablers) for enabling the growth of local products and services creating entrepreneurs and jobs– with synchronised commitments and milestones by all actors. • Potential Sectors: Handloom/Handicraft, Manufacturing, Tourism, Logistics, Retail/E-Commerce
4.	Digital Services and Tech Based Models	Director, Information Technology & Biotechnology	Ms. Smita Malipatil, CEO Indivillage.	• Bring together all ecosystem stakeholders and work out a joint roadmap (incl. policy enablers) for creating local entrepreneurs and jobs across the State, with synchronised commitments and

				milestones by all actors
5.	Agri and Agri-tech	Director, Horticulture dept.	Sri. C.M. Patil, CEO, Krishikalpa.	• Bring together all ecosystem actors and work out a joint roadmap (incl. policy enablers) for enabling the agri-tech revolution to reach all Districts creating entrepreneurs and jobs at the local level, with synchronised commitments and milestones by all actors

Annexure-3

Entrepreneurship Mindset curriculum for ITI Students

This Program is aimed at training unemployed youth in the age group of 18 to 45 years for establishing their own enterprises

TITLE	Entrepreneurship Development Program (EDP)
Pre-requisites	Inclination for taking up self-employment activities in the interested areas of agriculture / service / manufacture or trade business. Candidate should be able to read and write local language. Minimum 8th passed is preferred. More ideal for ITI, Diploma and Engineering Graduates.
Training outcomes	At the end of the training, the candidates will be able to 1. Appreciate the importance of embarking on self-employment and has developed the confidence and personal skills for the same. 2. Identify business opportunities in chosen sector / sub-sector and plan and market and sell products /services 3. Start a small business enterprise by liaising with different stakeholders 4. Effectively manage small business enterprise

Sl. No.	Course Component	Key Learning Outcomes
1	**Professional Knowledge-** 1. Introduction to Entrepreneurship 2. Knowledge of Achievement Motivation and Positive Psychology 3. Understanding of the basic aspects of Business Management ▪ Concepts related to planning and efficiency ▪ Concepts related to	1. Trainee is clearly able to differentiate between wage employment, self-employment and entrepreneurship 2. Understand, appreciate and develop positive thinking and self-confidence for embarking on self-employment / entrepreneurship. 3. Candidate is able to appreciate the importance of systematic planning in setting up and managing a business enterprise. 4. Candidate is able to understand the

	Risk Assessment ▪ Various aspects of financial	concept of efficiency and its key role in success of an enterprise 5. Candidate is able to understand the
	Management • Book Keeping and Accountancy • Banking and Sources of Finance • Working Capital Management • Costing and Pricing • Insurance • Business law sand Taxation ▪ Marketing Management • Overview of Indian Rural Market • Market Segmentation • 4 Ps of Marketing • Concept of USP • Marketing Mix • Market Survey 4. Legal aspects, regulatory aspects of SMEs and Launching Formalities 5. Business Strategy and Growth	concept of Risk and Risk Assessment and Risk-Taking Ability 6. Candidate knows various aspects of financial management and its key role in the success of small business enterprise. 7. Candidate has understood the concepts relating to Insurance and taxation and its role in ensuring proper functioning of an enterprise. 8. Knows the legal aspects governing MSMEs 9. Understands the concept of Government regulation with examples of various sectors. 10. Understands the procedure involved in launching an enterprise and issues involved in the same. 11. Knows the concept of 'business strategy' and importance of growth-oriented thinking and planning.
2	**Professional Skills** 6. Ability to develop understanding of self and do SWOT Analysis 7. Abilities relating to self-motivation and developing positive Psychology 8. Entrepreneurial Competencies (RUDSETI Model of 15 Competencies)	At the end of the training the trainee is able to: 12. Engage in process of self-understanding (to limited extent) through reflection and peer feedback 13. Is able to do one' sown SWOT analysis 14. Has developed the ability to engage in positive thinking 15. Knows how to motivate one-self and others

	9. Business Management Skills in the following areas: • Financial Management • Operations Management • Materials and Inventory Management • Marketing Management **10.** Business Opportunities Identification Techniques **11.** Conducting Market Survey Preparation of Business Plan	**16.** Is able to know and practice the 15 entrepreneurial competences such as: • Initiative • Identifying and acting on opportunities • Persistence • Information management • Quality orientation • Honoring Commitments • Systematic Planning • Efficiency Orientation • Problem solving abilities • Developing self-confidence • Assertiveness • Persuasion • Ability to influence others • Ability to monitor self and others • Concern and respect for others especially employees **17.** Ability to maintain simple books of accounts and prepare financial Statement for small business **18.** Ability to estimate cash flow and manage the same **19.** Skills in goods and inventory management **20.** Ability to engage in the exercise of identifying business opportunities in chosen sector / sub-sector /area of work by gathering and analyzing information from multiple sources
		21. Skills and ability to conduct market survey in local area on a limited scale **22.** Ability to prepare simple business plan as per given instructions / protocol provided. Trainee is able to analyze major trends in a given economic sector / sub-sector and identify Business Opportunities. Trainees able to devise a simple marketing and sales strategies and plan for a small business

