Karnataka State Education Policy (KSEP)
Dr. K Kasturirangan  
Chairman

MESSAGE

Education transforms the quality of life of future generations of children and young people and thereby of society. Education is still a basic social need for the growth and development of an aspirational society. Education is the critical path to achieve sustainability – on one side it plays an important role in poverty alleviation, better health, environmental protection and gender equality AND on other side it provides economic progress, social empowerment and professional success. Sustainability of societal development is foundation for democracy and therefore, Education must be equitable, uniformly accessible and of high-quality. Education needs strong public- and private-entrepreneurship to be a ‘social good’ that “fosters equity, equality and quality” in society.

Karnataka needs a long-term plan of action for Education – sowing a transformational eco-system today and reaping benefits, even tomorrow. In coming years, Karnataka will see rapid economic growth and development with characteristics equivalent/akin to many nations in Europe and other parts of the world. Karnataka must sustain and maintain high-levels of progress and leadership in this transformational phase of India and continue to make positive impact to the world.

In this endeavor, Karnataka needs to chart a new course in Education that is tailored to future needs of rapid technological, social and economic progress and that commits to empower students with the best and quality knowledge and skills. The state needs to commit to a uniform, renewed education agenda that is holistic, ambitious and inspirational. The main goal must be to ensure 12 years of compulsory high-quality education as a fundamental dimension of human, social and economic development of every child. The goal must also to be build higher education institutions of par-excellence with best of teaching and facilities. Karnataka needs to make all the investment it can in this direction – bringing together the force of public and private enterprises for this common goal of Education. It is this that the Karnataka State Education Policy (KSEP) emphasizes and outlines.

KJA Task Group on Karnataka State Education Policy has done an excellent job in crafting very innovative policy direction for school and higher education in the state. The Policy is not only inclusive of all societal levels and true to democratic traditions of our society AND also suggests pooling of the economic power of the state. The KSEP has looked far ahead and defined critical steps for a “holistic look” at school and higher education (education
in medical, agriculture, law etc. can be added subsequently). The Policy calls for leaving no child behind and stresses excellence and merit as the primary drivers. There is also a need for adopting advanced technologies for imparting education that can make large-scale impact on educational outcomes in the State. I am happy that the KSEP has identified key directions for “integrated governance” of Education in the State.

The role of State becomes critical in implementing the KSEP. While a holistic Policy is important to define and visualize, there may be limits in implementation – but it would be important to work out implementation plans in a phased manner. KJA hopes that Government would prepare a road-map of actions on the Policy Recommendations – implementation can give a much-needed impetus to future education and skill development in the state and help it to maintain its leadership in the emerging and dynamic national scenario and global market.

I thank the Members of TG especially Sri. Mohandas Pai and Prof. K S Rangappa, Co-chairs of the Task Group and Dr. Leena Wadia, Member-Secretary of the Task Group for their excellent and diligent work in shaping this policy report. I also would like to express my deep appreciation to Dr. Mukund Rao for steering the activities of this task group and providing several useful and critical inputs. In this particular effort, he was ably assisted by Sri. Deepak K. I am thankful to the present Chief Secretary Sri. Subhash Chandra Khuntia; Shri Arvind Jadhav, Former Chief Secretary to the Government; to Sri. S. V. Ranganath, Vice-Chairman, Karnataka Higher Education Council; to Sri. Bharatlal Meena, Additional Chief Secretary for Higher Education Department and Mr Ajay Seth, Principal Secretary of Primary and Secondary Education Department for very useful inputs on the policy recommendations.

On behalf of the KJA, I am extremely happy to submit the KJA Recommendation on Karnataka State Education Policy (KSEP) to Government of Karnataka for appropriate consideration and implementation.

Chairman, KJA
OCTOBER 6, 2016
FOREWORD

Karnataka Jnana Aayoga (KJA) is a professional body established by the Government of Karnataka and has experts and professionals from all walks of society as Members. The KJA mainly involves in policy definition and innovative knowledge interventions/studies to various problems of governance and of society.

Karnataka is one of the leading states in education with a wide range of preferred school, collegiate and professional education system that has evolved over many years. However, its future generations need to be assured of a high-quality education that will prepare them for an effective role in state and national development and excelling global contributions. Karnataka has recognised that holistic development of school, collegiate and professional education - inter-linked with skill-based education, research and innovation, integrating analytical and technical skills for research and innovation is extremely important. Karnataka needs to prepare for a shift in education system from what it is today to a dynamic environment that will create the knowledge professionals of the future.

At the instance of the Hon’ble Minister for Higher Education, KJA has undertaken an exhaustive Education Policy formulation exercise for forward-looking and futuristic education – encompassing school, college and professional-level with an aim of ensuring high quality education to every segment of the society and further the challenge of creating a knowledge based society based on equity and quality. An expert Task Group under the Co-chairmanship of Mr. T. V. Mohandas Pai, Member, KJA and Prof. K. S. Rangappa, Vice Chancellor, University of Mysore was established for defining Karnataka State Education Policy.

Over the past 15 months, the TG has had innumerable meetings, consultations and discussions with domain experts and stakeholders besides having valuable inputs from the officials involved in primary education, secondary education and higher education in the state. TG also constituted various sub-Groups amongst its members to study various aspects of education system in a holistic manner and provide different perspective elements of education at State and National level vis-à-vis the global context.

Once the TG report was prepared, KJA Members discussed the report in 2-3 meetings and provided immense focus and alignment of present and futuristic systems of education – keeping in mind the perspective of the future Karnataka society and economic development. KJA took the task of wider consultations – especially obtaining critical inputs from Hon’ble Minister of Higher Education and Hon’ble Minister of Primary & Secondary Education and many others. There was all-round unanimity that the vision of KSEP must be
KARNATAKA STATE EDUCATION POLICY (KSEP)

for equitable and high-quality education in the state – and for transforming many of the present practices to more modern and professional approach in Education. KJA Members also stressed the need for building a stronger “institutional framework” in KSEP by aligning the political and administrative systems with Experts involved in education – thereby achieving best of professional policy, management and implementation success.

I would like to acknowledge the yeomen contributions of the KJA Task Group on KSEP – Education is a complex matter but the TG has done an excelling task in preparing the Policy. The TG, led by the dynamic personalities of Mr. Mohandas Pai and Prof. K S Rangappa, was supported and marshalled by Dr. Leena Wadia and many expert Members. Dr Anurag Behar and his team have contributed immensely. Important contributions have come in from Dr. Padma Sarangapani, Mr. Parth Shah, Ms. Shukla Bose, Mr. Anand Sudarshan and other Members. In all the activities of TG and KSEP, I must acknowledge and appreciate the role of Mr. Deepak of KJA Secretariat – he diligently and “softly” worked through the support and coordination for the TG and KJA.

Members of the TG had a “full hand” - most of them putting in best efforts in a purely honorary capacity BUT with a deep sense of passion for future of Education in their minds. The TG churned through vast amount of literature, reports, material and kept a constant over-sight on national efforts - the aim being to be all-encompassing and to make meaningful policy recommendations that will make Karnataka the first state with such a comprehensive Policy. Education being so complex and issue - it was but natural that the TG had cross-thoughts and “ideation-conflicts” – every expert made a strong case with solid arguments. It is the acumen and to the credit of Mr. Pai and Prof. Rangappa, who patiently sifted through each and every point/argument and threaded a “common thought” to make the Policy what it is.

KJA Members made best of efforts to discuss all aspects of the Policy and provide their perspective as inputs to the TG and for finalization of KSEP. I commend all the KJA Members for their intense discussions and providing very valuable inputs and support. The leader makes the way – so it was with Dr. Kasturirangan making the way for KSEP to become a reality. He provided a visionary perspective, intensely discussed all policy points and aligned the KJA discussions to focus on key policy directions. Grateful thanks to all KJA Members – in particular to Dr. Kasturirangan for his inspirational and visionary leadership to KJA.

The officers of the Government of Karnataka have been the “pillar of support and wisdom” in making this Policy – special thanks to present Chief Secretary of Government of Karnataka, Mr. Subhash Chandra Khuntia; Mr. Arvind Jadhav, Former Chief Secretary, Govt. of Karnataka, who provided valuable support during his tenure till September 2016;
Mr. Bharatil Meena, Additional Chief Secretary, Higher Education Department; Mr. Ajay Seth, Principal Secretary, Primary & Secondary Education Department and Mr. S. V. Ranganath, Vice Chairman, KSHEC for their invaluable suggestions, advises and constant support.

It has been a “large collaborative effort” on true democratic traditions – giving one and all a chance to voice and express but ultimately to come to consensus. It has taken some time BUT worth it!! KJA is happy to present and submit the KSEP Recommendation to Government.

(Mukund Kadursrinivas Rao)
Member-Secretary, KJA
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October 6, 2016
KJA constituted a Task Group (TG) on Karnataka State Education Policy at the behest of Hon’ble Minister for Higher Education, Government of Karnataka. The members of the TG were experts in various domains of education, who brought their vast experience into the preparation of this report. The TG held focused meetings, and consultations by invitation, which were facilitated through 10 Research Committees set up for the purpose. The TG had 10 Meetings, 5 Research Group Consultative Meetings and 3 Review Meetings by Chairman, KJA, in the process of drafting these recommendations.

The TG has reviewed the present education system in the State from a policy perspective and identified critical areas that are in need of reform. It has studied the different education models of other countries, of other states within the country, assessed the future development scenario in the State and made comprehensive recommendations towards a Vision 2030. The special needs of the State have been kept in mind as also the need to correct regional imbalances within the State. The TG has attempted to make recommendations that will remain relevant for the next 15 years or more and we expect that these will have far reaching impact, if implemented in totality.

The TG is of the opinion that Karnataka with a population of 63 million, comparable in size to the United Kingdom (UK), must think like a country when it comes to evolving its own Education Policy. The policy recommendations here are based on a Vision of a futuristic education system that empowers the citizens of Karnataka and brings our constitutional values to life. However, the TG has also tried to strike a balance between where we are today and where we would like to be in the future, by making recommendations that will vastly improve the prevailing situation and are also likely to be implemented, rather than recommendations that are lofty and futuristic but are likely to be considered too radical for now.

Since the field of education is vast, not all topics could be covered in detail in the report. For instance, the TG has not addressed the specific needs of education in Medicine, Law and other professional areas. Separate Study Groups may be setup to conduct a detailed analysis of each of these areas. The aim of this report has been to address the issues that are more broad-based. The TG requests that the Government of Karnataka accepts this report in totality and sets up an Empowered Group of eminent educationists, government officials and independent experts to ensure that they are implemented in letter and spirit.

The TG also recommends that this report be reviewed once every 5 years by an eminent body created for the purpose, a State Education Council, that can take a holistic view of the outcome of reforms across the school as well as higher education sectors, plug the gaps if any between them, and refresh the recommendations as needed so that the education sector continues to meet the demands of the 21\textsuperscript{st} century. This will also help the State emerge as a global centre of excellence in education.

We express our deep appreciation to Dr. Leena Chandran Wadia, Member Secretary of the TG, Deepak K., Convener of the TG, and all the members of the TG who gave generously their time and expertise to help create a forward-looking and comprehensive report.

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- Hon’ble Minister for Primary and School Education – presently Shri Tanvir Sait who has provided valuable support; earlier Shri Kimmane Ratnakar had involved in discussions and provided important inputs. These important contributions are gratefully acknowledged by KJA.

KJA has had detailed consultations and discussions with the senior officers of Government of Karnataka and from whom very valuable inputs have been obtained. KJA is thankful, in particular, to:

- Shri Subhash Chandra Khuntia, IAS, Chief Secretary, Government of Karnataka – who has continued to provide the leadership of the bureaucracy to the KJA.

- Shri Arvind Jadhav, IAS, Former Chief Secretary, Government of Karnataka – who provided very valuable over-arching directions for the policy and involved in many discussions with KJA during his tenure till September 2016.

&

- Shri Kaushik Mukherji, IAS (R) – Former Chief Secretary, Government of Karnataka who also supported the KJA in all its activities.

- Shri Bharatlal Meena, IAS, Additional Chief Secretary, Department of Higher Education, Government of Karnataka – who was the key-anchor for interfacing with KJA on higher education issues and supported KJA with valuable data, supportive mechanisms and guidance for shaping the policy. We thank the officers and experts of the Department.

- Shri Ajay Seth, IAS, Principal Secretary, Department of Primary and Secondary Education, Government of Karnataka – who supported in a pragmatic manner the development of ideations for school education in the policy and supported KJA with innovative thinking and data. Thanks are also due to the officers and experts of the Department.

- Shri S V Ranganath, IAS (R), Vice Chairman, Karnataka State Higher Education Council, Government of Karnataka – who was the “Mentor” to TG for the policy development. Innumerable meetings and discussions with him helped in policy development in a coherent and logical manner.
In the preparation of the KSEP Recommendations, the KJA Task Group consulted, discussed, obtained suggestions, inputs and support from large number of experts - Task Group extends special thanks to them for their valuable contribution.

KJA would like to record its appreciation and acknowledge the entire Task Group and its sub-groups for all the diligent work, intense discussions and hard work – it is their sincere and committed efforts that has led to the definition of KSEP.

Thanks are also due to all KJA Members who have contributed in a significant manner for this task.

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EXECUTIVE SUMMARY

Karnataka is one of the leading states in India in the field of education, with a wide range of preferred school, collegiate and professional education system that has evolved over many years. Karnataka also hosts many of the leading science and technology institutions of the country. The state is also now globally acclaimed for its achievement in the high technology arena, in areas such as Information Technology (IT) and Biotechnology (BT), and as an innovation and manufacturing hub. Karnataka aspires to rise to greater heights in the education arena so that its future generations can be assured of a high-quality education that will prepare them for an effective role in the State and national development processes.

The Karnataka State Education Policy (KSEP) is aimed at bridging the quality and equity gaps in education and building a modern, excellent, education system in the state of Karnataka. The KSEP has been developed to help build a future society that will be knowledgeable, highly skilled, socially empathetic and capable of pursuing a prosperous and economically sustainable life in the State. The Vision and Mission statements of the Policy are the following:

VISION

Build an equitable, inclusive and futuristic education system that promotes all-round excellence by modernisation of our educational institutions, empowering teachers for higher performance and preparing students to avail best opportunities in life – thereby, enabling future citizens to contribute effectively to societal development and progress of the State.

MISSION

The vision will be brought to life by:

- Improving the fundamentals in an integrated and sustained manner, and with integrity in implementation;
- Developing a culture of empowerment and enablement, combined with personal responsibility and public accountability;
- Being informed by sound understanding of education and related disciplines;
- Developing an energized, motivated and high-capacity teacher community;
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- Being responsive to social and economic changes and trends across the world.

FOUNDATIONAL PRINCIPLES

1. Education must remain the primary and uppermost responsibility of the State government, for preparing the future generation. The State government must boldly commit to investing generous financial resources towards achieving quality education for all.

2. Equity of access must be one of the primary foundational principles. The sheer chance of birth of a child, in a particular social and economic milieu or in a rural area, should never become limiting factor for him/her to acquire the best of education relative to another child born in a far superior social and economic environment.

3. Social Change in the State is imperative on high quality and sustained education of the girl child. Every girl child who completed formal education can bring transformational value at individual level, family level, societal level – thereby, making Karnataka a progressive, modern and knowledge State. Thus, every girl child must be assured and must be able to avail 12+3 years of education.

4. Teachers and Faculty will continue to be the corner stone of success in the future of Education. What makes the Teachers of Tomorrow? Learning access will be for anyone, anywhere and at any-time with the concept of learning being a lifelong process. Teachers would be a bridge between a large ICT and Digital interface on one side and expectation of students on the other side. While passion for teaching has to be a major quality, knowledge and wisdom have to be combined with high level skills in ICT usage, behavioural understanding, management of people and resources etc. State must take-up a concerted program and develop the next generation or cadre of teachers to make the policy implementation successful in the long term.

5. The new education policy is also based on a quest for quality and excellence in education delivery and outcomes. This will require a transition from the input controlled, examination based ‘one-size-fits-all’ education system of the present into a more flexible and student-centric system focused on quality.

POLICY RECOMMENDATIONS: SCHOOL EDUCATION

The new Karnataka State Education Policy (KSEP) of the State government seeks to address the many challenges and lacunae that exist presently. Some of these include, the insufficient enrolment in many government primary schools, the wide variation in Pupil-Teacher ratios (PTRs) across schools, paucity or infrastructure and other resources, and a
paucity of government schools in urban areas. Certain regions of Karnataka, such as the districts in North East Karnataka are lagging behind on many educational indicators and there are gender inequalities and other social inequalities that need to be addressed too. Dropout rates at secondary and higher secondary stages are still unacceptably high, not enough attention is being paid to early childhood care and education of children from the age of three, and the quality of teacher preparation and training leave a lot to be desired.

**EARLY CHILDHOOD EDUCATION AND CARE**

6. Early childhood care and education for children between the ages of 3 and 6 is critical for their development. The State government must ensure appropriate coordination between its departments, between the Anganwadi system and the primary school system.

   a. The National Early Childhood Care and Education (ECCE) Policy, including the National Curriculum Framework (NCF) and quality standards for ECCE must be made applicable across government and private schools in the State.

   b. A dedicated teacher preparation programme for the pre-primary stage needs to be developed and only the best and most well trained teachers must be given charge of children at this tender age.

**SCHOOL EDUCATION (GRADES 1-12)**

7. Every child in Karnataka must be guaranteed 12 years of school education of good quality, beginning in Grade 1. Government must be the guarantor and provide free education in government schools until Grade 12.

   a. The RTE Act needs to be amended by the State to enshrine this goal.

   b. Every student who attends school and meets the specified attendance requirements must be awarded a ‘School Education Completion Certificate’ at the end of Grade 12, irrespective of their performance.

   c. A system of open schooling needs to be set up to ensure that students who drop-out are able to return and complete their education until Grade 12.

8. The focus of education will be on achieving targeted learning outcomes. Expertise on specifying learning outcomes, implementing pedagogies and measuring learning outcomes need to be developed.

9. School Education must be founded on the principle of Continuous and Comprehensive Evaluation (CCE) by which the progress and achievements of students get measured and evaluated.

   a. Teachers must be oriented towards this goal and trained for the task.
b. As part of the CCE, examinations and evaluations must be held in all grades so as to help students learn to cope and perform well in the competitive world.

10. **Provision for remedial education**: Remedial education is part and parcel of the School Education system – it must not only be administered to every needy child in a timely manner but must also be sustained to overcome the deficiencies / gaps that a child encounters. **Provision for such remedial education must be made available in all schools.**  
   a. A mechanism, involving parents and working with teachers and management, needs to be established for satisfactory implementation.