3	**Core Skills** 13. Communication Skills 14. Time Management Skills 15. Problem Solving 16. Creative Thinking 17. Developing healthy Inter- personal relationship 18. Team Work Abilities 19. Leadership Abilities	24. Ability to communicate effectively– both oral and written 25. Effectively use various forms of media for business communication 26. Ability to plan and manage time and take decisions to ensure good time management 27. Skills of problem solving and lateral thinking 28. Think creatively and out of the box 29. Manage inter-personal relationship at work place and resolve conflict 30. Able to manage small team of workers 31. Demonstrate leadership abilities in difficult situations

Entrepreneurship Development Programme (EDP) for Micro Entrepreneurs

SL No	Subject	Mode of delivery	Hrs.
MODULEI - Introduction to Entrepreneurship			
1	**Registration & Inauguration.** • A formal gathering • Introduction of trainers • Objectives of the programme • Rules & Regulations of the Institute	Lecture, Video	2 hrs
2	**Rapport building & unfreezing – Ice breaking exercise** • Climate Setting & confidence building by Ice Breaking exercises • Familiarizing themselves with each other • Importance of interaction in the learning process • Psychological approach–Rising participants' consciousness • Shedding shyness, reservations, inferiority complex etc.	Games, Exercises, Group discussion, Skits etc	2 hrs

MODULE-II-Achievement Motivation and positive psychology			
3	**Achievement Motivation - Confidence building** • What is motive? Internal & External Motivation • Motivational Factors leading to motivation • Positive thinking • Shedding negative feelings • Experience Sharing by successful entrepreneurs • Motivational videoclips • Scope for Self-employment	Lecture PPT Video	2 hrs
4	**Why self-employment - Advantages over wage employment, Entrepreneurship Development** • Need and importance of embarking on self-employment • Advantages of self-employment vis-à-vis wage employment • Assessing self to know entrepreneurial tendencies • Process of Entrepreneurship Development • Importance of behavioral changes for entrepreneurship • Difference between Income Generating Activity, Self-Employment and Entrepreneurship • Characteristics of an entrepreneur –Dynamics of Entrepreneurship • Attitude and its impact on Entrepreneurship	Group Discussion, PPT	2 hrs
5	Self-Rating Questionnaire (SRQ) on Competencies – Administering self-rating questionnaire from Achievement Motivation Training Workbook	Exercise	
MODULE-III-Entrepreneurial Competencies			
6	Entrepreneurial competencies – importance, explanation with examples, case study for identification of different **competencies** • Defining Competencies–Combination of knowledge, skill, motive and trait • Understanding all the 15Competencies • Relevance of entrepreneurial Competencies at different stages of enterprise launching and management • Facilitating internalizing the entrepreneurial competencies by way of stories, viewing videos etc. • Identifying entrepreneurial competencies through a case study How success is related to Entrepreneurial Competencies	Lecture, PPT, Group Discussion , Video Clips & Case Study	8 hrs

	Self-Rating Questionnaire (SRQ) on Competencies – evaluation	Exercise	
7	Ring Toss Exercise • Importance of Risk Taking & Goal setting for becoming an entrepreneur • Examine one's own risk-taking behavior i.e a high-risk taker, moderate or low risk taker by administering Ring Toss exercise • Need to take Moderate and calculated risk	Game, Discussion, Lecture, PPT	4 hrs
8	Systematic Planning & Efficiency Orientation–Boat building exercise • What is quality, attributes of quality • Factors affecting quality • Quality Management • Systematic planning	Game, Discussion, PPT, Lecture	4 hrs
9	Tower Building Exercise –Eradication of Dependency Syndrome • Role of Self confidence in performing any activity • Importance of planning & scanning the environment • Developing belief in own ability to complete a given task / face a challenge without depending upon external assistance	Game, Discussion, Lecture	4hrs
MODULE -IV-Personal Skills			
10	**Problem Solving & Creativity** • Need for developing problem solving skills • Process involved in problem solving • Importance of Creativity in Entrepreneurship	Lecture, PPT, Video, Games	2hrs
11	**Effective Communication** • Importance of communication skills in running an enterprise • Elements of effective communication • Barriers of effective communication & the ways to overcome it	Lecture, PPT, Exercise	2 hrs
12	**Time Management** • Time Management – time as are source • Key factors of managing the time effectively • Prioritizing the work	Lecture, PPT, Discussion	2 hrs
MODULE-V- Business Management			
	Banking - Deposits & Advances, Lending Schemes / Government Sponsored Schemes		

13	• Various Deposit Schemes and other services of banks • General Advances -Security Norms & margin requirement • Term Loan & Working Capital finance • MSME Credit • Mudra Loan • PMEGP Scheme • CGTMSE Scheme	Lecture, PPT, Discussion	4 hrs
14	**Marketing Management/Packaging/branding** • Indian rural market an overview • Elements of successful marketing • Market segmentation • 4 Ps of marketing • Marketing mix • Product mix • Unique Selling Proposition • Need for understanding consumer behavior and preferences • Importance of customer service • Marketing strategies for exploring opportunities in rural market • Online marketing	Lecture, PPT, Discussion	4 hrs
15	**Costing & Pricing, Fixed cost & Variable Cost, Breakeven point etc.** • Components of direct and indirect, fixed and variable cost • Importance of Costing in profitability • Concepts of pricing and factors affecting pricing decisions • Commercial feasibility of an enterprise • Break Even analysis	Lecture, Discussion, PPT and Exercise	2 hrs
16	**Inventory Management** • Stocking Pattern • Demand Forecasting, • Warehouse Flow, • Inventory Turns/Stock Rotation, • Cycle Counting And • Process Auditing.	Lecture, Discussion, PPT and Exercise	2 hrs
17	**Working Capital and its Management** • What is Working Capital • Effect of Credit policies on working capital • Key points to note while managing working capital	Discussion, Lecture, PPT, Exercise	2 hrs

	• Cycles of Working Capital		
18	**Book Keeping & accountancy – cash book, sales & purchases, book keeping methodology** • Various types of records to be maintained in small enterprises - Cash Book, General Ledger etc.	Lecture, PPT, Discussion, Exercise &	4 hrs
	• Accounting methodology • Various heads of accounts and how to appropriate expenditure there in • Financial Statements	Case Study	
19	**Insurance** • Importance of securing assets through insurance • Types of insurance cover available • General Insurance (fire, theft, burglary etc.) • Insurance Schemes of the Government • How to claim insurance	Lecture, PPT, Discussion	2 hrs
20	**Business Laws – Taxation & related laws:** • Legal aspects of weights and measures • IT, VAT Sales Tax, State and central Govt. Rules and regulations in business • Compliance for various statutory requirements VAT, CST, Income Tax etc. • Compliance for various statutory requirements (VAT, CST, Income Tax etc.)	Lecture, PPT, Discussion, Exercise	2 hrs
21	**Inter personal relationship, Labor Management** • Importance of maintaining good inter personal relationship with related people in business • Need for leadership in the enterprise development • Various styles of Leadership Characteristics of a good leader	Lecture, PPT, Discussion	2 hrs
22	**IT Factor in managing an enterprise - impending need.** • Importance of Computer literacy & basic knowledge of computers • E filing of various tax returns • Online marketing	Lecture, PPT, Exercise	4 hrs

MODULE-VI-Business Opportunity Identification Guidance			
23	**Business Opportunity Guidance–Description of methodology, case study–group exercise, Selection of product / service** • What is a business idea? • Tools for generating business idea • Screening of business idea–Macro screening & Micro screening • Selection of business idea • SWOT Analysis	Group Discussion, Lecture, PPT	4 hrs
MODULE-VII-Market Survey			
27	**Market Survey – methodology, sources, nature of information to be collected** • Need for market survey • Methodology to collect and use the information generated • How to develop an effective survey plan for the selected activity • Dos & don'ts for conducting market survey • Questionnaire for market survey • Market survey report format	Lecture, Group Discussion, PPT	4 hrs
28	**Market survey – Collection of information, field work.** Candidates will go to the market and collect information of identified/potential activity to assess the demand /supply position, market trends, marketing practices, competition, current State of technology etc.	Practical work	8 hrs
29	**Market Survey–Report Writing, Presentation of market survey report, discussion on presentation** Candidate will prepare Market survey report and present the report in the class followed by discussion to be moderated by the resource Person.	Group Discussion, Lecture, PPT	4 hrs
30	**Business Plan Preparation?** • Plan format • How to ascertain initial viability of a business proposal • Enlisting technical, financial, marketing and commercial aspects of business • Profitability	Lecture, PPT, Exercise, Discussion	4 hrs

MODULE–VIII-Launching Formalities			
27	**Field Visit to units established & successfully run by first generation entrepreneurs** Candidates are taken for exposure visits to Enterprises established and successfully managed by RSETI trained Entrepreneurs wherein they will be able to: • Know various steps involved in establishing a Micro Enterprise • Understand how a Micro Enterprise is managed • To identify the Entrepreneurial competencies &Entrepreneurial behavior • To analyze the external factors influencing the success or failure of the enterprise. • To analyze the internal factors affecting success or failure of the enterprise/entrepreneur. • To identify the areas/issues which can be addressed by RSETI, in a similar case, to facilitate success of the entrepreneur	Field Visit, Interaction	6 hrs
28	**Interaction with successful entrepreneurs** • Identify factors responsible for the development of the entrepreneur • Assess the Entrepreneurial Competencies of the Entrepreneur • Impact of EDP training inputs • Understand how the entrepreneur reacts to a challenging situation	Interaction followed by discussion	2 hrs
29	**Resource mobilization, supporting organizations.** • Support systems available at various District/State/national level • State/Central Government Schemes for giving impetus for entrepreneurship development	Lecture, PPT, Discussion	2 hrs
30	**Launching formalities** • Steps in launching of an enterprise, common crisis in business • Pitfall and the controls • Licensing & Registration: Formalities for obtaining Trade License from Panchayath/ Municipal agencies • Formalities for obtaining PAN Card, TAN, Service Tax &VAT Registration.	Lecture, PPT and Discussion	2 hrs

MODULE-IX-Business Strategy & Growth			
31	**Enterprise growth, expansion & diversification** • Critical factors contributing to the sustenance of an enterprise • Need for growth in the enterprise • Various avenues for growth of an enterprise • Product addition, product deletion and product substitution • Forward & backward linkages	Lecture, PPT, Exercise	2 hrs
32	**Assessment & Evaluation Test**	Exercise	2 hrs
33	**Feedback & Valedictory**		2 hrs

Annexure-4

Entrepreneurship Mindset Curriculum for short term skill courses under CMKKY.