11. **No child must get detained in a class** – that must be the endeavour of the Education system so that children do not get labelled as failure. **The combination of no-detention, backed by a sound remedial process, along with an invigorated CCE, would be a transformational mechanism for successfully educating every child in the State.**  
   a. The decision of detention, if inevitable, must be taken involving the parents, teachers and the management. A formal mechanism needs to be put in place.

12. **Because it is the responsibility of the State to ensure an equitable school education system**, the State must notify uniform standards for all schools – be they government, private or any other type of school institution.  
   a. **Well-defined school standards** are required to maintain quality in different aspects of education including student learning, teacher recruitment and performance, infrastructure, resources and facilities, health and safety, school leadership related aspects and performance of functionaries and institutions.  
   b. The compliance and performance of every school – government or private or others vis-à-vis the school standards must be regularly undertaken.

13. **A massive and urgent effort is required by the State to improve the condition and quality of existing Government Schools and bring them on par with the school standards.** State must commit financial and other resources for this activity on a priority basis.  
   a. State could also tap CSR contributions and Private sector funding to pool-up additional finance for the State in improvement of government schools.

14. **Consolidation of government schools**: The large numbers of primary schools of sub-optimal sizes in rural areas need to be consolidated to improve efficiency in the use of teachers and other resources.
a. As part of the consolidation process, it is recommended that in every panchayat of the State, there is a composite school system from pre-school through Grade 1-12 in a single campus.

b. Grades 11-12 must become an integral part of secondary school. The existing Directorate for Pre-University Education should be restructured into the Commissionerate for Secondary Education, and both lower secondary education (high school) and higher secondary education (pre-university) should be brought under its ambit.

15. The paucity of good quality government schools in urban areas affects the weakest section of society the hardest. While the present RTE mandates the quotas in private schools upto Grade 8, legislation for amending the RTE for extending quota in Private schools upto Grade 12 has to be taken-up.

a. The private sector which provides much-needed capacity in urban areas needs to be facilitated to add more capacity, by removing stifling regulations and adopting more flexible and nuanced infrastructure standards for opening budget schools, within the envelope of and without compromising the school standards.

b. Many schools run by the municipal corporations are underutilised. These must be rejuvenated, complying to school standards.

16. **Medium of Instruction:** There is strong scientific evidence to support the fact that children learn best when medium of instruction is the mother-tongue of the child. The state of Karnataka, which has a cosmopolitan culture has different languages practiced but has adopted Kannada as the State language. Considering this, the following is recommended for Medium of Instruction.

a. **Grade 1-4:** As Kannada is the mother tongue of the majority population in the State and is also the state language, it would be most practical to have Kannada as the medium of instruction in all schools upto Grade 4.

b. **From Grade 5:** students must have the option to continue their education either in Kannada or in English as Medium of Instruction.

17. **Language Policy:** Present and future citizens of Karnataka would require knowledge of multiple languages for their professional and societal activities. Kannada is the state language and thus, it is critical that every citizen has knowledge of Kannada. At the same time, English is also a very important language because of tremendous professional, industrial economic opportunities. Hindi is the national language and its knowledge is equally important. Knowledge of other Indian languages, Sanskrit, Foreign languages etc. are also preferred by many students. Future citizens need to be proficient in many languages. The CBSE model for language teaching also
adopts multi-lingual approach. Considering these points, the following broad guidelines for language education are recommended:

a. **Grade 1–4**: 2 languages with Kannada (or Mother Tongue) as Medium of Instruction and English as the second language to be learnt by every student.

b. **Grade 5-7**: 3 languages with Medium of Instruction and 2 additional languages as per choice of student.
   
i. Science and maths subjects could be taught in English from Grade 5 onwards while other subjects - geography, history etc. could be taught in the selected medium of instruction of the student.

c. **Grade 8-10**: 2 languages with Medium of Instruction and 1 additional language as per choice of student.

d. **Grade 11-12**: 1 language which is medium of instruction as per choice of student.

18. Such a language policy will enable a multilingual education in the State by which students would be exposed to Kannada, English, Hindi and other languages too.

19. **Managing reservations and quotas**: While quota in admissions is necessary and must be implemented with diligence, the label of quota or caste must not be attached to individual children. Such data must be kept classified and not put up on notice boards.

20. **Inclusive education**: Differently abled children and children with special needs require additional support that must be provided to them in a sensitive way as per the recommendations of the Rehabilitation Council of India.
   
a. An entity that can look into the requirements and the well-being of differently-abled students, on a sustained basis, needs to be set up.

b. A programme to identify and nurture **academically gifted children** needs to be put in place through special schools where admission is based on well-accepted evaluation tests such as the MENSA test.

21. **Vocational education**: Exposure to different vocations during upper primary and secondary school can be valuable experience for children. In Grade 9-10 there should be specific curricular exposure to work and vocations. In Grades 11-12 specialized skills training, as per the National Skills Qualifications Framework (NSQF), should be available. Schools and colleges need be incentivized for collaboration with other institutions and industry in their vicinity.
22. **Teacher Education, Recruitment and Training**

The B.Ed. degree must be made the sole eligibility criterion for school teachers. **Stage specific 4-year B.Ed. teacher training programmes need to be introduced.** The State needs to scrap the two-year Diploma in Education (D. Ed.) in a phased manner.

- **In-service teachers in Government and Private schools who do not have a B. Ed. Degree must be enabled to undergo B.Ed. course** with the support of Departments of Education of Universities.
- Mid-career professionals interested in taking up teaching in schools can be inducted provided they comply with the training requirements specified by NCTE (National Council for Teacher Education) or the State Government.

23. **Pre-service teacher education must be brought under the Higher Education Department** so that the latest inputs from research on curriculum development, pedagogies, learning theories, etc., are incorporated quickly into teacher training, with the active participation of Departments of Education in Universities.

24. **Standalone Teacher Education Institutes (TEIs) need to be phased out.** Teacher education is best done as part of a larger umbrella of multi-disciplinary undergraduate and post-graduate education in universities. Existing standalone TEIs must be required to either make adequate arrangements for practical training with nearby schools, or be shut down.

25. **In-service teacher development to be strengthened:** A large scale effort to re-train existing teachers needs to be taken up by the Primary and Secondary Education Department. Other modes of professional development besides ‘training’, such as early tenure coaching, peer learning opportunities, demonstration classes, sabbatical leave for research/ advanced studies etc., should also be made available.

- **Exposing school teachers in world class institutions** will bring a major transformation. Every year, 1% of school teachers could be deputed to excellent institutions abroad for advanced training – they could also become Master Trainers later.
- **Quality of teacher educators:** Extreme care must be taken to ensure that only the best candidates are allowed to become teacher educators.
- Appropriate arrangements need to be put in place for **continuous certification of all teachers** in government as well as private schools, backed by mechanisms for feedback and course correction.
- **An academic cadre of teacher educators** is critical for improving the quality of in-service teacher education.
26. **Nurturing leaders among exemplary teachers:** Large numbers of teachers with the potential need to be picked up young and trained for leadership and managerial roles. Many of these leaders can also be offered lateral entry into the KSSEC, KSERA and other administrative roles as domain experts.

27. **Provision for rewards and recognition for good teachers** needs to be made on a large scale, specifically keeping in mind the importance of the teaching profession and the need to help return it to respectability in society. Peer recognition and respect are key to returning the pride and self-esteem of teachers.

   a. The State government should institute ‘Dr S. Radhakrishnan Teaching Fellows’ as a prestigious fellowship.

**Curriculum, Resources and use of Technology**

28. **CBSE Curriculum could be adopted by the State** and also include specific topics relevant to the State of Karnataka – History, social changes, culture, arts, scientific development etc.

29. **A comprehensive curriculum development framework for the school sector needs to be outlined, from ECCE till Grade 12.** The framework should be such that curriculum is reviewed, updated and enhanced as often as necessary.

   a. All schools that would like to follow the NCERT/ CBSE curriculum should be allowed to do so freely since it provides better mobility of children nationally and internationally.

30. **Provisioning of adequate educational resources in schools:** Quality educational materials including books, laboratory items, digital teaching aids etc. must be developed for the school education system and made available to each and every school.

31. **Sports facilities must be available to children in each and every school** – be it government or private. Prowess in sports must be identified and encouraged, and the services of sports teachers, even if only on a time-shared basis, need to be made available at every school the State without any exceptions.

32. **Exposure to the Arts – theatre, dance music etc.,** is critical for the overall development of the child. School education must necessarily include opportunities for the child to be exposed to some of these. Exposure to environmental issues, social and ethical concerns, and other national and international issues are also desirable.

33. **Appropriate use of Technology:** A large scale effort to create and share educational content in Kannada, English and other languages, across schools, must be put in place through the deployment of technology.
a. Teachers need to be trained to make maximal use of digital educational resources available on the Internet in their classrooms.

b. The rollout of computers with Internet access and other hardware and software infrastructure to schools needs to be completed at the earliest.

c. Digital learning laboratories can be created in schools so that students from Grade 5 onwards have access to tablets with internet connectivity pre-loaded with multi-media educational content.

POLICY RECOMMENDATIONS: HIGHER EDUCATION

34. Every girl child in Karnataka after completion of 12 years of school education must be guaranteed 3 years of collegiate education leading to an under graduate degree.

35. Universities must lead in ushering in reforms and become vibrant centres of knowledge creation once again. For this, universities must be given more autonomy and generous funding by the State government, and be relieved of the responsibilities of affiliating colleges. Universities must be research-led at all levels of education, undergraduate, Masters and PhD.

   a. The Vice Chancellor must provide the necessary academic leadership and be held accountable for outcomes.

   b. Purely administrative tasks such as construction of buildings and other infrastructure development within university campuses need to be hived off to a separate body.

36. Reforming governance structures of Universities: Vice Chancellors (VCs) must be supported to achieve their vision, through a new revamped governance structure that can be finalised in consultation with stakeholders.

   a. The process of appointment of Vice-Chancellors must not be politicised. Eminent academics must be selected for their integrity, their academic vision and their leadership qualities – all of which must be in the public domain.

   b. The present governing structure of the university, the Senate, the Academic Council and the Board of Studies must be re-thought, and a new structure put in place that helps seed the culture of meritocracy.

   c. Elections to positions in governing bodies must be abolished completely.

37. Improving learning opportunities on campuses: Universities should be encouraged to take a series of steps to improve learning and research opportunities for their faculty and students on campuses.
KARNATAKA STATE EDUCATION POLICY (KSEP)

a. State universities in Karnataka must be encouraged to start integrated Masters and PhD programmes on their campuses at the earliest.

b. Universities and colleges need to become residential campuses, to the extent possible, so as to improve access for students from rural areas and from outside the State, and to better support international students.

c. Universities must actively seek to increase diversity on campuses through the induction of more students from other regions in the State, from other states, and from abroad.

38. Nationalisation and Internationalisation: International students must feel welcome in Karnataka and in India. State universities must be allowed to accommodate students from outside their geographical regions for up to 50% of their capacity and also be allowed to set up off-campus centres freely in India and abroad.

a. The State government must consider setting up a separate body under the Karnataka State Higher Education Council (KSHEC) that can facilitate all aspects of internationalisation at State universities and colleges.

b. Universities must be encouraged to reach out to students around the world through innovative online courses on topics of world interest such Indian history, culture, economy etc.

c. Universities should also be encouraged to create national and global linkages with other universities within the country and abroad.

d. Universities and colleges must be allowed to appoint eminent experts / faculty from India and abroad for varying periods of time, from say a semester to more long term employment, to bring in new thinking with regard to teaching and learning.

39. Foreign educational Institutions: Foreign educational institutions of repute can be allowed to set up campuses in Karnataka but only after a level playing field for Indian institutions has been created so that they can compete fairly with the foreign entrants.

40. Phasing out single-discipline universities: The recently introduced practice of opening universities of restricted scope or in single disciplines such as Sports, Skills, Sanskrit, Yoga, Kannada, Railways etc., is a deeply flawed move that must be halted and indeed reversed immediately. All universities in the State must be allowed to offer broad-based education in all disciplines, including in professional disciplines such as engineering, medicine, law, architecture and many others.

a. Encouraging undergraduate education in the liberal arts: There should also be encouragement to introduce appropriately structured “liberal arts” programs at
the undergraduate level, with curriculum spanning across the Physical Sciences, Technology, Social Sciences and Humanities.

41. **Autonomy with assistance for good colleges:** The affiliation system of colleges with universities has outlived its time and must be phased out.
   
   a. **Colleges must be provided with mentoring and assistance** to make full use of autonomy to offer a vastly improved quality of education and become full-fledged universities over time, offering broad-based education.
   
   b. Colleges that are not ready for autonomy and those in remote locations must be assisted to strengthen themselves, through the same mentoring mechanism, so that they too become eligible for autonomy over a period of say, a decade.

42. **Performance Monitoring:** Universities should be encouraged to accredit themselves on a regular basis by globally rated agencies.
   
   a. Each university department and the university as a whole should be reviewed every five years by a committee consisting of eminent academics from outside the university.
   
   b. The performance of colleges must also be monitored by ensuring that all of them are accredited at regular intervals.
   
   c. **Grant-in-aid funding is presently not linked to performance** of universities and colleges. This needs to be changed and funding from government must be tied to accreditation and learning outcomes.

**TECHNICAL EDUCATION**

43. **Technical education must be offered in multidisciplinary settings:** Permissions for starting new standalone colleges in single technical disciplines must not be given out anymore. Instead technical education must become a part of the educational offerings in multi-disciplinary settings of large colleges and universities.

**VOCATIONAL EDUCATION AND SKILL DEVELOPMENT**

44. **Existing colleges and universities must take the lead in rolling out skill development courses** and spelling out pathways into general and technical education in accordance with the National Skills Qualification Framework (NSQF), since they are best placed to do so.

**TEACHERS IN HIGHER EDUCATION**

45. **Tenure-track system for faculty recruitment:** The State must introduce the tenure-track system for hiring new faculty. Fresh faculty must be hired for a period of 5 years and be given tenure either during this period or at the end this term only if they are
considered suitable. This period can also be used for acquiring/ completing any mandatory qualifications such as mastering the National Eligibility Test (NET) etc.

46. **Mandatory pre-service training for teachers in higher education:** Aspiring college teachers must be given mandatory training, either before starting teaching or during the initial years of their career.

a. An integrated Masters’ degree with such a course can also be considered for introduction by universities.

b. **Teaching opportunities during post-graduate education:** Teaching assistantships must be made available to students during Masters and PhD programmes, so that students can gain valuable experience on how to teach by assisting their own faculty.

47. **Review and revamp of recruitment and service conditions of faculty:** The severe shortage of faculty needs to be addressed by reviewing and revamping their service conditions to make teaching an attractive profession that draws excellent candidates.

a. The practice of hiring faculty on ‘clock-hour-basis’ must be stopped immediately.

b. The approach to teacher transfers in higher and technical education in the government sector needs to be reworked as it impacts critical infrastructure such as laboratories in science and engineering colleges.

48. **All universities must have Departments of Education** where research on all aspects of pedagogy and education delivery is conducted, including topics such as the innovative use of technology, assessment techniques and much more.

**PERFORMANCE ASSESSMENT AND PROFESSIONAL DEVELOPMENT OF TEACHERS**

49. **Flexible definition of Academic Performance Index (API):** The present definition of API is weighted heavily towards research outputs. API criteria must also be expanded to include credits for teaching, contributions to institutional development such as creating linkages with industry, managing facilities such computer centre, clubs, hostels etc., contributions to the work of the State government and to society through serving in accreditation committees, conducting surveys and so on.

50. **Career development opportunities:** Faculty must be encouraged to lead the way in the evolution of the education system in the State by taking up roles within the system that are appropriate to their expertise.

a. Those faculty members who have a flair for administration must be allowed lateral entry into education administration and management within the government.
b. An academic cadre of teacher educators needs to be created.

c. Communities of practice need to be created for different groups of teachers.

d. A professional body for teachers, similar to the Medical Council of India for example, that can license teachers for practice, help oversee their career development, and provide support to practicing teachers through offering a forum for interaction needs to be created.

51. **Training Academic Leaders:** A large number of teachers with leadership potential should be selected early in their careers trained and groomed for leadership roles.

   a. More institutions like the State Institute for School Leadership Planning and Management in Dharwad, need to be created to cover the entire range of education covering schools as well as colleges.

52. **Exposing the faculty of higher education in top-class institutions** on advanced developments of subjects, technology, teaching practices and environment would bring about a major transformation for teaching quality in higher education.

   a. Every year about 1% of faculty of higher education in the State could be trained abroad in excelling institutions.

   b. Large number of Faculty/Teachers could be deputed to reputed institutions (IITs, IISc, NITs, National Laboratories, renowned Private Universities etc.) in the country to get exposure on advanced technology, research areas etc.

53. **Rewards and Recognition:** to faculty need not always be financial. Recognition through awards would be a good thing, as also recognition through positions of leadership that bring with them opportunities to travel and network with their peers.

   a. Educational institutions must have a policy of allowing the top 25% of its faculty to be adjunct faculty in other institutions.

   b. A small percentage of the best teachers in the State should be nominated as ‘Dr S. Radhakrishnan’ fellows for a period, say 3 years.

**Research and Innovation**

54. **A new Karnataka Science, Technology, Humanities and Social science Foundation (KSTHSF) should be created to foster research in all these subjects**, in colleges and universities, by providing funds on a competitive, peer-reviewed basis. KSTHSF could be a part of the KSHEC and it must have access to the services of many experts in a wide range of subjects for reviewing grant proposals.

55. **Strengthening post-graduate, PhD and post-doctoral programmes in colleges and universities is the need of the hour.** The number of post-graduates in India is significantly smaller than in the developed countries. Industry should be incentivized
to create prestigious and attractive scholarships for both Masters’ and PhD students. A large number of post-doctoral fellowships also need to be instituted in many colleges and universities in all disciplines.

56. **Nurturing the culture of research and innovation:** Educational institutions should be encouraged to incubate companies through their faculty and students through raising funds and supporting their early stage work.
   a. Out-of-box thinking and innovation must be nurtured from as early an age as possible, beginning with school, so that a culture of innovation is created.
   b. This would also require the **phasing out of centralised examinations in undergraduate courses.**
   c. All universities and colleges in the State should work to an **academic calendar** that is announced at least a year in advance and strictly adhered to so that students have opportunities to take up summer internships and other practical training opportunities.
   d. **Colleges and universities need to engage deeply with their local communities,** with society at large, creating many opportunities for research and development work on projects that serve the needs of the community.
   e. **Academia-industry interaction must be actively nurtured** by every college and university.