Session No	Description	Training Duration
1	Who is An Entrepreneurial Individual?	55 Minutes
2	What is My Aspiration?	50 Minutes
3	I Work, I Achieve	55 Minutes
4	Regular Ef ort Will Bring Me Closer to My Goal	50 Minutes
5	It Starts With Me	55 Minutes
6	My Class Environment	50 Minutes
7	Inspiration is Everywhere	55 Minutes
8	Feedback is Important for Growth	50 Minutes
9	Mistakes Help Us Learn	55 Minutes
10	Team Presentations	50 Minutes
11	Let's Reflect	55 Minutes
12	Who is an Entrepreneur?	50 Minutes
13	Identifying Issues Around Us	55 Minutes
14	Making Value-based Choices	50 Minutes
15	Building Group Consensus	55 Minutes
16	Importance of Talking to Customers	50 Minutes
17	How to talk to Customers?	55 Minutes
18	Customer Data Analysis	50 Minutes
19	Business Idea Generation and Finalization	55 Minutes
20	Creating a Prototype	50 Minutes
21	Let's Reflect	55 Minutes

22	Goal Setting and Business Planning	50 Minutes
23	Raising Funds for the Business	55 Minutes
24	Learning from Our Failures	50 Minutes
25	Money Tracking and Accounting	55 Minutes
26	Giving Each Other Feedback	50 Minutes
27	Conflict Resolution	55 Minutes
28	Revisiting the Business Plan	50 Minutes
29	Unique Value Offering of the Business	55 Minutes
30	Problem Solving with Customers	50 Minutes
31	Marketing the Business	55 Minutes
32	Revisiting the Business Plan	50 Minutes
33	Ethics in Business	55 Minutes
34	Let's Reflect	50 Minutes
35	Business Presentation and Pitch	55 Minutes
36	My Learning About Entrepreneurship	50 Minutes
37	How Much Have I Changed?	55 Minutes
38	Learning is a Lifelong Process	50 Minutes
39	Time for Celebration	55 Minutes
	Total Duration	**34 Hours**

Annexure-5

Technical Entrepreneurship Program Curriculum.

The Technical Entrepreneurship (TE) program focusses on helping students develop entrepreneurial mindset needed to create, refine and commercialize new products and services, whether in an established company or a start-up. Students enrolled in TE pathway learn by experiencing the idea-to-venture process in an education environment that is hard-wired to support the development of novel, innovative, and commercially viable technologies.

The TE Curriculum

At the diploma / engineering level the technical entrepreneurship program offers an introductory skill-building course with emphasis on Creativity Methods. These modules include Reading material, hands-on work, lab work, guest lectures, field visit, start-up/founder interaction, case studies, assignments, individual and team projects.

Semester 1

Sl.	Course	Hours / Credits
1	***Creativity and Systematic Innovation Methods*** that includes Creativity methods, brainstorming, pain storming, anthropological research, the Kano model, trimming technique, Blue Ocean Strategy, DeBono's Six Hats technique, biomimicry, TRIZ, lateral benchmarking, parameter analysis, decomposition, nonlinear design, Taguchi's method, the art of tinkering and other innovation methods.	120 / 6
2	***Methods in Visual Thinking*** that includes Visualization techniques, visual thinking and envisioning information as taught by Edward Tufte and others, multimedia tools and methods. Appropriate use of technology as applied to new product development and no programming required.	60 / 4
3	***Methods in Prototyping, Modelling & Testing*** including Generation of mock-ups and looks-like prototypes, CAD, digital fabrication, electromechanical-optical bread-boards design, fabricate, build and test multiple generations of rapid prototypes, computer modelling methods, testing, sensors and data collection; firmware, systems integration and debugging, programming/coding, back-end (server/cloud) and front-end (user) software. Three major focus areas will be: Mechanical (2 Weeks), Electronics (2 Weeks) and Software (2 Weeks).	120 / 6
4	***Intellectual Property (IP) Creation and Management*** including Intellectual property issues: confidentiality, nondisclosure, agreement not to compete, founders' agreements, patents, copyrights, trademarks, trade secrets both domestic and	30 / 2

	international.	
5	***Technical Entrepreneurship Projects 1*** including an introduction to technical entrepreneurship projects, customer discovery in selected industry segments, research of target technologies, industries and markets.	30 / 2
Total No. of Hours / Credits		360 / 20

Semester 2

Sl.	Course	Hours / Credits
6	***Technical Entrepreneurship Projects 2*** including an introduction to technical entrepreneurship projects, customer discovery in selected industry segments, research of target technologies, industries and markets.	30 / 2
7	***Integrated Product Development (IPD) Process*** including an integrated and interdisciplinary approach to engineering design, product development life cycle, BOM, design for manufacturing, industrial design and the economics of new product development. Topics include design methods, philosophy and practice, the role of modeling and simulation, decision making, risk, cost vs. benefit, material and manufacturing process selection, circular economy principles, modular design, customization, quality, planning and scheduling, product costing, unit economics, service and customer support.	120 / 8
8	***Entrepreneurial Start-up Process (ESP)*** including key aspects surrounding starting a company, including feasibility analysis, business model development and evaluation, formation of new venture teams, financial forecasts, sources of financing, role of incubators/accelerators, term sheets, marketing and sales, industry analysis, operations planning - including space, legal, compliance, statutory and financial management.	120 / 8
9	***Entrepreneurial Start-up Project*** including applying the concepts and processes developed in parallel with ESP above. Developing your business platform including Lean Business Model or Business Canvas Modelling, start-up dream team planning, voice of the customer or personas, customer survey and feedback, 2 Minutes Elevator Pitch Video and business plan to launch their start-up idea and start operations. Mentorship towards grant application writing for aids, grants and start-up competitions.	240 / 16
Total No. of Hours / Credits		300 / 34