**Technology Integration**

57. **Internet connectivity and other technology infrastructure at colleges and universities:** All educational institutions must have generous bandwidth to the Internet that is available for use by students and faculty, also on their own devices. Other hardware and software infrastructure, backed by training and support for promoting digital literacy, and supporting online learning also needs to be provisioned.

58. **Technology enabled learning:** Many experiments have been conducted and experience gathered. It is time to incorporate these within mainstream education.
   a. **Online universities, both public as well as private** need to be created in Karnataka so that students can benefit from the explosion of models of online education, and the growing trend of employers willing to accept online credentials.
   b. **Offline education delivery,** using recorded lectures in various ways can also help bring about enormous change within classrooms and outside.
c. The quality of distance education courses can also be improved enormously, benefiting millions of students, by supplementing routine course material with recorded videos distributed offline.

59. **Technology training for teachers:** Teachers in the higher education system in the State must be given a laptop with internet connectivity so that they can become comfortable with digital technologies and induct them into mainstream education.
   
a. Pre-service and in-service training of teachers must include training on digital literacy and on pedagogical aspects of inducting technology into classrooms.
   
b. All technology support should be in the form of infrastructure and tools that are available to faculty and educational institutions to make use of as per their own judgement.

60. **Infrastructure for content creation and sharing:** A special purpose e-content repository for educational material should be made available to all students, faculty and educational institutions. Other useful pieces of software that can support academics and that can be inducted at scale include tools for *Do It Yourself (DIY)* publishing and textbook creation etc., among many others.

**ADULT LITERACY AND LIFELONG LEARNING**

61. **Adult literacy:** Achieving 100% functional literacy within a decade should become the stated goal of the State government. Educational institutions, particularly residential schools, colleges and universities in rural areas, must be given the mandate to help ensure 100% functional literacy in the State by engaging with the community, through evening and night classes.

62. **Lifelong learning:** All working adults will need to be able to re-skill themselves often. With appropriate use of technology, particularly online universities, it will be possible to provide alternative forms of non-formal and formal education to help mainstream disadvantaged groups, unemployed youth, low skilled and partially skilled workers, artisans etc., particularly in rural areas.

**FINANCING HIGHER EDUCATION AND RESEARCH**

63. **Approach to funding educational institutions:** Government funding to institutions (non-salary grants) should take the form of block grants, the quantum of which should be tied to the number of students. Funding for research should be provided competitively, on a peer-review basis, through the KSTHSF.
   
a. Government should provide one-time grants to all universities so that state-of-the-art academic infrastructure such as laboratories, libraries, access to the Internet and facilities such as hostels etc., can be created.
64. **Supplementing government funds**: The State needs to work with the Centre to create a framework by which educational institutions can raise funding from Multilateral International funding agencies (World Bank, ADB etc.), Private Industry and from society.

   a. Research institutions should look to industry participation in research, CSR spends, and various other means to bring in additional funds that can help them attain the competitive edge internationally. Institutions should also be able to raise funds through consultancy and collaborative research projects by their faculty. They can also run various kinds of courses during the summer and in the evenings for skilling working professionals.

   b. The funds raised from all these sources should supplement the funds that institutions receive from the government, and not replace it, as has happened in the past.

65. **Fee fixation**: The process of fixing fees in autonomous public and private colleges should be a continuously monitored activity, based on real data on expenses reported by the institutions. Fees must be allowed to reflect real costs and subsidies should be targeted towards students who need them.

66. **Scholarships and freeships**: Government should move towards financing students in higher education, and allow them to choose the colleges and universities of their choice.

   a. Institutions should also be encouraged to raise funds and institute more scholarships for students of merit from economically weaker backgrounds.

   b. It must be ensured that no student is deprived of education for lack of funds.

   c. The Karnataka government should spend 1% of its higher education budget for giving scholarships to meritorious students from the State to study in one of the top 500 universities (global ranking) in the world.

**POLICY RECOMMENDATIONS: GOVERNANCE & MANAGEMENT**

**Ministerial Group and Expert Advisory Council**

67. Today, governance and management of Education needs to be holistic and driven by Experts. It is essential to have one single expert body that encompasses totality of education – school, higher education AND skill development for advising, guiding, policy analysis and techno-policy oversight on all aspects of education.

68. The social, political and policy interfaces of the Executive also needs to be incorporated and factored in for the successful progress and development of education sector.
69. Thus, it is proposed that:

a. **A Ministerial Group on Education (MGE)** consisting of the Hon’ble Chief Minister, Hon’ble Ministers for Higher Education, Primary and Secondary Education, Skill, Finance etc. be established who provide the important policy interface. The Chairman of KSHRDAC could be a Member of the Ministerial Group.

b. An apex and independent State Council, **Karnataka State Human Resources Development Advisory Council (KSHRDAC)**, be established which would provide the core technical and managerial advisory, guidance for the techno-policy implementation and other oversight on the broad spectrum of education in the State. The Chairman of this Council must be an eminent and renowned technical/scientific expert with a good vision for future education. The members of the KSHRDAC must be eminent experts in the fields Education, Industry, Scientific Research etc. Departmental Secretaries could be Ex-officio members. A relevant Department of Government of Karnataka could service KSHRDAC.

70. The combination of the MGE and KSHRDAC will be a very effective mechanism in support of the education activities in the State – because it would provide the integration of the political and the expert perspectives for education.

**Governance and Management of the School Education System**

71. **Establish a Karnataka State School Education Council (KSSEC)**, headed/co-headed by an Educationist of repute and with members who are educationists/professionals involved in different stages of School Education – Pre-school, lower Primary–Upper Primary–Secondary and pre-university etc. (akin to Karnataka State Higher Education Council) under the Department of Primary and Secondary Education.

a. **KSSEC must address all aspects relating to definition of standards, academics and quality education delivery in both public and private sector** – curriculum and resources, teacher preparation, administrative processes and leadership, standards for infrastructure, for learning outcomes, evaluation methodologies, provision for inclusive education etc.

72. **Leadership of Schools**: Selection of Head Teachers and other leaders needs to be done on merit through a ‘search sum selection’ scheme rather than on the basis of seniority as is done presently.

a. Two critical requirements for the success of leaders must be ensured by government: 1) stability of tenure in leadership positions (minimum of three years), and 2) accountability to deliver, measured though a rigorous and transparent performance management system.
b. Leadership training and support: All chosen leaders ought to mandatorily undergo specially designed training programmes that will orient them towards their jobs before they take up their respective assignments.

c. A forum should be established to enable them to interact regularly with other leaders and functionaries of the school education department at all levels.

73. **Adequate staffing at government schools**: Post the consolidation process of schools in the State, it must be ensured that every school, government or private, irrespective of enrolment must have adequate staff - principal, language teachers, subject teachers, a sports teacher, and a peon as per standard norms set by the regulatory authority. Suitable mechanism for sharing of teaching resources in nearby schools with low strength may be established. Administrative duties for teachers must be kept to a minimum so that they can focus on ensuring learning outcomes.

74. **Assessing the health of the System**: Sample based standardised tests (such as PISA and PIRLS internationally and ASER, NAS at the national level and SAS at the state level) need to be devised and adopted in the State for a check on the health of the system at regular intervals, not less than once every 3 years. Assessment of learning achievement of students should be classroom-based or at best school based. The results of NAS and SAS should be used to refine in-service teacher training.

**Governance and Management of Higher Education**

75. The State has already established **Karnataka State Higher Education Council (KSHEC)**, which has successfully ensured academic excellence and growth of higher education in the State. The KSHEC is an important element of the proposed Karnataka State Education Policy with regards to Higher Education.

a. KSHEC must embrace and involve all universities of Karnataka including private universities.

76. **Coordination between ministries and departments engaged in education**: The focus must be on creating a critical mass of students in each college or university and the co-location of multiple disciplines (irrespective of their funding, governance and regulation patterns) to ensure that students have many more opportunities for interdisciplinary and multi-disciplinary education.

77. **Ensuring integrity of policy and implementation**: The proposed revised governance structure in which service provision is separated from policy making and regulation needs to be carefully detailed so as to ensure that no gaps arise between policy planning and implementation. Government must commit to putting in the requisite funds.

a. The entire cycle of planning, budgeting, sanctioning, utilization, tracking and feedback must be seen as a continuum. All related processes must be spelt out
and made more meaningful in terms of ‘real’ decentralization and development of rational and contextual guidelines for use.

b. Distribution of resources should be informed and just, with priority areas determined on the basis of concerns regarding access, equity and quality.

78. **Better governance and administration through the use of technology:** Administration and governance related functions can be made more efficient through the induction of appropriate technology. Many initiatives are already underway nationally and in Karnataka, through the KSHEC. These need to be improved and expanded.

79. **New legal framework:** The new framework for governance of educational institutions in the State needs to be detailed further and given statutory sanction.

   a. **Separate legislation for each university:** The government should review the Acts of the State Legislature that govern educational institutions in the State, including that of entities such as the KSHEC, and amend them as needed. This will help achieve the reforms outlined in this document and attain national and international competitiveness. Every university should preferably have its own separate legislation.

   b. Appropriate legislation should be put into place in order to ensure greater financial transparency with regard to revenue and expenditure of all educational institutions.

### REGULATORY AUTHORITY FOR EDUCATION

80. **It is essential that the State establish a statutory regulatory authority for the field of education.** A single Karnataka State Education Regulatory Authority (KSERA) would be important to undertake all aspects of evaluation, regulation and monitoring vis-à-vis the State Education Policy so that quality is assured and the interests of the students are protected. The KSERA could cover, School Education, Higher Education and other areas.

81. **KSERA is envisaged to concentrate its Regulatory functions for School Education sector and ensure that the standards and guidelines are implemented and technical evaluation/assessment of schools is routinely conducted.**

   a. KSERA will fill a critical gap that has existed in the education sector for bringing a uniformity and standardisation of the government schools and Private Schools and other school institutions.

   b. Regulation must be kept to a minimum and quality control should be achieved through norms for transparency, accreditation, ratings and rankings.
KARNATAKA STATE EDUCATION POLICY (KSEP)

82. KSERA can play an important role for monitoring and accreditation support for Higher Education.
   a. The model of working of the KSERA will supplement and extend the work of the NAAC.
   c. All higher education institutions (government as well as private) must be assessed ideally every year but at the least once every three years and assessments be made public.

POLICY RECOMMENDATIONS: COSTS AND FUNDING

83. Costs and funding: Some cost recovery from review and correction of the skewed spending on special schools and technical degrees in colleges could well become the source of the much needed funds for education in the State. For instance, the annual cost per student at a Sainik school is Rs 2,75,000, Rs 35,000 at Kendriya Vidyalayas and Rs 16,000 in government schools, all of which is free to students. Of Rs 35,000 that is spent on each student at ITIs / polytechnics only approximately Rs 5,000 is recovered. In higher and technical education the per-student spends for general education is a little over Rs 30,000 of which just Rs 1,800 is recovered. In medical college the per-student spend ranges from Rs 1,50,000 to Rs 6,00,000 of which Rs 60,000 is recovered. Similarly, just Rs 40,000 is recovered from an expenditure per student of Rs 1,00,000 in an engineering college. Government must set up a committee that can take a holistic look at education funding and suggest out-of-the-box solutions with regard to generating the funds that are needed for further investment.

POLICY RECOMMENDATIONS: REVIEW AND ANALYSIS

84. The KSEP must be reviewed every 3 years and changes, as required, must be quickly defined and adopted. Suitable mechanism for this may be established by Government, involving KSHRDAC and other expert fora. In reviewing the Policy, state must avail and analyse the past data of education (available through the KSERA) and make a prognostic analysis for future involving experts.
85. The KSHRDAC must provide to the State an annual report of the state of education and any other advisories and guidelines – supported by KSSEC and KSHEC and KSERA data.

86. All reports/data pertaining to Education must be made available in public domain.
Karnataka is one of the leading states in education with a wide range of preferred schools and colleges, and a professional education system that has evolved over many years. It is also home to many leading science and technology institutions of the country. The state is globally acclaimed for its achievements in the high technology arena, in areas such as IT and BT, and as an innovation and manufacturing hub. Karnataka aspires to rise to greater heights through empowering its youth with a high-quality education system that imparts 21st century skills. Towards this Karnataka is prepared to make a major shift from what the education system is today to a more dynamic regime that will create the knowledge professionals of the future.

Two recent reports from the World Economic Forum (WEF) titled ‘New Vision for Education’ 1,2 spell out the 21st century skills that students need to acquire. Besides traditional academic skills, they need to be adept at critical thinking, collaboration, communication and problem solving, which are some of the proficiencies acquired through ‘Social and Emotional Learning (SEL)’. The two reports spell out 6 foundational literacies (how students apply core skills to everyday tasks), 4 competencies (how students approach complex challenges) and 6 character qualities (how students approach their changing environment) for a total of 16 essential 21st century skills (see Figure 1 and Appendix 1) that students must have. These competencies and character qualities are a very well-thought out, broad, definition of what SEL encompasses and it is evident that these are worth adopting as goals for the specification and implementation of the new Karnataka State Education Policy (KSEP) 2016, since they are well aligned with our vision and mission.

In the nearly three decades since the last national education policy was articulated and adopted, we have made considerable progress in expanding education and providing access for large numbers of students, particularly with the advent of the RTE Act in 2009. However, we have been less successful in ensuring the quality of education everywhere in the State and this has affected equity – ‘the ability of a child to reach his or her full potential, without discrimination, bias or favouritism (UNICEF, 2010a)’ – adversely as well. Although some part of the lack of success can be attributed to a persistent resource gap, there are several other contributing factors such as the relatively poor planning, management and governance of the education system. These must be addressed urgently in the new education policy.

Education policies are embedded in national goals, aspirations, needs and dreams. The philosophical and ideological underpinnings of the 1948, 1968 and 1986-92 national

policies on education were that of a liberal democratic welfare state. This broadly reflected the philosophical framework of the Indian Constitution. The role of education was envisaged as a means of achieving national integration, and a just and equitable society, while paying due attention to developmental goals. These principles need to remain intact, but more attention needs to be paid to the quality of education, since we now live in a globalised and competitive world. Any new education policy, be it at the State or national level, must therefore orient itself to the growing internationalisation and to the enormous changes that have come through the widespread adoption of modern information and communication technologies.

**Figure 1:** Definition of 21st Century Skills. Social and Emotional Learning (SEL) encompasses the 10 competencies and character qualities. Source: World Economic Forum report, New Vision for Education, March 2016

Our education system has not kept pace with the changing needs of society. It has been allowed to lapse into a rules, controls and examinations based system that neither holds the interest of students nor encourages innovation. If we are to reverse some of these wrongs and succeed in improving quality as well as equity of access, then all strands of education - school education, higher and technical education, teacher education, vocational education and skill development – will need to be revamped in tandem. An all-out effort will be needed, from all groups of stakeholders in the education ecosystem – teachers, students, managements of institutions, parents and civil society, and
government - to turn policy goals into reality on the ground. It is imperative to also work with a keen sense of urgency since the results of the implementation of new policy often only become apparent only after a decade or more.

The students of today have to therefore be educated to learn by doing, to be able to work together in teams, to learn and unlearn constantly, and to be competitive both nationally and internationally. Their education must also put ethics and values centre stage. It is estimated that 65% of those who are entering school will be working in jobs that don’t exist today. This puts a premium on creativity, initiative and adaptability. SEL can prepare students for the evolving workplace with consequent benefits for themselves, for the economy and for society. However, there are several challenges to integrating SEL into education including: a) limited awareness and insufficient prioritization of social and emotional skills, b) lack of consensus about valid and reliable SEL measurements, and c) inadequate supply of SEL programmes and products as well as funding and resources.

**Figure 2:** A variety of general and targeted learning strategies that create an environment conducive to fostering social and emotional skills. See also Appendix 2 (A & B) for more targeted strategies for individual skills

**Source:** World Economic Forum report, New Vision for Education, March 2016

The report goes on detail some of the ways in which social and emotional skills can be fostered, through creating a conducive environment and through ways to target individual skills (Figure 2 and Appendix 2 (A & B)). The outcome of some of this research is
very valuable for India and Karnataka at this stage, as we seek to move away from an examination based education system into a more ‘learning outcome based’ system. SEL needs to be built into the school curriculum and into teaching practices such as project-based and inquiry based learning and involvement in extra-curricular activities. The WEF report (2015) further advocates that an integrated approach be taken in which a set of connected steps are taken to produce results, as shown in Figure 3.

**Figure 3: A Closed Loop Instructional System to Address Skills Gap.**

These valuable inputs have been kept in mind while designing KSEP 2016. Inputs from success stories and best practices in India and abroad have also been looked into while creating an independent policy document for the State for the very first time. The special needs of the state of Karnataka and the challenges of the present education system have played a key role in the approach to KSEP. These are outlined first before listing the policy recommendations.
2. A SNAPSHOT OF EDUCATION IN KARNATAKA TODAY

Over the years, sustained investment coupled with enlightened policies has made Karnataka a cradle of quality education and social diversity. However, there continues to be a “education divide” in the State that stems from the fact that one group of citizens with skills and education, who are part of the rapid economic growth of Karnataka and India, have seen their incomes grow by leaps and bounds whereas another larger group, many of whom are attached to the land in rural areas, have seen much slower income growth due to lack of access to education and opportunities.

It is therefore essential that the State look at the new education policy as a tool for social empowerment of every citizen, enabling each one of them to benefit from the fast growing economy. The challenges are many. Students continue to drop out in large numbers at various stages of schooling. As shown in Figure 4, the number of students who took the Grade 10 examinations in 2014-15 is a little over 8 lacs, which represents a large drop from the average batch size of over 11 lacs that entered Grade 1, 10 years earlier. The numbers that enrolled for Grade 12 examinations show a further sharp drop.

![Total Enrollment & Pass Figures: Class I, X & XII](image)

**Figure 4:** SSLC Board & PUC Board enrolments, Karnataka

**Source:** [http://www.dise.in](http://www.dise.in)
There is also a definite trend of students migrating from the government lower primary school (LPS) system towards private schools (see Figure 5). There are several reasons for this: 1) the lack of attached facilities for pre-primary education at primary schools; 2) multi-level teaching that is prevalent in government schools under the Nali-Kali programme which tends to be looked at unfavourably by parents; 3) lack of options for children to study in English; 4) perceived teacher absenteeism; and 5) lack of adequate number of good quality government schools in urban areas. Physical migration of families from rural to urban areas is an important factor in the dropping enrolment in government schools in rural areas. As much as 86% of government and aided elementary schools (Grades 1-8) and 73% of high schools are concentrated in rural areas even though the rural population is now just 61%. Expansion of government capacity has not kept pace with change in demographics leading to a severe shortage of good quality government schools in urban areas.