Graduating Standards

Students will be considered graduated from the TE Program only if they satisfy the following criteria;

- 80% Attendance
- Voice of the Customer or Personas
- Minimum Viable Product (Functional Prototype)
- Lean Business Canvas or Business Canvas Modelling for their start-up Idea
- 2 Min Elevator Pitch (Video)
- Business Plan
- Customer survey & feedback
- Application to at least 1 Start-up/Idea to POC Grant

Annexure-6

(Career Information and Guidance)
Career guidance needs and goals at various levels:

I. 8th & 9th

a) Learn about self - Personality, Interest, Aptitude–Explore and Skill, understand oneself, Explore the World, and add new skills
b) Learn about importance of career and education planning–Understand the importance of Career Education and Why Career Plan is needed.
c) Understand importance of academics or marks in this process–Connect the academics to real life examples and understand the importance in process.
d) Learn that there are many suitable options–Explore options according to individual strengths, aspiration, interest and passion.
e) Start Exploring different Careers-Explore the options available and understand the requirements of skill and attributes to get there.
f) Improve marks and add skills required–Improve the academic performance and add new skills during the progression.

II. 10th

a) Get self-assessment done – Self Assessment is needed to understand one's strengths and weakness. It also helps in orienting the individual towards proper Goal.
b) Explore wish list of careers, education options - When it comes to selecting a better career option, it is not just confined and restricted to stream and subject selection.
c) Finalize plan based on shortlist - Before taking admission in any educational institution and opting for any subject to study, students are advised to do well research and fact-check all the details.
d) Prepare for entry gate for next step - board exam, test for ITI, test for vocational course, +2 admission or coaching for +2 etc. – One should get prepared based on the choice made with suitable interventions like coaching classes and guidance sessions.
e) Get ready with finances to move to the next step – it necessary to decide if one has the ability for self-finance or needs assistance from educational loans.

III. PUC

a) If Career Guidance is not done in 10th - then do fully 10th process. – If a student has not undergone any Career Guidance, then he will have to undergo the full program to fill the gap.
b) If CG done in 10th - then look for coaching institutes, resources - and enroll.

IV. College – Technical Education

a) Engineering, Agriculture, ITI–Choose the path based on once interest, knowledge, skill and passion.
b) Decide what job in that sector to choose–based on the path map a suitable sector and job role based on periodic self-assessment.
c) Core Job, R&D, Sales, Support, or Management or IAS Etc. Decide whether the choice is in core industry such as design and development or in-service industry like developer and operations.
d) Decide what PG to choose–whether to do Post Graduation immediately or after getting exposure to the industry. Relevance and Future of PG Courses in ever changing industry scenario.
e) Should I become Entrepreneur? Explore the Entrepreneur traits and seek right guidance and funding linkages which would support in starting up an enterprise and make it self-sustainable.
f) Decide on which Company to Join & prepare for job interviews – Once decided on the job start preparing for Entry Level Tests, Technical Interviews, and Management Interviews.
g) Find out about each type of job–explore job portals and seek help from alumni network.
h) Match self to that and decide–Assess oneself by taking mock tests and decide the right match.
i) Find out about companies through Company Website, Job Portals and alumni network.
j) Discover selection process-prepare for selection process. Practice tests, mock interviews.

V. College General Education

a) BA, BSc, B. Com, B. Voc-Choose the path based on once interest, knowledge, skill and passion.
b) Jobs – Accountancy, Service, Sales, After Sales.
c) PG - whether to do Post Graduation immediately or defer it for the future.
d) Students may be more undecided–hence it will be closer to 10th CG for some students.
e) Find out about each type of job-explore job portals and seek help from alumni network.
f) Match self to that and decide-Assess oneself by taking mock tests and decide the right match.
g) Find out about companies-through Company Website, Job Portals and alumni network.
h) Discover selection process-prepare for selection process. Practice tests, mock interviews

Annexure-7

(Youth Entrepreneurship Incubation in Colleges)

Proposed Entrepreneurship Mindset Development Curriculum for Undergraduate Courses

Sl.	Subject	Mode of Delivery	Hrs.
	PART I – Introduction to Entrepreneurship		
1	***Rapport building & unfreezing – Ice breaking exercise*** • Climate Setting & confidence building by Ice Breaking exercises • Familiarizing themselves with each other • Importance of interaction in the learning process • Psychological approach – Rising participants' consciousness • Shedding shyness, reservations, inferiority complex etc. • Introduction to Entrepreneurship	Games, Exercises, Group discussion, Skits, etc	2
	PART II – Achievement Motivation and positive psychology		
2	***Achievement Motivation - Confidence building*** • What is motive? Internal & External Motivation • Motivational Factors leading to motivation • Positive thinking • Shedding negative feelings • Experience Sharing by successful entrepreneurs • Motivational video clips • Scope for Self-employment	Lecture PPT, Video, Exercises	8
3	***Why self-employment-Advantages over wage employment,* Entrepreneurship Development** • Need and importance of embarking on self-employment • Advantages of self-employment vis-à-vis wage employment • Assessing self to know entrepreneurial tendencies • Process of Entrepreneurship Development • Importance of behavioural changes for entrepreneurship • Difference between Income Generating Activity, Self-Employment and Entrepreneurship • Characteristics of an entrepreneur – Dynamics of	Group Discussion, PPT, Lecture	2