**Figure 5: Enrolment Trends in Lower Primary School (Grades 1-5) in Karnataka**

*Source: [http://www.dise.in](http://www.dise.in)*
**Figure 6**: Number of schools in the government and private sector

Source: [http://www.dise.in](http://www.dise.in)

Figure 6 shows the growth in the number of private unaided schools relative to the number of government and aided schools. When combined with enrolment numbers in Figure 5, it becomes clear that the density of students in private schools is much higher than in government and aided schools.
The opportunity to study in English is aspirational. Yet only 13% of Government and aided high schools offer education in English medium while 63% of private unaided high schools do so. Government planning is also falling short with regard to alignment with economic needs. Just 18% of students in government higher secondary schools are studying science courses relative to 47% of students in private schools.
The impact of this is largest on the weakest section of society. Significantly, as much as 33% of students in government schools belong to Scheduled Castes and Scheduled Tribes when their share in the total population of the State is just 25%. The RTE quota in private schools therefore represents an important opportunity to offer some choice to students from weaker sections at a relatively low cost. The cost to the government is just under Rs 12,000 per student which compares favourably with Rs 16,000, the comparable cost incurred in government schools.

Regional imbalances in literacy rate and in Human Development Index (HDI), captured in Table 1, represent yet another critical challenge for the State government which has a key role to play in fixing the deficiencies outlined so far. Government must ensure that districts of North-East Karnataka that have the poorest indices in HDI, in literacy rates and gender ratios, such as Koppal, Raichur, Bidar and Gulbarga, receive all the assistance they need to bridge the gap with the mainstream as quickly as possible.

**Figure 7: Enrollment numbers in Undergraduate, Post-graduate and PhD programs. Data beyond 2015-16 is estimated.**

**Source:** AISHE (All India Survey on Higher Education) Reports

The situation in the field of higher education is not very different, in terms of the quality of education on offer and equity of access. Student learning outcomes have not kept pace with the sophisticated needs of employers, of society and of the students themselves. It is not just the failure of the State in providing higher education through its own universities
and colleges, including aided colleges. The State has fallen short in its responsibility of monitoring and providing quality control of private educational institutions as well.

As mentioned earlier, Karnataka has traditionally maintained a leading position within the country with regard to the provision of higher education, and this is reflected in its Gross Enrolment Ratio (GER) which is at 29%, well above the national average of 23%, but below that of Tamil Nadu which is at 42%. However, the enrolment in Masters’ degree programmes is below 20% of undergraduate enrolment on average, much smaller than the 50% or higher that is prevalent in developed countries. Figure 7 also shows the intake into PhD programmes which is abysmal, nearly two orders of magnitude smaller than undergraduate enrolment. This fact critically impacts the creation of new knowledge, and severely affects the supply of quality teachers and researchers in all disciplines.

Excessive controls and lack of autonomy have stifled the ability of universities to renew themselves, and to aspire to international standards. State universities continue to be starved of funds and are unable to invest in quality infrastructure, introduce new courses etc., resulting in a further drop in quality each year. Research, innovation and creation of new knowledge have been unfortunate casualties, and the concept of the university as a thought leader in society has been side-stepped completely. Many universities have become just examination bodies rather than the knowledge creation and dissemination bodies that they ought to be.

The lack of commitment to quality education is pervasive and is reflected in the fact that reforms in the education sector have not received adequate attention from either the Central or the State governments despite rising incomes from over two decades of rapid economic growth. Not unexpectedly, there is a severe shortage of talent in every skill and profession needed to deal with the numerous social and economic challenges facing the country today. Meanwhile, ever larger numbers of Indian students are traveling to foreign shores each year for higher education - over 300,000 at last count, spending over USD 10 Billion each year - more than the entire annual budget of the Ministry of Human Resource Development (MHRD) of the Government of India.

2.1. LEARNINGS

Much of the malaise in the quality of education delivery is due to the confusion arising out of the multifarious roles of the State. It is therefore very important to clarify the role of the State completely since it is essential for the growth of a healthy education sector. The State government has three primary roles in the school and college education system presently:

- It anchors policy formulation and in this role it must ensure development of an education policy that caters to the welfare of all sections of society. The policy needs to be flexible to meet the diverse needs of society and to foster innovation
and growth to meet the economic needs of the individual and of society. The policy must also result in the creation of a non-discriminatory framework applicable uniformly to all education providers, private or public, and ensure accountability.

- The State is a **regulator** of education. As a regulator it must ensure adherence to policy goals and good governance through an objective framework. This role is complex and involves multiple responsibilities: apart from regulation, monitoring and quality control of infrastructure, curriculum, pedagogy and academic outcomes, this role also includes the task of granting permissions for starting new institutions, for introducing new courses in existing institutions, regulating admissions etc. In these roles the State also oversees the provision of education by private educational institutions, a task in which the outcomes have been mixed at best. All providers of education services – government, private aided and private unaided - need to be held accountable to the same standards, without any special concession being given to either the State provider or to private ones. The State has by and large abdicated its responsibilities in this area completely.

- The State is a **provider** of school education as well as higher education. In this role too, the State has fallen far short of expectations as is evident in the declining enrolment in government schools and in the lack of national and international competitiveness of State universities. At the school level, the State has a constitutional obligation to provide free education till grade 8 to all children in the State and to act as a guarantor of school education. Although the goals of access have been largely met, outcomes from education delivery have not met quality criteria. In the field of higher education the State needs to respond to the challenges of providing university education to many more students by increasing GER while at the same time providing industry with the skilled manpower they need to keep the economy growing.

**These three roles of the State in the education sector have to be separated out, housed in different entities and managed by separate sets of people.** The current setup in which all three functions of the State are discharged under the same umbrella has created confusion and resulted in a poor quality education system. The crux of reform lies in this significant change. Only reform in the role of the State can lead to reform of the entire education sector.

Some of the other salient learnings of the Task Group that are inputs into the new education policy are the following:

- There is high focus for education amongst the citizenry – parents are willing to undertake any level of sacrifice to get their children educated.

- There is large scale migration from State schools to private schools based on perceptions of higher quality and the opportunity to study in English. Government
KARNATAKA STATE EDUCATION POLICY (KSEP)

needs to address the causes and this perception urgently, and improve its own capacity to deliver quality education.

- Migration of citizens of the State from rural to urban areas in search of greater economic opportunities, has led to overcapacity in the government school system in rural areas and inadequate capacity in urban areas, affecting students from the weakest section of society the most.

- There is a need to remove many of the excessive controls that have been crippling innovation and hurting the quality of the existing education system. The government needs to manage the sector much better.

- The new education policy must aim towards bringing about a singular focus on quality and excellence. It needs to identify, train and encourage many leaders in academia to work towards this.

- The policy needs to empower academics in large numbers – teachers, educationists, scientists, researchers and members of civil society – to participate actively and contribute to the transformation, to help unleash the creative energies in the system.

- The onus for providing quality education needs to be placed squarely on the shoulders of teachers who must be trained extensively for the purpose and be empowered to deliver.

- Management of schools, colleges and universities need to be revamped so as to create a dynamic and flexible education system that is evolving continuously. Many leaders must be identified and trained to take up the challenge.

- Government must display the will to see comprehensive reforms through. It must also commit to providing the much higher levels of funding that will be required.

It is time now to implement comprehensive reforms and become the best State in the country that addresses the hopes and aspirations of eager students. The aim is therefore to accomplish a paradigm-change that results in the creation of a student-centric education system in which:

- A culture of excellence prevails and meritocracy is achieved in all educational institutions and in the mind-sets of stakeholders.

- The focus is squarely on the development of each individual student, and every child is nurtured from the age of 3 into adulthood to realize his or her full potential, for their own benefit and for the benefit of their families, of society and the country.

- Values and Ethics are centre-stage, caste-based discrimination is eliminated, equity of access for students from weaker sections of society is achieved and
educational institutions become vibrant places that are continually striving for excellence.

- Teachers are returned to the pride of place in society they once enjoyed and every teacher is supported and assisted in becoming thought leaders, in giving their best to the challenge of overhauling education.

- Educational institutions, private as well as public, strive towards a nationally and internationally competitive education system and achieve it through their own initiative. They innovate continuously, adhere to high standards of quality and probity and provide an environment that is conducive for students to flourish.

- Regulation is lightweight, compliance is voluntary, and enforcement is focused on weeding out non-compliant institutions without constraining the good institutions. This provides a conducive environment to all institutions and gives them freedom to operate, encouraging the growth and proliferation of quality institutions.

In the following chapter we outline some of the key recommendations regarding reforms in school education as well as higher education that can help achieve the goals outlined above. The capacity of the State to deliver on all of its three key roles need to be strengthened as part of the implementation plan of this policy. The outcomes of implementation must be reviewed regularly, and changes made as needed to ensure that the State gets a seamless education system that assures a quality education to every child.
KARNATAKA STATE EDUCATION POLICY (KSEP)

3. THE KARNATAKA STATE EDUCATION POLICY, 2016

VISION

Build an equitable, inclusive and futuristic education system that promotes all-round excellence by modernisation of our educational institutions, empowering teachers for higher performance and preparing students to avail best opportunities in life – thereby, enabling future citizens to contribute effectively to societal development and progress of the State.

MISSION

This vision will be brought to life by:

- Improving the fundamentals in an integrated and sustained manner, and with integrity in implementation;
- Developing a culture of empowerment and enablement, combined with personal responsibility and public accountability;
- Being informed by sound understanding of education and related disciplines;
- Developing an energized, motivated and high-capacity teacher community;
- Being responsive to social and economic changes and trends across the world.

3.1. FOUNDATIONAL PRINCIPLES OF POLICY

1. Education must remain the primary and uppermost responsibility of the State government, for preparing the future generation. The State government must boldly commit to investing generous financial resources towards achieving quality education for all, and undertake operational reforms that will produce a holistic, equitable, accountable and high performance education system in the State. Innovative approaches to raising additional resources to supplement existing budgets, and more efficient spending of funds both need to be part of a comprehensive plan to empower citizens through education.

1.1. The State must invest heavily in human capital over the next 10 years, so that the Human Development Index (HDI) of the State becomes akin to that of a developed nation and the economic indicators become akin to at least that of a middle-income country. Every citizen must have access to a good
education, skills training, and employment that delivers to him, or her, a vastly improved quality of life.

2. The social and economic diversity of the State, along with the geographical spread, places a high demand for making equity the primary foundational principle of the new policy for education. The sheer chance of birth of child in a particular social and economic milieu should never become a deterring or limiting factor for any child to receive quality education relative to another child born in a superior social and economic environment. Every child in Karnataka must be assured of and be able to avail education of a minimum quality anywhere in the state.

3. Social Change in the State is imperative on high quality and sustained education of the girl child. Every girl child who has completed formal education can bring transformational value – not just at individual level but also at family level and societal level – thereby, making Karnataka a progressive, modern and knowledge State. Thus, every girl child must be assured and must be able to avail a minimum of 12+3 years of education – leading to a minimum level of collegiate degree. This will bring a transformation in the rural and urban populace of the State and contribute in a significant way to gender equity, social and economic progress of society.

4. Teachers and Faculty will continue to be the corner stone of success in the future of Education. What makes the Teachers of Tomorrow has to be well understood and outlined in the various programs of education. Future of teaching may be very different from the present stereotypical perspectives – with advanced ICT and Digital Knowledge base, the delivery of education may see a profound change in the way computing and humans will interact to bring learning to students. Learning access will be for anyone, anywhere and at any-time with the concept of learning being a lifelong process. Teachers would be a bridge between a large ICT and Digital interface on one side and expectation of students on the other side. While passion for teaching has to be a major quality, knowledge and wisdom have to be combined with high level skills in ICT usage, behavioural understanding, management of people and resources etc. Future teaching skills will depend more upon creativity, technological adaptability, communication, social and cultural awareness, problem solving, leadership etc. One has to think as to how such “thinking teachers” can emerge as a cadre of modern and advanced “delivery systems” in education. State must take-up a concerted program and develop the next generation or cadre of teachers to make the policy implementation successful in the long term.

5. The new education policy is also based on a quest for excellence in education delivery and outcomes. This will require a paradigm change - a transition from the input controlled, examination based ‘one-size-fits-all’ education system of the present into a more flexible and student-centric system focused on quality – one in
which teachers and educational institutions are given pride of place, empowered with individual and institutional autonomy, and entrusted with achieving and maintaining quality and excellence.

3.2. **POLICY RECOMMENDATIONS: SCHOOL EDUCATION**

It is critical that school education is thought of in an integrated way and policy solutions address the whole gamut of issues it faces. School education needs to be seen as a continuum, from early childhood, through primary, secondary, and high school education, and the continuum must be addressed as a whole. The early childhood years (ages 3-6) are critical to the development of the child but these years are not yet an integral part of the planning and delivery of school education. At the other end of the spectrum a large number of students, especially from marginalized communities, drop out at secondary and higher secondary stages. Learning outcomes are poor across the board, and the learning experience relatively poor with not enough experiential learning brought in. All stakeholders, parents, students, educators and institutions need to re-think the goals of education and begin a different conversation, one that is focused on the development of every individual child as per his/her interests and abilities. The following recommendations are an effort to re-orient the formal education system in this direction.

3.2.1. **EARLY CHILDHOOD EDUCATION AND CARE**

6. Global experience and rigorous research emphasize the importance of investing in early childhood care, including early childhood education. Therefore, appropriate educational efforts must begin early, leveraging the pre-primary years beginning at age 3. A challenge in Karnataka, and indeed in all of India, is that pre-primary education and elementary education are housed under different Departments of the government presently. Primary schools run by the Primary and Secondary Education Department of the State government presently do not have pre-primary schools attached to them. Young children below the age of 5 are cared for in Anganwadis run by the Department of Women and Child Development, where the primary focus is on health and nutritional needs of the child.

6.1. Mechanisms to create linkages between Anganwadi system and primary schools must be created and adopted by the State government working across both departments. The best mechanism is to co-locate Anganwadis with government primary schools and to entrust Primary and Secondary Education Department with the responsibility of catering to the educational needs of a child.

6.2. A stimulating and responsive environment of care, opportunities and experiences must be provided to children in the pre-primary stage. Play, music and movement, visual, auditory and motor-sensory stimulation, and a literacy-rich environment are very important parts of early childhood education.
Pedagogy must be organized in contextually rich themes with activities built around the natural and social world of the child, including a language-rich environment.

6.3. A stage-wise curriculum that addresses all domains - social, emotional, psychomotor, cognitive, language and mathematics matched to children’s developmental needs and socio-cultural backgrounds needs to be developed. Teachers need to be educated in these aspects, and appropriate resources and materials need to be made available to them so that they are able to nurture every child, individually.

6.4. Universities/colleges that can run rigorous and exemplary Early Childhood Professional Development programmes need to be identified. They must be asked to begin by training teacher educators in this area, and include early childhood education as a focus area in pre-service teacher education. They must also be asked to offer short-term certified refresher programs for in-service teachers. Rigorous research in early childhood care and education must be supported by Government of India, and opportunities must be provided for professionals in pre-primary education to meet, interact and discuss professional issues.

6.5. Guidelines for the physical, emotional and intellectual safety of all children need to be created. The National Early Childhood Care and Education (ECCE) Policy, including the National Curriculum Framework (NCF) and quality standards for ECCE must be made applicable across government and private schools in the State. This sector must be monitored and regulated carefully for adherence to quality standards.

3.2.2. School Education (Grades 1-12)

7. Every child in Karnataka must be guaranteed 12 years of school education beginning with Grade 1. The State government must act as the guarantor for this and provide free education in government schools for children until Grade 12. It may be noted that this goal is well beyond the promise of the current RTE (Right to Education) Act and the recently adopted Sustainable Development Goals (SDGs) from the UN. However, making this additional commitment is critical as it will contribute immensely to the development of the youth of Karnataka and of the State.

7.1. The RTE Act will need to be amended by the State government in order to enshrine this goal.

7.2. Mechanisms for facilitating access to private secondary and higher secondary schools for students belonging to weaker sections and disadvantaged groups, and meeting the cost of their studies should be put in place.
7.3. Government needs to do everything possible to learn about the reasons for students dropping out. It must then address these and ensure that students are retained in school until Grade 12.

7.4. Every student who attends school regularly and meets the specified attendance requirement must be awarded a “School Education Completion Certificate” at the end of Grade 12, irrespective of their performance.

7.5. A robust system of open schooling needs to be created in the State so that students who have dropped out can re-join at a later date and complete their education until Grade 12.

8. **The focus of education will be on achieving targeted learning outcomes.** Expertise on specifying learning outcomes and implementing pedagogies that help achieve these, such as experiential learning through projects, hands-on work etc., and expertise in measuring learning outcomes will be carefully built up during the next decade. The expertise of large numbers of educators and educationists in the State will be used to design appropriate curriculum, train teachers, create resources and conduct research in pedagogies and evaluation methods to help the school education system transform significantly. All schools will be assisted to bring this change.

9. **School Education must be founded on the principle of Continuous and Comprehensive Evaluation (CCE) by which the progress and achievements of students get measured and evaluated.** The CCE regime, put into place during implementation of RTE, needs to be simplified and modernised with usage of ICT tools, so as to not to be a burden to teachers and at the same time to be attractive to students. The evaluation must cover not just academics but also aspects of the child’s personality development such as social skills, prowess in sports, arts and special talents. This will make the assessment process meaningful for children and their families, and help align education with the goal of social and emotional learning.

9.1. Teachers must be oriented towards this goal and trained for the task. Competence in specifying and measuring learning outcomes, based on curricular objectives, needs to be built up in a systematic way.

9.2. As part of the CCE, examinations and evaluations must be held in all grades to help students learn to cope with competition, and to prepare them for the many entrance examinations for higher studies that many of them will need to take.

9.3. Comprehensive and holistic reporting of a child’s capabilities and development by teachers, on a sustained basis, will enable the creation of
individual student portfolios which will be useful to students for entry into the
post-school world.

10. ** Provision for remedial education:** Remedial education is part and parcel of the
School Education system – it must not only be administered to every needy child in a
timely manner but must also be sustained to overcome the deficiencies / gaps that
a child encounters. Success stories can be gathered and disseminated as the best
practices to help spread the acceptance and uptake of remedial education in all
schools. **Provision for such remedial education must be made available in all schools.**
Adequate infrastructure for teacher training and monitoring of the systems must be
created at the earliest.

10.1. A mechanism to identify the need for remedial education for a child needs to
be put in place. Parents must be involved in working with teachers and
managements to ensure satisfactory implementation for such remedial steps.

11. **No child must get detained in a class – that must be the endeavour of the Education
system.** This principle is important so that children do not get labelled as failure, on
the other hand, have all the opportunities to progress ahead in the school education
for successful completion of 12 years of education. **The combination of no-detention,
backed by a sound remedial process, along with an invigorated CCE, would be a
transformational mechanism for successfully educating every child in the State.**

11.1. In extreme cases, when detaining a child becomes inevitable, the decision of
detention must be taken involving the parents, teachers and the management.
A formal mechanism for such decision making needs to be put in place.

12. **Because it is the responsibility of the State to ensure an equitable school education
system,** the State must notify uniform standards for all schools – be they government,
private or any other type of school institution. The standardisation of schools would
ensure that students are not faced with differentiation/discrimination in the quality of
education they receive, due to geographic, economic or social differences.

12.1. **Well-defined school standards** are required to maintain quality in different
aspects of education including student learning, teacher recruitment and
performance, infrastructure, resources and facilities, health and safety, school
leadership related aspects and performance of functionaries and institutions.
The standards could be developed by adopting the existing parameters and
build upon for a comprehensive, implementable and measurable standards for
schools.

12.2. It is of utmost importance that standards are used primarily for improving
educational quality and for developing professional expertise, and not for
narrow notions of individual accountability, since such use have damaging effects to the foundations of education.

12.3. **The compliance and performance of every school – government or private or others vis-à-vis the school standards must be regularly undertaken.** Mechanisms for this need to be established. These standards can also be used for improving governance through disclosures and transparency over the long term. It can form the basis for a public accountability system focused on school improvement through making all relevant data publicly available.

12.4. It must be left to an independent regulatory authority to define standards for schools and to verify compliance/performance in all schools.

12.5. Government must also work actively towards wiping out the regional, gender and social disadvantages that exist presently, through **selective infusion of funds and other resources.**

13. To enable uniformity in school education, there has to be a **massive and an urgent effort by the State to improve the condition and quality of present Government Schools and bring them in line with the concept of uniform school standards proposed above.** Considering the poor quality of the Government schools today, an innovative plan of action for their all-round improvement across the state has to be taken-up. State must commit financial and other resources for this activity on a priority basis.

13.1. Apart from committing state financial resources for this urgent priority action, State could also tap CSR contributions (or may be even private sector funding) and pool-up additional finance for the State in improvement of government schools.

14. **Consolidation of schools:** A master plan for the geographical coverage of schools in the State, from pre-primary (ECCE) to Grade12, needs to be prepared as part of the consolidation exercise based on extensive data gathering and analysis of present usage and future needs with the aid of GIS (Geographical Information Systems) mapping technologies. Of the 44,000 plus government schools that are serviced by approximately 165,000 teachers, as many as 15,000 schools have 5 students or fewer per class! Such small schools of unviable sizes need to be consolidated for better utilization of teachers and resources.

14.1. As part of the consolidation process, it is recommended that **in every panchayat of the State, there is a composite school system from pre-school through Grade 1-12 in a single campus.** This process will ensure that within the limited area of the panchayat, citizens have easy access to 12 years of guaranteed education. In addition, school resources would also get optimised.
and help the consolidation process. These consolidated and composite schools would be able to provide early childhood education as well as school education till Grade 12, and must ensure recommended pupil-teacher ratios, quality infrastructure and facilities, sufficient educational materials and resources, and adequate ICT support for providing high quality education.

14.2. Transport facilities are a key part of such a consolidation exercise and arrangements for the safe transport of students from their homes to these schools and back must be made available.

14.3. Grades 11-12 must be integrated with secondary school education and be brought under the purview of the Department of School Education. The existing Directorate for Pre-University Education needs to be restructured into the Commissionerate for Secondary Education, and both lower secondary education (high school) and higher secondary education (pre-university) should be brought under its ambit.

15. The paucity of good quality government schools in urban areas affects the weakest section of society the hardest. While the present RTE mandates the quotas in private schools upto Grade 8, legislation for amending the RTE for extending quota in Private schools upto Grade 12 has to be taken-up. This important provision will continue to provide much-needed choice for parents and also conform to the 12 years of guaranteed education in all schools.

15.1. The private sector which provides much-needed capacity in urban areas needs to be facilitated to add further capacity. Stifling regulations that discourage them need to be removed, and more transparent procedures and processes ensuring strict compliance to school standards need to be adopted. Requirements for land, which is often the source of higher costs for private schools, can be relaxed where possible, within the envelope of and without compromising the school standards.

15.2. Many schools run by municipal corporations are grossly underutilised. These could be rejuvenated, complying to school standards, so that their capacity also adds up to the State in a uniform manner. Oversight of the quality of education provided by them must be brought under the independent regulator of school education.

16. **Medium of Instruction:** There is strong scientific evidence to support the fact that children learn best when medium of instruction is the mother-tongue of the child. In 2013, the Supreme Court has also recognised that it is a fundamental right of the parent and the child to choose the medium of instruction. The state of Karnataka which has a cosmopolitan culture has different languages practiced – Kannada, Konkani, Tulu, Urdu, Hindi, Telugu, Tamil, and many other languages. This character of
the State does pose a practical, logistical and administrative challenge to assure the varied mother tongue as Medium of Instruction, though this would be ideally suited. Considering this, the following practical recommendation is made for Medium of Instruction:

16.1. **Grade 1-4:** As Kannada is the mother tongue of the majority population in the State and is also the state language, it would be most practical to have Kannada as the medium of instruction in all schools upto Grade 4, if instruction in mother-tongue is impractical/difficult to impart.

16.2. **From Grade 5:** students must have the option to continue their education either in Kannada or in English as Medium of Instruction. In larger government schools where there are two sections of each class, one section must offer instruction in English.

17. **Language Policy:** Present and future citizens of Karnataka would require knowledge of multiple languages for their professional and societal activities. Kannada is the state language and thus, it is critical that every citizen has knowledge of Kannada for a satisfactory and sustained quality of life in the State. At the same time, English is also a very important language because of tremendous professional, industrial economic opportunities available in the state and the world – thus, knowledge of English becomes important for integration of the Kannadiga into the global main stream. Hindi is the national language and important for nation building activities - thus, knowledge of Hindi is equally important for integration of the Kannadiga into the national main stream. In addition to these, knowledge of other Indian languages, Sanskrit, Foreign languages etc are also preferred by many students at school level. With this in perspective, school education must prepare future citizens to be proficient in as many languages – assuring them the best of opportunities to be integrated within the state and into the nation and the world. The CBSE model for language teaching also adopts multi-lingual approach in which, besides the medium of instruction, one language is taught all through Grades 1-10, a second language is introduced during Grades 5-7, and no language is taught in Grades 11-12 leaving the students free to concentrate on other subjects. Considering these points, the following broad guidelines for language education are recommended:

17.1. **Grade 1–4:** 2 languages with Kannada (or mother-tongue) as Medium of Instruction and English as the second language to be learnt by every student in Government and private schools

17.2. **Grade 5-7:** 3 languages with Medium of Instruction and 2 additional languages as per choice of student

17.2.1. Science and maths subjects could be taught in English from Grade 5 onwards while other subjects - geography, history, socials etc. could be
taught in the selected medium of instruction of the student. This will ensure that Students get well prepared, from an early stage, for competitive examinations at higher level – which require access to and learning from volumes and volumes of books, papers, research materials, educational materials etc available in the world and which are mostly in English.

17.3. **Grade 8-10**: 2 languages with Medium of Instruction and 1 additional language as per choice of student

17.4. **Grade 11-12**: 1 language which is medium of instruction as per choice of student

18. In the long term, such a language policy will enable a multilingual education in the State by which students would be exposed to Kannada, English, Hindi and other languages too. Thus, while some subjects would be learnt in Kannada and others in English – thus, making students fluent in both languages. This is important because many professional/national/global competitive examinations are held in English and students from Karnataka ought not to be at a disadvantage.

19. Availability of adequately trained teachers will be critical to the success of this effort. Such a ‘strategic plan’ gives students from Karnataka an advantage. This has been found successful in developed countries such as France and Germany, among many others. This would certainly help to stem the present exodus of students from government schools.

19.1. In all cases of language teaching, **emphasis must be shifted towards attaining fluency in the spoken language and the ability to communicate.**

19.2. The rich linguistic diversity in the State needs to be kept alive by making the opportunity to study languages ubiquitous across our educational institutions. All schools must be encouraged to offer languages as a subject option in secondary school and libraries must be appropriately stocked with material in the chosen languages.

20. **Managing reservations and quotas:** While quota in admissions is necessary and must be implemented with diligence, **every effort must be made to prevent the label of quota or caste to be attached to individual children**, once they are admitted and during their education. Criteria for admission must remain in the records of the school and with the government but nowhere else and schools must be directed to help all children blend in as quickly as possible. Any action that makes it harder for children to blend in should be scrupulously avoided. Data should not be put up on notice boards, as it is being done now, because this is repugnant to our Constitution. It should be our endeavour as a society to work actively towards relegating caste and
other social divisions into the background. School and college years are the best time to try and achieve this by inculcating these values in all children. Schools must be rewarded for voluntary and innovative efforts in this direction, through the accreditation process.

21. **Inclusive education:** Differently abled children and children with special needs require additional support that must be provided to them in an extremely sensitive way. Managements of schools, public as well as private, should be encouraged to extend all necessary infrastructural support as per the recommendations of the Rehabilitation Council of India (RCI). Teachers need to be trained to identify children with difficulties and to handle the individual needs of each such child. Curriculum development must also take into account the needs of differently abled children.

21.1. An entity that can ensure that the requirements of differently-abled students in Karnataka are being met on a sustained basis, may need to be setup. The State needs to earmark funds to setup minimum facilities to support such children in all schools, and some specialised facilities in at least a few schools, say one in each district. CSR funds could be a potential source of funding for this purpose but the oversight must be done by experts in inclusive education.

21.2. Similarly a programme to identify and **nurture academically gifted children** needs to be put in place through special schools where admission is based on well-accepted evaluation tests such as the MENSA test.

22. **Vocational education and skills training:** Exposure to different vocations is valuable experience for children in upper primary and secondary schools. Students in Grades 6-8 may be given planned exposure to work situations and skills depending on the capability of schools to offer these, students in Grades 9 and 10 should be given specific curricular exposure to work and vocations. In Grades 11 and 12 specialized vocational education should be available to all students to choose from. The system must ensure that there is no inflexible separation of ‘vocational’ and ‘academic’ streams. Pathways for easy movement between the two streams need to be created in line with the recommendations of the National Skills Qualification Framework (NSQF).

22.1. The NSQF also provides a framework for tighter integration of skills education into secondary school. Students must have options to begin training in different skills during Grades 11-12 in school. Schools must be incentivized to implement different types of skills education, to build experience with offering these choices to students, and to share best practices with the larger community. Collaboration with other institutions such as colleges and industry in the vicinity of the school need to be actively encouraged so that innovative solutions to provide skills training during secondary school and beyond can be found.
The twin aims of this policy, to improve the quality of education delivery and to provide equity of access to students, will require considerable focus on teacher empowerment, education and training. Teacher quality is intrinsically linked to the academic and professional qualifications of teachers and is impacted hugely by the quality of teacher preparation programmes. The pre-service and in-service teacher education programmes that exist currently in the State require systemic overhaul. A large-scale teacher education programme for in-service teachers will need to be rolled out so as to prepare them for taking the lead in bringing about the required focus on quality and equity.

**Pre-service teacher education:** Since the 1990s the State has seen mushrooming of private Teacher Education Institutions (TEIs), B.Ed. and D.Ed. colleges, leading to commercialization of the teacher education space and a proliferation of low quality colleges producing inadequately trained teachers. The design of teacher education programmes have not kept pace with changes in our views on quality education. The current programmes – the two-year diploma (D.Ed.) post Grade 12 which is the requirement for teaching at elementary schools, and the B.Ed. degree, post undergraduate education, with a recently enhanced duration of two years for teaching in secondary schools - have been revised to address the need for perspective and capability. Curriculum and classroom processes that were out-dated and distanced from the reality of the school and the children they were supposed to serve, have undergone reform and revision. However, this reform is still far from sufficient. **Improving pre-service teacher education is at the core of improving education and this requires a full-scale revolution - a ground-up redesigning of the system, structures and operations.** The guiding principles for bringing about such a revolution must be: a) enhanced duration of teacher education programs, b) overhaul of the curriculum fundamentally, c) improvement of existing institutions, and d) weeding out of teacher education colleges that are being run like ‘shops’. The Supreme Court appointed Justice Verma Commission (JVC) recommendations, which have been accepted by MHRD, can form the basis for these changes. **A cadre of teacher educators will need to be developed.**

**In-service teacher education:** The capacity of our existing teacher pool must be improved dramatically in order to bring about improvement in learning outcomes during the next decade. New models for professional development of in-service teachers are critical. These models will require localized high-capacity teams to engage which teachers on a continuous basis. Improvement in teacher capacity will have a positive effect on the motivation levels of teachers themselves.

Unlike the pre-service courses, in-service teacher education programmes are primarily government owned. However, the designs of the programmes meet neither the quality standards nor the requirements of practicing teachers. As indicated in many studies on this subject, **teachers do not see benefit in most of the in-service training provided to them, the**
major lacuna identified by them being the lack of a proper training needs analysis, poor quality of content/resource material and poor execution. A new system for continuous professional development of practicing teachers needs to be prepared keeping this experience in mind, as also the needs of teachers who are at different stages of their career. Individual teachers must be enabled to choose programmes according to their needs.

There are thousands of teachers in Karnataka who continue to teach with great commitment despite all odds. There is a need for affirmation and support to be provided to such exceptional teachers. A lot needs to be done to bring such ‘role models’ to the forefront, to enable them to mentor young teachers and novices. There are hardly any platforms or mechanisms which enables teachers to interact among themselves as professionals. There is a need to provide teachers with access to professional communities, to help break their isolation. The innovative use of technology to build fora for teachers in secondary schools has been very successful. The facility needs to be extended to teachers in primary schools as well.

Teacher confidence is a major determinant in the successful adoption of technology in classrooms. Effective use of technology is related to the comfort levels teachers have with technology and the autonomy they have to shape instruction to the needs of students. Hence, the role of the teacher is critical for effective use of ICT in classrooms. Teachers need to undergo a ‘pedagogical evolution’ to be able to use technology effectively.

The policy recommendations with regard to teacher empowerment, education and training are therefore the following:

23. **Phasing out D.Ed. and introducing stage specific 4-year B.Ed. programmes for teacher training:** The State needs to scrap the two-year Diploma in Education (D. Ed.) in a phased manner. The **B.Ed. degree must be made the sole eligibility criterion for school teachers** and the State must move towards introducing a stage-specific (ECCE, primary, upper-primary, secondary and senior-secondary) four-year teacher preparation programme (B.Ed. degree) over the next few years. This is critical for producing adequately trained teachers. University Departments of Education and other eminent experts can be brought into design these stage specific courses.

23.1. **In-service teachers in government as well as private schools, who do not have B.Ed. degree must be encouraged to under-go B.Ed. training in a time bound manner with the support of the State.** State has to evolve a scheme or programme to encourage teachers to accomplish this within next 3-5 years with the support of Departments of Education in Universities of the State.

23.2. **Mid-career professionals who are interested in taking up teaching in schools can be inducted provided they comply with the training requirements specified**
24. **Pre-service teacher education needs to be moved out of the purview of the Primary and Secondary Education Department and transferred to the Higher Education department** so that Teacher Education Institutes can be better governed. They are not well regulated at this time and the implementation of the new policy must take this up on priority basis. Universities must be involved in the monitoring and quality control of teacher education institutions. Accreditation of all teacher education institutions must be done on a regular basis, at a minimum of once every five years. Course content for the B.Ed. and D.Ed. courses (while the latter continue to exist) must be determined by University Departments of Education, so that the newest research in pedagogies and teaching-learning processes can be incorporated and adopted quickly.

25. **Phasing out standalone Teacher Education Institutes (TEIs):** Teacher education is a multi-disciplinary process, and experts in various areas need to train good quality student-teachers. Stand-alone teacher education colleges cannot afford to build such a varied faculty and therefore, they need to be phased out, and teacher education be taken up in the multi-disciplinary environments of Universities. Both the D.Ed. programme, while it exists, and the B.Ed. programme must also be strengthened by incorporating extensive practical training opportunities and internship for student teachers as part of course requirements. Therefore, only those institutions that can offer opportunities for practical training for trainee teachers i.e., they have schools attached to them, ought to be allowed to offer pre-service teacher training courses. The existing standalone TEIs must be required to either make adequate arrangements for practical training with nearby schools at the earliest, or be shut down.

26. **In-service teacher development must continue to remain with the Primary and Secondary Education Department and a massive effort must be launched for re-training existing teachers.** District, block and cluster-level institutions for in-service teacher development must be strengthened and educational content for training must be based on analyses of the professional needs of teachers at the various levels. Calendarised professional development programs should be offered for teachers as well as teacher educators to choose from and training management systems should be used. Other modes of professional development besides ‘training’, such as early tenure coaching, peer learning opportunities, demonstration classes, sabbatical leave for research/ advanced studies etc., should also be made available to school teachers. They must be encouraged and motivated to attend conferences, seminars, training etc. This will provide opportunities for peer networking and help develop linkages between institutions.
26.1. **Teacher Training in world class Institutions:** Exposing the school teachers of Karnataka to the best teaching practices and environment in the world will bring about a major transformation in the teaching community – not only in teaching methods but also in pedagogy and use of technology. State should depute atleast 1% of its School Teachers every year to excellent institutions abroad for training in best practices, curriculum, pedagogy, assessment methodology, learning outcomes, technology assimilation etc. Thus, over a period of 10 years large number of school teachers would be exposed and make a significant impact in the teaching quality of schools. These trained teachers could become Master Trainers downstream to cover the larger number of teachers.

26.2. **Quality of teacher educators:** Extreme care must be taken to ensure that only the best and high performance teachers are allowed to become teacher educators. The criteria for selection can be set, from time to time, by University Departments of Education. A teacher educator must be given a lot of respect and prestige so that this job becomes aspirational.

26.3. **An academic cadre of teacher educators** with well-thought out entry criteria and processes is critical for improving the quality of in-service teacher education. The cadre design should begin from the Cluster, continuing with the Block through to the DIET & DSERT.