	Entrepreneurship • Attitude and its impact on Entrepreneurship		
4	***Self-Rating Questionnaire (SRQ) on Competencies*** • Administering self-rating questionnaire from Achievement Motivation Training Workbook	Exercise	2
PART III - Entrepreneurial Competencies			
5	***Entrepreneurial competencies – importance, explanation with examples, case study for identification of different competencies*** • Defining Competencies – Combination of knowledge, skill, motive and trait • Understanding all the 15 Competencies • Relevance of entrepreneurial Competencies at different stages of enterprise launching and management • Facilitating internalizing the entrepreneurial competencies by way of stories, viewing videos etc. • Identifying entrepreneurial competencies through a case study How success is related to Entrepreneurial Competencies	Lecture, PPT, Group Discussion, Video Clips & Case Study	8
6	***Achievement Motivation: N-ach (Thematic Apperception Test)***	Exercise & Analysis	4
7	***Ring Toss Exercise*** • Importance of Risk Taking & Goal setting for becoming an entrepreneur • Examine one's own risk taking behaviour i.e. a high risk taker, moderate or low risk taker by administering Ring Toss exercise • Need to take Moderate and calculated risk	Game, Interaction & Analysis	4
8	***Systematic Planning & Efficiency Orientation–Boat building exercise*** • What is quality, attributes of quality • Factors affecting quality • Quality Management • Systematic planning	Game, Discussions & Analysis	4
9	***Tower Building Exercise–Eradication of Dependency Syndrome*** • Role of Self confidence in performing any activity • Importance of planning & scanning the environment • Developing belief in own ability to complete a given	Game, Discussions & Analysis	2

	task/face a challenge without depending upon external assistance		
PART IV - Personal Skills			
10	***Problem Solving & Creativity*** • Need for developing problem solving skills (Survival Game) • Process involved in problem solving • Importance of Creativity in Entrepreneurship	Exercise, Lecture, PPT, Video, Games, Role play & Case studies.	2
11	***Effective Communication*** • Importance of communication skills in running an enterprise • Elements of effective communication • Barriers of effective communication & the ways to overcome it	Lecture, PPT, Exercise, Video, Games & Role play	2
12	***Time Management*** • Time Management – time as a resource • Key factors of managing the time effectively • Prioritizing the work	Lecture, PPT, Discussion	2
13	***Non-Financial Institutional Support available from;*** • DIC, CEDOK, KVIC, KIADB, KSSIDC, NSIC, CSIR, MSMEDI, VTPC, TECSOK, KCTU etc.	Lecture, PPT, Discussion	2
14	***Banking - Deposits & Advances, Lending Schemes / Government Sponsored Schemes*** • Various Deposit Schemes and other services of banks • General Advances -Security Norms & margin requirement • Term Loan & Working Capital finance • MSME Credit • Mudra Loan • PMEGP Scheme • CGTMSE Scheme	Lecture, PPT, Discussion	2
PART V - Business Opportunity Identification Guidance			
15	***Business Opportunity Guidance – Description of methodology, case study – group exercise, Selection of product / service*** • What is a business idea? • Tools for generating business idea • Screening of business idea – Macro screening &	Group Discussion, Lecture, PPT and Brain storming	8

	Micro screening • Selection of business idea • SWOT Analysis		
PART VI - Market Survey			
16	***Market Survey – methodology, sources, nature of information to be collected*** • Need for market survey • Methodology to collect and use the information generated • How to develop an effective survey plan for the selected activity? • Dos & don'ts for conducting market survey • Questionnaire for market survey • Market survey report format	Lecture, Group Discussion, PPT	4
17	***Market survey – Collection of information, field work.*** • Candidates will go to the market and collect information of identified/potential activity to assess the demand /supply position, market trends, marketing practices, competition, current State of technology etc.	Practical work	8
18	***Market Survey – Report Writing, Presentation of market survey report, discussion on presentation*** • Candidate will prepare Market survey report and present the report in the class followed by discussion to be moderated by the resource Person.	Group Discussion, Lecture, PPT	4
19	***Product Design and Development*** • Based on output from the Market Survey, Visualization of the desired product / service and design.	Group Discussion, Inputs from the candidates, Lecture, PPT	4
PART VII - Business Plan Preparation			
20	***Business Plan Preparation?*** • Plan format • How to ascertain initial viability of a business proposal • Enlisting technical, financial, marketing and commercial aspects of business • Profitability	Lecture, PPT, Exercise, Discussion	8