26.4. **In-service training for teachers in private schools** must also be taken up and conducted in partnership with the managements of these schools. Teachers in private schools must be able to avail all training opportunities that are available to government teachers. Long term continuous engagement with professional development of teachers, with mechanisms for feedback and course correction can tie professional development to re-certification of teachers in all schools.

27. **Nurturing leaders among exemplary teachers:** Large numbers of teachers with the potential need to be picked up young and trained for leadership and managerial roles. Many of these leaders can also be offered lateral entry into the KSSEC, KSERA and other administrative roles as domain experts.

28. **Provision for rewards and recognition to good teachers** needs to be made on a large scale, specifically keeping in mind the importance of the teaching profession and the need to restore and retain its ‘respectability’. A multi-tiered approach could be developed to recognize teachers at school, district and state levels with open merit selection for awards. Rewards need not necessarily always be monetary. Peer recognition and respect are key to the pride and self-esteem of teachers.
KARNATAKA STATE EDUCATION POLICY (KSEP)

28.1. Government, industry and society must collaborate to institute more awards to recognize teachers who are doing exemplary work. CSR funds can be channelled effectively for this purpose.

28.2. The State government needs to institute a prestigious fellowship called the ‘Dr S. Radhakrishnan Teaching Fellowship’. A number of these Fellowships can be given out for a specific period, say 3 years, to meritorious school teachers. During this time they could be given a handsome supplement to their income and be funded to travel around the State visiting other schools/colleges. They can share experience - teaching methods, pedagogy and other best practices - with their peers, in their role as ambassadors of their schools. Dr S. Radhakrishnan Fellows can also be invited to become teacher educators.

3.2.4. CURRICULUM, RESOURCES AND USE OF TECHNOLOGY

Curricular objectives must reflect the values of the Constitution of India and curriculum and pedagogical practices must be anchored in the aims of education, the nature and conceptual understanding of subjects, principles of human/child learning and development, and the social context of learning. A variety of learning experiences that help students meet their curricular goals need to be offered. An appropriate mix of activity based learning, teacher-led learning, peer-learning, and self-learning opportunities for students of different grades should be evolved. Teacher-led learning should be complemented by activity based learning in lower grades. Technology must be used intelligently to help achieve all the goals of outcome-based learning. In higher grades, teacher-led learning and activity-based learning need to be complemented by peer-learning and self-learning opportunities through access to multi-media recordings etc.

29. Curriculum for school education is one of the key elements for a successful education system in the State. State curriculum needs to be uniform, advanced, constantly evolving and integrated into the education system of the world. At national level, considerable efforts are being made for curriculum definition and these must be adapted. Uniformity of curriculum with national/global topics would also enable usage of available books and materials for teaching and by students. CBSE curriculum could be adapted by the State – thereby bringing a seamless uniformity within the state and also into the national mainstream. However, specific topics relevant to the state of Karnataka could be included – especially topics of History, Social sciences, Culture, Arts, Scientific Development, Geography, Economics and other unique aspects of the State.

30. A comprehensive curriculum development framework for the school sector needs to be outlined from ECCE till Grade 12 in Karnataka. The framework should be such that curriculum is reviewed, updated and enhanced as often as necessary. Emphasis
must be placed on re-orienting curriculum delivery towards social and emotional learning, involving personality development, values and ethics and more practical work and learning opportunities outside classrooms.

30.1. **The key to learning-by-doing is to give considerable freedom in the hands of teachers.** They must be trained regularly, and particularly when the curriculum is updated, so that delivery of the curriculum is aligned with the stated goals of curriculum design. Local relevance of educational content is a critical piece in the challenge of keeping children in school, particularly in rural India. Leaving some freedom in the curriculum, as well as its delivery, in hands of the teachers will also help achieve this goal.

30.2. **All schools that would like to follow the NCERT/ CBSE syllabus should be allowed to do so,** since it provides better mobility of children, nationally and internationally, and provides enhanced opportunities for higher education and for jobs outside the State.

30.3. **State schools can also be allowed to consider adopting the CBSE syllabus in the interim period,** with the exception of History and Kannada, **while the new curriculum is being developed.** Eventually choice of syllabus must always remain in the hands of the managements of the individual schools and the community they serve.

31. **Provisioning of adequate educational material:** Quality educational materials including books, laboratory equipment, hands-on learning kits for children, digital teaching aids, etc., must be developed for the entire school education system and made available to each and every school in the State. Quality education delivery requires considerable emphasis on ‘learning by doing’ and on ‘learning to learn and unlearn’. Various experiments and projects have been conducted in this regard (Thod-Pod-Jod, Nali-Kali and many other e-learning tools) which could be assimilated and further developed into widely usable products/material. There is a severe shortage in the use of educational kits that give children an opportunity to work with their own hands. Paucity of funds prevent kits from being distributed evenly and consumables from being replaced. Additional funds need to be channelled urgently into provisioning of quality educational material.

31.1. Similarly, books in Kannada and other Indian languages are also in short supply. Libraries are a key component of learning and this is another requirement that needs to be fulfilled in every school. In case of language learning, besides books, audio recordings and other technology based tools, need to be made available.

31.2. It is important to **stabilize the usage of textbooks** and not keep changing the content for at least 3 years unless there are inaccuracies. It is to be recognized
that often schools text books are the only access to reading material that students from poorer sections of society have. It is therefore important to take great care of the content of the text books, and ensure that it is not written only for examination purposes.

31.3. Schools need to be given adequate funds and the freedom to purchase and replenish their own educational materials, maintain libraries etc., so that there is no gap in their availability. They must also be encouraged to raise such resources from industry and from the community they serve.

31.4. Adequately stocked science labs need to be provided in schools. A lot of knowhow regarding creating low cost science kits exist in the country. Information should be gathered by the SEC and used wisely for all schools.

32. **Sports facilities must be available to children in each and every school** – be it government or private since sports is a key part of the development of social and emotional skills. Prowess in sports must be developed and encouraged, and the services of sports teachers, even if only on a time-shared basis, need to be made available at every school in the State without any exceptions. Sports and physical education must be seen as an integral part of the curriculum. Funds should be provided by government to organise regular sports meets for students – both within and amongst schools.

33. **Exposure to the Arts – music, theatre, dance etc.,** is critical for the overall development of the personality of the child. School education must necessarily include opportunities for the child to be exposed to some of these and to participate actively in them, as also to get exposure to environmental issues, social and ethical issues, and other current national and international issues. Diversity in the curriculum and curricular material is critical for holding the interest of the child.

33.1. **Art and physical education should get as much importance as all other subjects.** A suitable amendment should be made to the Cadre and Recruitment Act so that teachers of the performing arts and of physical education should get equal opportunities in terms of promotions.

34. **Appropriate use of Information and Communication Technology (ICT):** A large scale effort to create and share educational content in Kannada, English and other languages must be put in place through the deployment of appropriate ICT infrastructure. In time technology must be used to make learning more interactive and to foster social and emotional skills, through games and other educational technology, both inside and outside classrooms.

34.1. **Teachers need to be assisted to make maximal use of digital educational resources** available on the Internet, and to contribute towards creating
educational resources of their own. **They must each be given a laptop with Internet connection** and be provided with training on how to create educational content on their own as a key part of in-service training.

34.2. Computers with Internet access and other infrastructure to promote digital learning, such as media servers and content repositories of educational content etc., need to be made available to all schools in Karnataka.

34.3. **Digital literacy is a critical skill** that every student needs to acquire during their school education. Appropriate exposure to technology must therefore be provided in schools. Digital learning laboratories can be created in schools so that students in Grade 6 onwards are given access to tablets with internet connectivity pre-loaded with multi-media educational content. **Government needs to consider giving every child access to an Internet enabled device.**

34.4. **Technology must be used maximally to improve all aspects of governance and administration of schools**, including better information dissemination and better data gathering towards decision making.

### 3.3. POLICY RECOMMENDATIONS: HIGHER EDUCATION

All over the world, systems of higher education are undergoing radical changes due to increased globalisation and the advent of technology. Globalisation has increased student mobility and created opportunities for Indian students to become global citizens and seek global employment. Further internationalisation of higher education in the State will contribute immensely towards enhancing these opportunities, and also help to improve the quality of education delivery. Given our demographic dividend it is imperative that we leverage this opportunity fully. Some challenges include the fact that India is presently home to just 39,000 International students, a paltry number! This is in contrast to the nearly 300,000 Indian students who went abroad to study in 2014-15. Karnataka fares much better relative to the rest of India since it hosts as many as 13,900 of the 39,000 International students (just over 35%), but much more can be done since Internationalisation is also a potential source of revenue for the State and the country. The United States earns as much as USD 27 Billion each year from its international students and UK earns GBP 8.5 Billion annually. Even smaller countries such as New Zealand earn 2.3 Billion NZ dollars each year whereas India’s earnings are not known, but estimated to be approximately USD 0.2 Billion annually.

Karnataka has 51 universities and about 3500 colleges, catering to approximately 1.6 million students. The average number of students per college is very small, just 457, which means that students have relatively fewer opportunities for peer learning, for interdisciplinary and multi-disciplinary learning. The consequences of such fragmentation are further aggravated by the fact that most undergraduate educational institutions in the
State, and in India, are non-residential. It is important that more residential capacity is added in our universities and colleges to accommodate students from the rest of India and abroad.

The future of Karnataka will depend substantially on the quality of its higher education system and its ability to keep pace with changing times. The State is likely to have a GER of well over 70% by 2030 (29% in 2014-15 and growing at 6-7% a year), comparable to that of some of the developed countries. The ability of State universities and colleges to respond to the challenges of quality education by using the freedoms of autonomy to re-invent themselves will be key to the turnaround in the education sector that the new education policy is looking for. The success of the IT industry in Karnataka is a testimony to the benefits that investment in higher education can bring. The IT industry in the State is a USD 50 Billion industry which can double to USD 100 Billion and become a key driver of the economy.

The advent of technology is bringing change at an ever-increasing pace. The best universities in the world have recently begun granting credits for online courses against a modest fee. It only remains for industry in India to begin accepting such credits towards employment, for extreme disruption to occur within our higher education system. It is imperative therefore that our colleges and universities are sensitized and prepared to deal with these challenges.

The State needs to usher in a rapid social change with a giant-stride - for furthering the aspirations and hopes of present and future society in the State. This calls for ensuring that every girl child is well-educated – not only for 12 years of school education but also for 3 years of collegiate education, which will be bring a radical change in Karnataka society. It is well established that when female members of a family are well educated – it brings to them (and to the family) independence of thinking, individual liberty, a great sense of high morality and ability of judgement. An educated female strives and succeeds to ensure good quality education for her children – thereby, society would have every child avail the opportunity for quality education. This character of an educated female can drive the future generations on an upward path of social equity, economic development and high moral values – which will truly transform society into higher knowledge levels and emancipation.

35. **Every girl child in Karnataka, after completion of 12 years of school education, must be guaranteed 3 years of collegiate education**, at the least. The State must act as guarantor for this and provide 3 years of higher education to every girl child leading to an under graduate degree.

36. **Universities must take the lead in ushering in reforms and become vibrant centres of knowledge creation once again**: Karnataka’s universities must reclaim the rightful role that universities normally have in society namely, that of being thought leaders
and centres of knowledge creation and innovation. For this, universities must be given far more autonomy and generous funding by the State government. Universities must be research-led at all levels of education, undergraduate, Masters and PhD. They must focus on becoming competitive with international universities of repute that are already at our doorstep.

36.1. **The Vice Chancellors (VCs), backed by their faculty and staff, must provide the necessary academic leadership** to achieve excellence in education and research, and be held accountable for outcomes.

36.2. **There must be an ‘investment phase’ of say a decade** during which universities are provided with generous funding. Karnataka spends only approximately 0.5% of its GSDP on higher education, a pitifully small number!

36.3. Affiliation related responsibilities towards colleges, including the conduct of examinations etc., needs to be spun off in a suitable way. One option would be to handle this through an independent, financially self-sustaining, centre within the university managed by professionals. This will leave the Vice Chancellor and faculty relatively free to focus on academics.

36.4. Purely administrative tasks such as construction of buildings and other infrastructure development within university campuses also need to be hived off to an independent body relieving the VC of more purely administrative duties.

37. **Reforming governance structures of Universities:** Vice Chancellors must be supported to achieve their vision, through a new revamped governance structure that can be finalised in consultation with stakeholders. Academic and administrative governance must be set up in a way that they work in tandem to support quality academics. The VC must be given complete charge of steering a course for the future of university and be held accountable for it. The government should provide them with block grants, enforce transparency and accountability by mandating regular reviews and accreditation of individual departments as well as of the university as a whole, and leave the rest in the hands of the VC and his/ her team.

37.1. **The process of appointment of Vice-Chancellors** must not be politicised. Eminent academics must be selected for their integrity, their academic vision and their leadership qualities – all of which must be in the public domain.

37.2. **The governing structure of the university,** the Senate, the Academic Council and the Board of Studies must be reviewed, and a new structure put in place that helps seed the culture of meritocracy. **The practice of holding elections for positions in governing bodies must be abolished completely.**
38. **Improving learning opportunities on campuses**: Universities should be encouraged to take a series of steps to improve learning and research opportunities for their faculty and students on campuses.

38.1. State universities in Karnataka must be encouraged to **start integrated Masters and PhD programmes on their campuses** at the earliest. The influx of undergraduate students will do much to improve the vibrancy on campuses, contribute to increasing GER, rejuvenate post-graduate departments that are sub-critical in size presently, and contribute to enhanced enrolment into post-graduate and PhD programmes.

38.2. **Universities and colleges need to become residential campuses**, to the maximum extent possible, so as to improve access for students from within and outside the State, and to better support international students. This will also provide students with better access to critical infrastructure such as research facilities, libraries etc., and also provide them with enhanced peer learning opportunities.

38.3. **Universities must actively seek to increase diversity on campuses** through the induction of more students from other regions in the State, from other states and from abroad. Local students will benefit immensely from the exposure they get to national and international students, their culture and viewpoints, and become more global in their outlook.

39. **Nationalisation and Internationalisation**: The prevalent regional restrictions on admission of students to State universities needs to be lifted at the earliest by modifying the Acts through which these universities have been set up. All students in Karnataka must have access to any State university of their choice and each State University must be allowed to admit students from outside their geographical regions for up to 50% of their capacity. Universities must also be allowed to set up off-campus centres freely in India and abroad.

39.1. The State government must consider setting up a separate body, under the aegis of the Karnataka State Higher Education Council (KSHEC) that can facilitate internationalisation at State universities and colleges. The mandate of such a body will be to actively promote Karnataka as an attractive destination for study to international students. Such a body can become a one-stop shop for international students who are either considering studying in Karnataka, or are already studying here, to get all the assistance they need to make their stay very smooth. This body can also assist students from Karnataka traveling abroad for studies. The existing Overseas Centre for Foreign Students (OCFS) can be absorbed into the new body since the latter needs to have a much larger
mandate. Internationalisation can be taken up on a self-sustaining basis, since, it will be a revenue generating activity.

39.2. Universities in Karnataka must be encouraged to reach out to students around the world through innovative online courses on topics of world interest - such as, Indian history, culture, economy etc. The State government will need to work with the UGC to enable a regulatory framework that can support this activity.

39.3. **Universities should also be encouraged to create national and global partnerships** with other universities within the country and abroad to help expand their course offerings, share course credits, enable global access for students, and provide more opportunities for collaborative research. All of this will also help State universities to become more competitive relative to their national and international counterparts.

39.4. **Universities and colleges must be allowed to appoint eminent experts / faculty from India and abroad** for varying lengths of time, from one semester to much longer appointments, so as to bring in some fresh thinking and exchange of ideas about the teaching and learning processes. Such, expert faculty should be encouraged to take full courses in a comprehensive manner. In addition, such courses should become a part of digital repository so that large number of institutions can benefit by accessing these expert courses.

40. **Foreign educational Institutions:** Foreign educational institutions of repute can be allowed to set up campuses in Karnataka but only after a level playing field has been created for Indian institutions so that they can compete fairly with the foreign entrants. A group can be set up under the KSHEC to promote internationalization by facilitating foreign institutions wanting to set up in the State.

41. **Phasing out single-discipline universities:** The recently introduced practice of opening universities with a restricted scope of single disciplines such as Sports, Skills, Sanskrit, Yoga, Kannada, Railways etc., is a deeply flawed move that must be halted and indeed reversed immediately. All universities in the State must be allowed to offer broad-based education in all disciplines, including in professional disciplines such as engineering, medicine, law, architecture etc., including skill development in diverse areas. **Universities should be allowed to create new departments and new courses at their own discretion**, depending on their capability and the availability of faculty and funding.

41.1. **Encouraging undergraduate education in the liberal arts:** Science and allied disciplines like engineering and medicine are not independent of the society they are rooted in. Given this context, it is imperative that students who are in the fields of science, engineering and medicine are sensitized to the social
impact of their disciplines and the responsibility this brings. All science and engineering students must receive some exposure to core disciplines of social sciences and humanities as compulsory and evaluated subjects. Similarly, we cannot have a large number of social sciences and humanities students who do not understand the nature of the scientific and technological society they live in today. These students must also have compulsory courses that will introduce them to the history, philosophy and the nature of science and technology. Undergraduate education in the State must be expanded to accommodate this larger vision and its duration can be extended to 4 years, as needed. The State must work with the UGC to bring more flexibility into undergraduate education.

42. **Autonomy with assistance for good colleges: The affiliation system of colleges with universities has outlived its time and must be phased out.** Processes need to be put in place to give genuine and complete autonomy (academic, administrative and financial) at the earliest to a large number of good colleges, chosen on the basis of excellent accreditation outcomes. The State must work with universities and with UGC/AICTE to enable this, since these colleges are definitely ready for autonomy.

42.1. **Colleges must be provided with mentoring and assistance** they need to make full use of autonomy to offer a vastly improved quality of education and become full-fledged universities themselves, over a period of time, offering broad-based education. Mentoring of this kind needs to be systematised and streamlined through the involvement of universities, premier research institutions and individual experts from the State and around the country.

42.2. **Government must constitute highly capable Boards of Governors/Management for each autonomous college and put these Boards in charge of steering their respective colleges on the path of excellence, bringing in some much needed diversity in educational offerings that is available to students.**

42.3. **Colleges that are not ready for autonomy and those in remote locations must be assisted to strengthen themselves,** through similar mentoring mechanisms, so that they too become eligible for autonomy over a specific period - say, a decade.

43. **Performance Monitoring:** Universities should be encouraged to accredit themselves on a regular basis by globally rated agencies. They must aim to grow continuously and become internationally competitive at the earliest.

43.1. Each university department and the university as a whole **should be reviewed every five years** by a committee consisting of eminent academics from outside the university. The VC must ensure diligent implementation of the
recommendations of such committees. The review reports and the action taken report must be made available in the public domain.

43.2. The performance of colleges must also be monitored by ensuring that all of them are accredited at regular intervals.

43.3. **Grant-in-aid funding is presently not linked to performance** of universities and colleges. This needs to be changed and all funding from government must be tied to the outcomes from accreditation.

### 3.3.1. **Technical Education**

Although all the recommendations made for higher education are applicable also to technical education, there are some issues that are particular to this sector. One of them is the fact that education in each profession, architecture, law, pharmacy, education engineering, medicine and others, is provided in separate, stand-alone colleges with relatively small enrolments. Students have no exposure to education in the arts and humanities, basic sciences, social sciences, and in the other professions, adversely impacting the scope of their exposure and the quality of their education. This kind of fragmentation is unique to the Indian higher and technical education system and has hurt the innovation ecosystem to a very large extent. There is also skewed participation of the private sector in technical education. As much as 95% of engineering education is offered by the private sector and the quality varies widely.

The situation with teacher education is another case in point that highlights the deficiencies in technical education in the country. The mushrooming of teacher education institutes in the private sector, during the last two decades, with little or no regulation or oversight has resulted in poor quality pre-service education for an entire generation of school teachers.

44. **Providing technical education in multidisciplinary settings:** Permissions for starting standalone colleges in single technical disciplines must be halted completely. Instead, technical education must become a part of the educational offerings in multi-disciplinary settings of large colleges and universities phasing out the artificial separation of ‘technical’ and ‘general’ education. **Unfortunately the regulation of this sector is completely in the realm of the central government.** The State must work with the AICTE and other regulatory authorities to encourage existing good colleges that are providing technical education to widen the scope of their offerings and grow into full-fledged universities over a period of time. At the same time corrupt practices in technical education need to be reduced and phased out through reforms in governance.
3.3.2. **Vocational Education and Skill Development**

Many professions such as medicine and engineering are seeing severe shortages of critical ancillary staff. For example, the healthcare industry requires many different kinds of skilled workers, such as x-ray technicians, lab assistants, nursing assistants and many others. The shortages in allied health workers result from the fact that their education falls in the gaps between the education provided by medical colleges and regular science colleges. The challenge of bridging this gap is best handled by allowing both medical colleges and science colleges to expand their educational offerings towards training ancillary staff to the extent they are capable.

45. **Existing colleges and universities must take the lead in rolling out skill development courses and spelling out pathways into general and technical education, since they are best placed to do so.** The experience with vocational education and skills development in other countries show that nearly 50% of students in the vocational education and skills training streams return for a university degree. The NSQF, therefore, correctly requires pathways into general education and back to be specified for all skills. Although it is the Sector Skills Councils that are mandated to develop curriculum, it is the colleges and universities are best placed to provide skills training in many areas. Skills education also has many components relating to existing disciplines of general and technical education. Many general skills that are crucial for employability such as communication skills, the ability to work in teams, values and ethics, are all best imbibed in a university environment.

45.1. The challenge of providing certification for vocational education and skills training is a difficult one given that there are so many skills to be certified at different levels, and given the fact that the capacity to provide skill development is still relatively weak. It is best that industry as well as existing colleges and universities design, deliver and certify courses.

3.3.3. **Teachers in Higher Education**

Teacher recruitment criteria in higher education have been at the centre of much angst and of problems leading to poor teacher quality and the large number of vacancies. Most candidates find it exceedingly difficult to clear the National Eligibility Test/ State Eligibility Test (NET/SET) criteria set by the UGC, despite many of them being excellent teachers. The consequence is that these teachers are appointed on contract and are exploited by the system. A more flexible system needs to be devised to counter this.

46. **Tenure-track system for faculty recruitment:** The State must work with UGC, NCTE, and other regulators at the Centre to introduce the tenure-track system for hiring new faculty in higher education. Fresh faculty must be hired for a period of 5 years and be given tenure either during this period or at the end the term provided they are considered suitable. The criteria for evaluation could include peer-reviews.
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student reviews on the quality of their teaching, and evaluation by senior colleagues. This is critical for improving and sustaining the quality of faculty. **Universities and colleges must also be able to pursue recruitment all year round.**

46.1. This ‘tenure-track’ period can also be used by managements and the faculty themselves to meet the requisite educational qualifications that are set down by UGC and NCTE. Inflexible criteria for the selection of faculty should not be allowed to stand in the way of hiring good teachers and paying them their due.

46.2. Better processes need to be put in place to allow mid-career professionals interested in education to associate themselves with colleges and universities as adjunct faculty. The managements of these institutions must be held responsible for ensuring quality control and continuity in such situations.

47. **Mandatory pre-service training for teachers in higher education:** The fact that pre-service training is not being imparted to teachers in higher education today has had very negative consequences. These need to be addressed by ensuring that all aspiring college teachers are given mandatory training either before starting teaching or during the initial years of their teaching career. They must preferably also get some early teaching experience during their education, say through teaching assistantships. This will ensure that teachers are properly oriented to modern pedagogic practices and assessment techniques, and to the appropriate use of technology.

47.1. **A special teacher training course can be designed for this purpose,** of either one or two years’ duration. An integrated Masters’ degree with such a course can also be considered for introduction by the universities.

47.2. **Teaching opportunities during post-graduate education:** Teaching assistantships must be made available to students during Masters and PhD programmes, as is done in many developed countries, so that students can gain valuable experience on how to teach by assisting their own faculty. Recruitment criteria for teachers in higher education must also be generalized to give credit for teaching experience gathered in this way.

48. **Review and revamp of recruitment and service conditions of faculty:** The severe shortage of faculty needs to be addressed by reviewing and revamping their service conditions, in order to make teaching an attractive profession that draws excellent candidates.

48.1. The practice of hiring faculty on ‘clock-hour-basis’ must be stopped immediately. Poorly paid contract positions too must be phased out. Tenure track positions with tenure given to only the best faculty must become the norm.
48.2. Teachers must be provided with the means and the opportunity to strengthen their skills through opportunities to travel, take sabbatical leave, apply for research grants during which time they have lighter teaching loads etc. The State must invest heavily in the quality of its teachers.

48.3. The approach to teacher transfers in higher education, in government colleges, needs to be reworked. A more nuanced policy is clearly needed in some subjects. For instance, the prospect of imminent transfers prevents teachers in engineering colleges from setting up laboratories, since this is a time consuming activity that produces results only in 2-3 years or longer. The consequences are disastrous for students. This is an unintended and highly undesirable consequence of transfers that needs to be set right quickly.

48.4. Incentives (monetary or otherwise) need to be provided for teachers working in less popular, difficult and remote areas.

49. All universities should have Departments of Education where research on all aspects of pedagogy and education delivery is conducted such as in the innovative use of technology, in assessment techniques etc., in school education as well as higher education. The departments can also engage in the regular pre-service training for all teachers and also provide in-service training for teachers in higher education. Academic Staff Colleges, for in-service training of teachers in higher education are present in just a few universities (66 in all) at present. These must be upgraded and integrated into full-fledged Departments of Education, and many more such departments started in other universities in the country. These departments can then become the fulcrum of all activities that contribute to improving the quality of education delivery. Karnataka can take the lead in doing this.

3.3.4. PERFORMANCE ASSESSMENT AND PROFESSIONAL DEVELOPMENT OF TEACHERS

Performance evaluation of faculty has been the source of much angst among college and university teachers. The unthinking way in which uniform criteria have been applied to calculating the Academic Performance Index (API) score of teachers in fields as diverse as literature, economics and chemistry, is characteristic of the lack of understanding of the nuances of the teaching profession that the present managers of the education system have. This needs to be changed urgently in the interests of quality.

Faculty time is typically divided between teaching, research, and administrative duties (within their own institutions as well as for the State government and for society), and they must be given credit for all of these activities.

50. Flexible definition of Academic Performance Index: Academic performance indices must give adequate weightage to high quality teaching, which is one of the primary responsibilities of every faculty member. Well-designed metrics need to be used to
assess this including student feedback gathered on a regular basis, as well as peer review. The present definition of API is weighted heavily towards research outputs. API criteria must also be expanded to include credit to faculty members for contributions to institutional development such as creating linkages with industry, managing facilities (computer centres, clubs, hostels etc.), and contributions to activities of the State government and to society through serving in accreditation committees, conducting surveys and so on. Each educational institution and indeed every academic department must be encouraged to experiment and evolve definitions of API suitable to their own disciplines. It is best that complex metrics such as APIs are evolved by consultation and consensus, in alignment with institutional and departmental goals. Successful models can be shared as best practices with other institutions.

51. **Career development opportunities:** Faculty must be encouraged to lead the way in evolving the education system in the State by taking up roles appropriate to their expertise. Some examples include contributing to all the activities of the SEC such as contributing to inducting technology appropriately, creating digital content, evolving norms for accreditation and ratings, evolving new teaching and learning pedagogies, and evolving processes for better administration, among many others. They must be supported with resources and forums where they can meet their peers on a regular basis.

51.1. Faculty members who have a flair for administration must be allowed **lateral entry into education administration and management within the government.** It should also be possible for faculty members to spend specified periods of time at KSHEC and contribute their much-needed expertise to the oversight of the education system.

51.2. **An academic cadre of teacher educators** needs to be created urgently. A system of licensing for practice, and re-certification of teachers and teacher educators also needs to be developed.

51.3. **Communities of practice** need to be created for different groups of teachers. The successful experiment of using technology to build fora for teachers in secondary schools needs to be replicated in the area of higher education.

51.4. **A professional body for teachers**, similar to the Medical Council of India for example, one that can license teachers for practice, help oversee their career development, and provide support to practicing teachers through offering a forum for interaction needs to be created. The State government should help seed such an organisation.

52. **Training Academic Leaders:** A large number of teachers with leadership potential should be selected early in their careers and trained and groomed for leadership
roles. Such leadership training for academic leaders can be done through a **specially created academy** whose mandate is similar to the academies that train IAS and IPS officers. Principals and Directors should be selected on merit and be required to be trained further at such an academy before they take up their jobs. Potential education managers/administrators such as Vice Chancellors should be trained in collaboration with IIMs and other such eminent institutes. Lateral entry into this cadre should be permitted for teachers, principals etc., as part of their career development path.

52.1. More institutions like the State Institute for School Leadership Planning and Management in Dharwad, need to be created to cover the entire range of education, including schools and colleges. These institutions must have autonomy and be funded adequately so that they can achieve their goals.

53. **Faculty/Teachers Training in top-class Institutions:** Exposing the faculty/teachers of Karnataka to the best curriculum design and topics, technology, teaching practices and environment in the world will bring about a major transformation in the teaching community – not only in teaching methods, but also in pedagogy and use of technology.

53.1. State should **depute atleast 1% of its Faculty/Teachers in Higher Education every year to excellent institutions abroad for training** in best practices, curriculum, pedagogy, assessment methodology, learning outcomes, technology assimilation etc. Thus, over a period of 10 years, large number of faculty/teachers in Higher Education would be exposed and make a significant impact in the teaching quality of Higher Education Institutions.

53.2. **Large number of Faculty/Teachers in Higher education could be deputed to high quality National institutions** (IITs, IISc, NITs, National Laboratories, Top class Private Universities etc.) in the country for advanced training and exposure to important developments, research orientation and knowledge enhancement.

54. **Rewards and Recognition:** to faculty need not always be financial. Recognition through awards would be a good thing, as also recognition through positions of leadership.

54.1. Educational institutions must have a policy of **allowing the top 25% of its faculty to be Adjunct faculty in other institutions.** This will provide opportunities for to reward top faculty, foster peer networking and help develop linkages between institutions.

54.2. Government, industry and society need to collaborate to institute more awards to recognize college teachers who are doing exemplary work.
54.3. A small percentage of the best teachers in the State should be nominated as ‘Dr S. Radhakrishnan’ fellows for a specific period - say 3 years. Just as in the case of school teachers, they should be given a handsome supplement to their income and be funded to move around the State visiting different colleges. They will share their experiences - teaching methods, pedagogy and other best practices - with their colleagues in their role as ambassadors.

3.3.5. Research and Innovation

Considerable effort needs to be put into universities in order to turn them into vibrant hubs for the creation of new knowledge. Discovery and innovation must be brought to centre-stage through adequate funding and support structures. Research in basic and applied sciences, in social sciences, arts and humanities must be funded generously and intelligently. Research parks, incubation centres and entrepreneurship cells need to be created in as many universities and colleges as possible.

55. A new Karnataka Science, Technology, Humanities and Social science Foundation (KSTHSF) should be created to foster research in colleges and universities, by providing funds on a competitive, peer-reviewed basis. The structure and functioning of this foundation should be comparable to institutions around the world that fosters rigorous research and accountable spending of funds, such as the National Science Foundation (NSF) in the United States. KSTHSF must be funded generously so that it can ensure outcomes. Funding for research in the Humanities and Social Sciences must be enhanced considerably. KSTHSF must be managed professionally and have access to a large number of experts in different disciplines for reviewing grant proposals. KSTHSF must also be encouraged to raise additional funds for research from industries, from philanthropists and from companies.

56. Strengthening post-graduate, doctoral and post-doctoral programmes in colleges and universities is the need of the hour. The number of post-graduates in India is significantly smaller than in developed countries. More capacity needs to be built urgently. The number of PhD fellowships available to students needs to be increased by an order of magnitude and the quality of PhD supervision improved and brought on par with the best in the world. Industry needs to be incentivized to create prestigious and attractive scholarships for both Masters’ and PhD students. A large number of post-doctoral fellowships need to be instituted in many colleges and universities in all disciplines. Post-doctoral fellows play a critical role in anchoring research and yet this category of jobs is almost non-existent in India.

57. Nurturing the culture of research and innovation: Educational institutions should be encouraged to incubate companies through their faculty and students. They can engage with financial organizations to provide funding to students and faculty who are working to start credible enterprises.
57.1. **Out-of-box thinking and innovation must be nurtured from as early an age as possible.** All curriculum and syllabi in schools and colleges should be oriented towards this and classroom processes must encourage rigour in thinking and doing in all schools and colleges without any exceptions.

57.2. This will require the **phasing out of centralised examinations in undergraduate education at the earliest.** Local faculty must be able to evaluate their own students, making room for innovative ways of learning and assessment.

57.3. **All universities and colleges in the State should work to an academic calendar** that is announced at least a year in advance and strictly adhered to. This will allow students and faculty to plan research projects, internships and skills related courses during the vacation period. The summer break must be 10 weeks or longer to allow adequate time for students to engage in such activities.

57.4. **Colleges and universities need to engage deeply with their local communities, and with society at large, creating many opportunities for research and development on interesting projects that also serve the needs of the community.**

57.5. **Academia-industry interaction must be actively nurtured** by every college and university. Industry can collaborate in research activities, by providing internship opportunities to undergraduate as well as graduate students, and in creating opportunities for faculty to spend their sabbatical year working in industry.

### 3.3.6. Technology Integration

The quest to improve the quality of higher education available to students can be helped enormously by the intelligent use of Information and Communication Technologies. At all levels of higher education, in education delivery, in administration and in governance, ICT can play a catalytic role in improving quality and ensuring equity of access.

Connectivity is the most basic need. Over three decades after the arrival of the Internet in India, colleges and universities still do not have adequate connectivity and unrestricted access for students. This is a pity and the State of Karnataka must remedy this immediately. Some attempts at providing connectivity are currently underway. These need to be strengthened and expanded quickly.

Efforts to induct technology in education delivery are also hampered by the lack of exposure among faculty leading to reluctance on their part to take the initiative in making use of ICT in the classroom and beyond.

58. **Internet connectivity and other technology infrastructure at colleges and universities:**

All educational institutions must have generous bandwidth to the Internet that is available for use by students and faculty, also on their own devices. Other hardware
and software infrastructure, backed by training and support, for promoting digital literacy and supporting online learning also needs to be provisioned.

59. **Technology enabled learning**: Successful experiments of beaming lectures live to colleges (QEEE project funded by TEQIP) and to schools (SAMIE project of government of Karnataka) have been conducted. Broadcast technologies such as EDUSAT have a large role to play in scaling out these successful experiments.

59.1. **Online universities, both public as well as private** need to be created in Karnataka so that students can benefit from the explosion of models of online education and the growing trend of employers willing to accept credentials from online courses. The large enrolment at IGNOU is one indication of the immense scope for enlargement of online offerings. Simultaneously, **existing universities in the State must be encouraged to start online education activities**.

59.2. **Offline education delivery**, using recorded lectures in various ways can also bring about enormous change in models of education. Educational institutions must leverage the transformational capability of Massive Open Online Courses (MOOCs), also for skills development and for general capacity building.

59.3. **The quality of distance education courses can be improved enormously**, benefiting millions of students, by supplementing routine course material with recorded videos distributed offline. Mentorship, through the use of interactive voice response (IVRs), chat rooms and help desks will give a vastly improved experience to students who can also access these on their mobile phones.

60. **Technology training for teachers**: Teachers in the higher education system in the State must be given a laptop with internet connectivity so that they can become comfortable with digital technology. This is a critical requirement if teachers are to embrace technology and drive its adoption in classrooms.

60.1. Pre-service and in-service training of teachers must include training on digital literacy and on pedagogical aspects of inducting technology into classrooms.

60.2. All technology support should be in the form of infrastructure and tools that are available to faculty in educational institutions. The decisions regarding what is used within and outside the classrooms need to be left strictly in the hands of the faculty.

61. **Infrastructure for content creation and sharing**: A special purpose e-content repository, in the Cloud, for educational material should be made available for all students, faculty and educational institutions so that educational content can be created in a participatory manner and shared. The endeavour should be to create content in local/regional languages. Other useful pieces of software that can support academics and that can be inducted at scale include tools for **Do It Yourself**
3.3.7. **Adult Literacy and Lifelong Learning**

The large scale deployment of technology in educational institutions can provide us with a parallel opportunity to wipe out illiteracy in the State. Karnataka’s literacy rate, at 75.6% as per Census 2011, is comparable with the national average but far below that of Kerala which is above 94%. With the advent of many models of technology based education delivery, lifelong-learning opportunities using micro-courses and nano-courses are quickly becoming available for adults who need to re-tool themselves periodically.

62. **Adult literacy: Achieving 100% functional literacy within a decade** should become the stated goal of the State government. Educational institutions, particularly residential schools, colleges and universities in rural areas, must be given the mandate to help ensure 100% functional literacy in the State by engaging with the community, through evening and night classes. The curriculum itself must provide opportunities to do this. Faculty and students can work side-by-side on these social service projects and be rewarded for their efforts.