PART VIII - Business Management			
21	***Marketing Management/Packaging/branding*** • Indian rural market an overview • Elements of successful marketing • Market segmentation • 4 Ps of marketing • Marketing mix • Product mix • Unique Selling Proposition • Need for understanding consumer behaviour and preferences • Importance of customer service • Marketing strategies for exploring opportunities in rural market • Online marketing	Lecture, PPT, Discussion	4
22	***Costing & Pricing, Fixed cost & Variable Cost, Breakeven point etc.*** • Components of direct and indirect, fixed and variable cost • Importance of Costing in profitability • Concepts of pricing and factors affecting pricing decisions • Commercial feasibility of an enterprise • Break Even analysis	Lecture, Discussion, PPT and Exercise	4
23	***Inventory Management*** • Stocking Pattern • Demand Forecasting, • Warehouse Flow, • Inventory Turns/Stock Rotation, • Cycle Counting And • Process Auditing.	Lecture, Discussion, PPT and Exercise	2
24	***Working Capital and its Management*** • What is Working Capital • Effect of Credit policies on working capital • Key points to note while managing working capital • Cycles of Working Capital	Discussion, Lecture, PPT, Exercise	2
25	***Book Keeping & accountancy – cash book, sales & purchases, book keeping methodology*** • Various types of records to be maintained in small enterprises - Cash Book, General Ledger etc.	Lecture, PPT, Discussion, Exercise &	2

	• Accounting methodology • Various heads of accounts and how to appropriate expenditure there in Financial Statements	Case Study	
26	**Insurance** • Importance of securing assets through insurance • Types of insurance cover available • General Insurance (fire, theft, burglary etc) • Insurance Schemes of the Government • How to claim insurance	Lecture, PPT, Discussion	2
27	***Business Laws – Taxation & related laws*** • Legal aspects of weights and measures • IT, Sales Tax, State and central Govt. Rules and regulations in business • Compliance for various statutory requirements GST, Income Tax etc.	Lecture, PPT, Discussion, Exercise	2
28	***Inter personal relationship, Labour Management*** • Importance of maintaining good inter personal relationship with related people in business • Need for leadership in the enterprise development • Various styles of Leadership Characteristics of a good leader	Lecture, PPT, Discussion	2
29	***IT Factor in managing an enterprise - impending need.*** • Importance of Computer literacy & basic knowledge of computers • E filing of various tax returns • Online marketing	Lecture, PPT, Exercise	4
	PART IX - Launching Formalities		
30	***Field Visit to units established & successfully run by first generation entrepreneurs*** • Candidates are taken for exposure visits to Enterprises established and successfully managed by the successful Entrepreneurs wherein they will be able to; ○ Know various steps involved in establishing a Micro Enterprise ○ Understand how a Micro Enterprise is managed ○ To identify the Entrepreneurial competencies & Entrepreneurial behaviour ○ To analyse the external factors influencing the	Field Visit, Interaction,	16

	success or failure of the enterprise. ○ To analyse the internal factors affecting success or failure of the enterprise/entrepreneur.		
31	***Interaction with successful entrepreneurs*** • Identify factors responsible for the development of the entrepreneur • Assess the Entrepreneurial Competencies of the Entrepreneur • Impact of EDP training inputs • Understand how the entrepreneur reacts to a challenging situation	Interaction followed by discussion	4
32	***Resource mobilization, supporting organizations.*** • Support systems available at various District/State/national level • State/Central Government Schemes for giving impetus for entrepreneurship development	Lecture PPT, Discussion	2
33	***Launching formalities*** • Steps in launching of an enterprise, common crisis in business • CPM and PERT • Pitfall and their controls • Licenses: Formalities for obtaining Trade License from Panchayat /Municipal agencies (shop establishment act) etc. • Registrations: Formalities for obtaining PAN, TAN, & GST Registration, BIS, trade mark, bar code, patenting etc.	Lecture, PPT, Exercise and Discussion	6
PART X - Business Strategy & Growth			
34	***Project Life Cycle: Enterprise growth, expansion & diversification*** • Critical factors contributing to the sustenance of an enterprise • Need for growth in the enterprise • Various avenues for growth of an enterprise • Product addition, product deletion and product substitution • Forward & backward linkages	Lecture, PPT, Exercise	2
35	**Assessment & Evaluation**	Exercise	2

Note: *Depending on the requirement the candidates may prefer to undergo Internship in addition to above curriculum.*

Abstract

Sl. No.	Year of Study	Total Hours	Total Credits
1 to 9	First	38	2
10 to 19	Second	36	2
20 to 29	Third	36	2
30 to 35	Fourth	32	2
Total Credits			**8**

Annexure-8

1. Syllabus for the Basic Management Development Program for Implementing Agencies/Officials of different Development Departments of Government of Karnataka and other stakeholders:

Objective:

Sensitizing Implementing Agencies, officers of the different development departments of State Government and other Stakeholders to appreciate, imbibe and translate the vision of the Government of Karnataka and Government of India under State Schemes and the Central Sector Scheme on Formation Farmers' Producer Organisations (FPOs)

Course Contents:

- Relevance of FPOs in the context of present agricultural scenario in Karnataka and in India
- Understanding the operational guidelines of State sector schemes and central sector scheme on Formation and Promotion of FPOs and deliverables thereof
- Role & Responsibilities of various stakeholders involved in the process of promotion of FPOs under different schemes
- Understanding the process of evolution for vibrant FPOs – their mainstreaming, participation in agri/horti/other value chains and transforming FPOs into successful business entities
- Deeper understanding of various on-going schemes of Government of Karnataka and Government of India and identifying areas for convergence, convergence facilitation with business plans of FPO
- Facilitating credit linkage of FPOs with institutional financial sources in the State
- Monitoring framework–Roles assigned to various stakeholders, Target Participants Officials of Implementing agencies, State Governments and Other Stakeholders

2. Syllabus for Basic Management Development program for the representatives of Resource Institutions and Community Based Business Organizations involved in promotion of FPOs in Karnataka

Objective:

To equip resources institutions and Cluster-Based Business Organisations (CBBOs) to understand, appreciate, imbibe, transfer and translate the vision of Government of Karnataka and Government of India under different State and Central Sector Schemes on formation & promotion of FPOs.

Course Contents:

- Overview of agriculture scenario in Karnataka and India leading to identification of issues in present agriculture scenario
- Concept of aggregation and the role of Farmer Producers' Organisations (FPOs)
- Overview of State sector schemes, Karnataka State FPO Policy and Central Sector Scheme on promotion & formation of FPOs with special focus on role and responsibilities of CBBOs
- Methodology for undertaking baseline surveys and feasibility studies leading to identification of clusters & business ideas for FPOs
- Community mobilisation and FPO formation - Nurturing and registration of FPOs under Companies & Cooperative Societies Acts
- Governance & compliance aspects in FPOs
- Preparation of business plans (input-output business, participation supply & value chains, etc.)
- Financial Planning: Capital budgeting, sources of funding & convergence with ongoing government schemes
- Management Audit in FPOs Target Participants Officials of RIs and CBBOs (Crop Husbandry, Agri-Marketing, Social Mobilisation, Law and Accounts, IT/MIS and other support officers)

3. Syllabus for Basic Certificate Training Program for existing Chief Executive Officers (CEOs) of FPOs

Objective:

To equip the Chief Executive Officers (CEOs) to effectively paly their role and undertake responsibilities in increasing shareholder's value in Farmer Producer Organisations (FPOs)

Course Contents

- Challenges for small and marginal farmers and business opportunities for FPOs
- Role and responsibilities of CEO in making FPO a vibrant business entity
- Agriculture value chains: Gaps and Mainstreaming of FPOs
- Management & Governance aspects in FPOs
- Strategic organization and management skills for CEOs of FPOs
- Book-keeping, record maintenance, MIS and internal assessment tools in FPOs
- Formulation and implementation of business plans in FPOs - Convergence aspect
- Financial Planning in FPOs Target Participants Chief Executive Officers (CEOs) of FPOs

4. Syllabus for Basic Certificate Training Program for existing Accountants of FPOs

Objective:

To train the accountants to effectively undertake the responsibility of managing the day to day accounting transactions, reconciling of accounts, preparing the monthly accounts & ad-hoc management reports and alerting management on problem accounts

Course Contents:

- Basic Accounting Concepts–Double entry system, debit, credit, frequently used accounting definitions
- Input, Procurement & sale of agricultural produce and services from members with case exercise
- Types of vouchers, voucher preparation, cash book, day book, bank book, etc.
- Financial Statements - Preparation of trial balance, profit & loss Statement, audit report, directors' report with case exercise
- Statutory registers, preservation of registers & records, reporting requirements (due dates of Statements, returns, periodicity of submission)
- Tax/ MAT Filing, GST Returns, Penalties for Non-Compliance/ Delayed Compliance Target Participants Accountants of FPOs

5. Basic Training Programme for Board of Directors of FPOs

Objective:

Orientation of Board of Directors of FPO to understand opportunity and scope for FPOs and imbibing requisite knowledge and skill for governance, management and marketing

Course Content:

- Challenges and business opportunities for FPOs in present agriculture scenario
- Enabling policy measures taken by the Karnataka Government and Government of India for the formation of FPOs
- Concept of agriculture value chain – Gaps & business opportunities for FPOs
- Role of different stake holders in governance and management of FPOs – Differentiated role of BODs & CEO
- Business planning for FPOs–Role of BoDs in business diversification and expansion
- Financial planning and understanding marketing dynamics
- Regulatory and statuary compliances for FPOs–Role of BoDs in compliance management

- Understanding the importance of record keeping, management Information Systems & internal rating systems in FPOs
- Importance of networking and convergence in the FPO business
- Strategic organizational and management skills for BoDs of FPO Target Participants Board of Directors of FPOs

6. Basic Training Programme for FIG Leaders of FPOs

Objective:

To train the FIG Leaders to understand opportunity and scope for formation of FIGs, their aggregation into an FPOs and imbibing requisite knowledge and skill for governance, management and marketing at FIG and FPO level.

Course Content:

- Promotion of FIGs as building blocks of FPO
- Challenges and business opportunities for FIGs in FPOs
- Strengthening FIGs to build robust FPos
- Concept of agriculture value chain – Gaps & business opportunities for FPOs
- Role of different stake holders in governance and management of FPOs – Differentiated role of FIG leaders and their relationship with BOD
- Business planning for FPOs – Role of FIG leaders in business diversification and expansion
- Financial planning and understanding marketing dynamics
- Regulatory and statuary compliances for FPOs – Role of FIG leaders in supporting compliance management
- Understanding the importance of record keeping, management Information Systems & internal rating systems at FIG level and in FPOs
- Importance of networking and convergence between FIGs in the FPO business