63. **Lifelong learning**: All working adults will need to be able to re-skill themselves often in the future. With appropriate use of technology, particularly online universities, it will be possible to provide alternative forms of non-formal and formal education to help mainstream disadvantaged groups, unemployed youth, low skilled and partially skilled workers, artisans etc., particularly those living in rural areas. The new education policy must seek to achieve this. Again educational institutions can take the lead in creating a large number of suitable micro and nano courses in the local languages. They can also be empowered to help mainstream these courses by providing credits and certification and also by accepting credits from quality courses provided by other institutions towards their own degrees and diplomas.

3.3.8. **Financing Higher Education and Research**

Funding for education and research has been below par for several decades. The State government must commit to increasing its spending on its education portfolio considerably, including higher education and research, at the earliest. It is recommended that the State increase funding to higher education substantially in a progressive manner and ensure that a minimum of 2% of GSDP is invested into Higher Education by 2020, including potential funding from non-governmental sources. Over the years governments have also been micromanaging the disbursement of funds, influencing the quality of output adversely. This must change. Funding to institutions must be made on a more flexible basis, based on outcomes and backed by strong reporting criteria, and tracked against stated goals.
64. **Approach to funding educational institutions:** Government funding to institutions (non-salary grants) should take the form of block grants, the quantum of which should be tied to the number of students. Funding for research should be separate and must be provided competitively, on a peer-review basis, through the KSTHSF.

64.1. Unlike in the past, allocated funds should be released completely and in a timely way to ensure efficient utilization.

64.2. Government should provide financial assistance to educational institutions in rural areas and institutions that focus on disadvantaged students. Urban institutions must be encouraged to raise additional funds on their own.

64.3. Government should provide one-time grants to all universities so that state-of-the-art academic infrastructure such as laboratories, libraries, access to the Internet and facilities such as hostels etc., can be created.

65. **Supplementing government funds:** The State needs to work with the Centre to create a framework within which educational institutions can raise money from multilateral international funding agencies (World Bank, ADB etc.), industry and from society. Donations for educational and research purposes must be incentivized, through tax benefits and other such incentives. All educational institutions should be encouraged to have a sizeable fund raising activity on campus that reaches out to alumni, members of civil society, businesses and philanthropists.

65.1. **Research institutions should look to industry participation in research** and various other means to bring in additional funds that can help them attain the competitive edge internationally. Institutions should also be able to raise funds through consultancy and collaborative research projects by their faculty. They can also bring in funds by running courses for working professionals etc.

65.2. The funds raised from all these sources should supplement the funds that institutions receive from the government, and not replace it as has been done in the past, to be spent at the discretion of the respective institutions. Faculty should be entitled to a portion of the funds they raise through their consultancy and sponsored research.

65.3. CSR funds coming into education appear to be seeking to influence decision-making by heads of schools and colleges. The experience so far should be reviewed and appropriate checks and balances put into place so that schools and colleges can receive more CSR funds.

66. **Fee fixation:** The process of fixing fees in autonomous public and private colleges should be a continuously monitored activity, based on real data on expenses reported by the institutions. The decision on the quantum of fees should be left to the respective institutions but government should retain the right to monitor and
intervene in extreme situations. Fees in higher educational institutions must be allowed to reflect real operational costs and subsidies should be targeted towards students who need them.

67. **Scholarships and freeships:** Government should move towards financing students in higher education. Students must then be allowed to choose the colleges and universities they want to study at. This will also bring in some healthy competition between educational institutions.

   67.1. Universities and Colleges should also be encouraged to raise funds and institute more scholarships for students of merit from economically weaker backgrounds. They should be rewarded for such efforts, during accreditation.

   67.2. No student must be deprived of education for lack of funds. The State needs to provide more scholarships and to work with financial institutions to ensure that willing students have access to loans on easy terms that they can be recouped through the assistance of the respective educational institutions.

   67.3. The Karnataka government should spend 1% of its higher education budget for giving scholarships to meritorious students from the State to study in one of the top 500 universities in the world. This will ensure that an internationally competitive education is available to deserving students, irrespective of means. Overseas study scholarships, presently being disbursed by multiple departments in governments, should be consolidated for this purpose.

**3.4. POLICY RECOMMENDATIONS: GOVERNANCE & MANAGEMENT**

Good governance in education systems must promote and enable effective delivery of education services. Education needs a “holistic approach” – covering the entire gamut of education at school-, higher-, professional-levels and bring a seamless and over-arching character – thus, good governance of education must have an integrated over-sight of the totality of education sector.

Critical are appropriate standards, processes, information and accountability, which induce high performance from public and private education providers. Sound provider performance in turn, would raise the level of education outputs and can contribute to improved outcomes. Enhanced public involvement and transparency in performance is one means to enhance returns in education investments. It can also reduce disparities in education delivery. Moreover, good governance in education must be such as to discourage corruption, an outgrowth of poor governance, which directly affects performance of the education sector.

Principle to Governance for education must be founded on 3 important tenets – policy-making in education, centred on sole interests of citizens, must be the sole prerogative of Government but based on sound/sage advise of education/society experienced
professionals; Provision/Delivery of education through schools/higher education institutions must be the sole premise of qualified/meritorious experts in education – be they from government, private sector or other institutions and, finally, Regulation/monitoring must be a statutory and independent activity that is standards-based and transparent.

With above in mind, the following recommendations are made for integrated Governance of Education and within the framework of democratic form of Government today.

### 3.4.1. **Policy-Making: Ministerial Group on Education and Expert State Advisory Council**

68. Today, governance and management of Education needs to be holistic and driven by Experts. This requires one single expert body that encompasses totality of education – school, higher education (it could also include education in Agriculture, Medicine, Law and other areas) **AND** skill development as an omnibus body for advising, guiding, policy analysis and techno-policy oversight on all aspects of education. Such a mechanism will be an important instrument to bring in expert and external inputs for keeping the education sector vibrant, advanced and forward thinking.

69. The societal, political and policy interfaces of the Executive for Education also needs to be incorporated and factored in for the successful progress and development of education sector. The Executive would bring in the inputs and interfaces of the political system (of the legislature) – thereby ensuring the committed and long term support that is required for education.

70. In true democratic values of our Governance system, it is important to have the “coupled” mechanism of a bridge of the Executive (who decides the Policy) and Experts (who can bring innovation and expert monitoring) as a critical route in future governance. Thus, it is proposed that:

70.1. **A Ministerial Group on Education (MGE)** consisting of the Hon’ble Chief Minister, Hon’ble Ministers for Higher Education, Primary and Secondary Education, Skill, Finance etc. be established who provide the important policy interface and social commitment for the Governance and Management of Education. The Chairman of KSHRDAC could be a Member of the Ministerial Group to bring the necessary linkages and interfaces between the Ministerial Group and KSHRDAC.

70.2. An apex and independent State Council, **Karnataka State Human Resources Development Advisory Council (KSHRDAC)**, be established which would provide the core technical and managerial advisory, guidance for the techno-policy implementation and other oversight on the broad spectrum of education in the State. The Chairman of this Council must be an eminent and
renowned technical/scientific expert with a good vision for future education. The members of the KSHRDAC must be eminent experts in the fields Education, Industry, Scientific Research etc. The relevant Secretaries of the Higher Education Department, Primary and Secondary Education Department, Skill Department must be ex-officio members of the Council – bringing in the linkage with the administrative structure of the State. A relevant Department of Government of Karnataka could service KSHRDAC.

71. The combination of the MGE and KSHRDAC will be a very effective mechanism in support of the education activities in the State – because it would provide the integration of the political and the expert perspectives for education. This will also ensure the policy role of the Government supported by the strong advisory role of the KSHRDAC. In addition, KSHRDAC will also be a strong, but independent arm from which Departments of Higher Education and Primary and Secondary Education can draw tremendous technical and expert strength in performing their role of the providers. Thus, the vision of separating the roles of Policy, Delivery and Regulation – but at the same time, threading them into one virtual entity could be successfully achieved.

3.4.2. Governance and Management of School Education System

The State government has not had sufficient capacity to balance its responsibilities with regard to education provision in government schools and its equally important role as managers/regulators of the entire education system, including private schools. The consequences on the quality of education in the State are apparent and the present education policy needs to address these lacunae. The way forward therefore is to separate out service provision from regulation, monitoring and policy making so as to ensure that the entire school system, public as well as private, is functioning in a healthy manner.

Administration of government schools also needs to transition from the current centralised mode of management, into one in which local authorities are given more autonomy to enforce standards and are held accountable for it. Following are the recommendations that will help achieve these goals:

72. **Establish a Karnataka State School Education Council (KSSEC),** headed/co-headed by an Educationist of repute and with members who are educationists/professionals involved in different stages of School Education – Pre-school, lower Primary-Upper Primary–Secondary and pre-university etc. (akin to Karnataka State Higher Education Council) under the Department of Primary and Secondary Education. The primary mandate of this Council is to monitor the progress of School Education in the State – covering Government, private and other schools against the implementation of policy goals, define State School Standards, technical inputs and resources and
make appropriate recommendations to the Department of School Education. KSSEC should consist of a mix of full time professionals, sector administrators and educationists.

72.1. KSSEC must enlist the services of many expert teachers having expertise in different stages of school education – pre-school, lower primary-upper primary, secondary and pre-university levels – to look into quality education delivery. All aspects relating to definition of standards, academics and quality education delivery in both public and private sector – curriculum and resources, teacher preparation, administrative processes and leadership, standards for infrastructure, for learning outcomes, evaluation methodologies, provision for inclusive education etc. – must be tracked and changes brought in as needed.

72.2. The KSSEC will also need to put considerable effort into helping to mitigate the regional imbalances in the quality of schools within the State – specifically ensuring the urgent action required to improve/upgrade Government schools on par with State School Standards. These schools, their management and teachers, will need to be hand-held and assisted by teams of experts put together by KSSEC. KSSEC reports will become the basis on which government will take action to infuse funds and other resources into schools that require them.

73. **Leadership for transformation:** Inspired leadership provided by head teachers is crucial to the success of the goal of re-orienting reforms towards quality and excellence. Selection of Head Teachers and other leaders needs to be done on merit rather than solely on the basis of seniority as is done presently. Talent and enthusiasm to lead schools must play a larger role towards creating the meritocracy that is sorely needed in our educational institutions today. Headship must preferably be given to relatively younger teachers, say with 15 years of teaching experience, rather than to teachers who are nearing the end of their careers. Similarly, a rigorous, open, impartial, competency-based process must be put in place for selection of people in other leadership positions, based on well-defined guidelines for hiring and specification of competencies for each role that are public.

73.1. These processes should apply to school leaders (head teachers), block and cluster coordinators, heads of teacher education institutions, DSERT, DIET, IASE, CTE, SIEMAT and other State level institutions.

73.2. **Two critical requirements for the success of identified leaders needs to be ensured:** 1) stability of tenure in leadership positions (minimum of three years), and 2) accountability to deliver, measured through a rigorous and transparent performance management system. Head Teachers should be given a three to five-year term initially and allowed to continue, if they are considered
successful. Career paths need to be worked out whereby they can chose to either return to the pool of teachers at the end of their term, or move into other administrative and leadership roles such as contributing to the KSSEC.

73.3. **All chosen leaders must mandatorily undergo specially designed training programmes** that will orient them towards their jobs and set expectations from them before they take up their respective assignments. A range of induction programs for new leaders need to be designed and offered in partnership with premier institutions such as the IIMs.

73.4. These leaders will then be the agents of change, bringing about the reforms that the government would like to see. They will be consulted in formal and informal ways to monitor the progress of reform, be asked to create best practices for the respective institutions they lead, and be invited to contribute to policy making. A forum should be established to enable them to interact regularly with other leaders and functionaries of the Primary and Secondary Education Department at all levels.

74. **Adequate staffing at government schools**: Post the consolidation process of schools in the State, it must be ensured that every school, government or private, irrespective of enrolment must have adequate staff - principal, language teachers, subject teachers, a sports teacher, and a peon as per standard norms set by the regulatory authority. A suitable mechanism for sharing of teaching resources in nearby schools with low strength may be established.

74.1. **Administrative duties for teachers must be kept to a minimum** so that each of them can focus on their primary responsibility namely, that of ensuring learning outcomes. Although mid-day meals are a very important part of the school day for the child, teachers ought not to be involved in the preparation and delivery of meals, as they are in many schools presently. Their contact hours with children are critical to the development of the child and these must be kept sacrosanct.

74.2. It should be ensured that head teachers and other leaders are not overburdened with administrative issues to the extent that they are unable to deliver on their primary responsibility of providing innovative and inspired leadership.

75. **Assessing the health of the System**: Sample based standardised tests (such as PISA and PIRLS internationally and ASER, NAS at the national level and SAS at State level) need to be devised and adopted in the State for a check on the health of the system at regular intervals, not less than once every 3 years. University Departments of Education, and experts in testing and subject matter need to be brought together to launch such an initiative. Capability to assess learning outcomes of students needs to be built across the board, among all groups of stakeholders. However, learning
achievements of students must be used as a guideline for policy implementation, review and change only when these are coupled with inputs on other parameters of educational quality. The results of NAS and SAS should be used to refine in-service teacher training.

75.1. Assessment of learning achievement of students should be classroom-based or at best school-based. Assessors will need to study both quantitative indicators (e.g. learning achievement, teacher attendance, etc.) which lends objectivity, does not demand specialists and helps identify trends, as well as qualitative indicators that reflect the nature and quality of processes (e.g., pedagogical practices, school processes and more).

3.4.3. Governance and Management of Higher Education

Educational institutions are handicapped by excessive controls and permissions based regime that inhibits faculty and managements from taking the initiative and working towards the betterment of students and the institution. The new norms for the governance and management of institutions must have as much of a ‘light touch’ as possible, in a paradigm change that leaves a lot of freedom in the hands of academics. This will require the creation of several autonomous bodies that are tasked with ensuring quality in the long term, independent of the government of the day.

76. The State has already established Karnataka State Higher Education Council (KSHEC) - an apex body for forging a synergic relationship between Government, Universities, academics and experts. The Council has successfully ensured academic excellence and growth of higher education in the State. The council guides an overall plan and oversees the implementation of reforms. The KSHEC is an important element of the proposed Karnataka State Education Policy with regards to Higher Education.

76.1. KSHEC must embrace and involve all universities of Karnataka including private universities.

76.2. Universities should be actively involved with policy implementation, on a continuous basis.

76.3. Good institutions can be invited to get involved with helping other institutions improve. They can be rewarded for their efforts through the accreditation process to help create a culture of experience sharing among institutions.

76.4. Monitoring and review must be built into the planning stage of every programme/activity - using comprehensive criteria for review issued by the implementing authority from time to time. Gradually a culture of self-assessment and self-monitoring for accountability and a quest for excellence must be cultivated, that replaces external assessment.
77. **Ensuring integrity of policy and implementation:** The proposed revised governance structure in which service provision is separated from policy making and regulation needs to be carefully detailed out so as to ensure that no gaps arise between policy planning and implementation. Having multiple bodies involved in governance and management of education without institutionalized linkages between them can cause such gaps to arise. This must be avoided at all costs and inter-departmental/institutional linkages must be spelt out as part of the accompanying policy implementation document.

77.1. The changes proposed in this document will require significant investment, both in school and in higher education. The government must commit to finding the required funds to back the implementation plan.

77.2. The entire cycle of planning, budgeting, sanctioning, utilization, tracking and feedback must be seen as a continuum. All related processes must be spelt out and made more meaningful in terms of ‘real’ decentralization and development of rational and contextual guidelines for use.

77.3. Distribution of resources should be informed and just, with priority areas determined on the basis of concerns regarding access, equity and quality. Capacity building and empowerment to use funds in a decentralized manner will be needed to ensure optimal utilisation.

78. **Coordination between ministries and departments engaged in education:** Close coordination with other ministries in the State engaged in higher education and with stakeholders in the Central Government is needed so as to be able to take students to higher educational institutions instead of creating many more new institutions. The focus must be on creating a critical mass of students in each college or university, and the co-location of multiple disciplines (irrespective of the source of their funding, governance and regulation patterns) to ensure that students have many opportunities for interdisciplinary and multi-disciplinary education. More hostel facilities need to be created at every institution and these could be paid for by the different Ministries/Departments that are represented at the particular university or college. All government spending, irrespective of which Department/Ministry it is coming from, needs to be optimally used.

79. **Better governance and administration through the use of technology:** Administration and governance related functions must be made vastly more efficient through the induction of appropriate technologies. Many initiatives are already underway at the national level and also in Karnataka, through the KSHEC. These need to be reviewed, improved and expanded.

79.1. Many pieces of software are needed that can contribute to useful MIS systems for administration, governance and monitoring of all education related
activities in the State. These could include tracking and recording the intake of
students, determining availability of faculty, admissions, assessments, tracking
alumni, and much more. Enabling data-based decision making at scale will
have a direct impact on outcomes.

3.4.3.1. LEGAL FRAMEWORK FOR HIGHER EDUCATION

80. **New legal framework:** The State should endeavour to create a new legal framework
that will support the goal of quality education by reviewing the existing laws that
govern educational institutions in the State and all court orders that have impacted
the activity of government and educational institutions. This new framework for
governance of educational institutions in the State needs to be spelt out and given
statutory sanction. Extensive coordination will be required with the New National
Education Policy that is expected soon, and with the institutions of the Central
Government such as UGC and AICTE, the professional councils and so on to ensure
that freedoms to institutions of the kind envisaged in this policy document can be
given and sustained.

80.1. **Separate legislation for each university:** The government should review the Acts
of the State Legislature that govern educational institutions in the State,
including entities such as the KSHEC, and amend them as needed to meet the
ambitious goals of reforms outlined in this document and achieve national and
international competitiveness. Every university must preferably have its own
separate legislation.

80.2. Appropriate legislation should be put in place to ensure greater transparency
with regard to financial dealings and with all other aspects of running
educational institutions so as to create an accountable system.

3.4.4. REGULATORY AUTHORITY FOR EDUCATION

There is a need to have a robust and effective regulatory and monitoring mechanism for
school and higher education so that the overall goals of the State Policy can be
monitored and also suitably modified from time to time. The School system in the state
lacks a good regulatory mechanism today – thus, there is no collated data about the
performance of schools and their compliance to standards. Detailed and standardised
data of schools needs to be organised and made publicly available.

Higher education is regulated and accredited almost completely by the regulatory
institutions of the Government of India such as the UGC, AICTE, NCTE and professional
councils and NAAC. But the need within the State is to have a professional mechanism for
continuous monitoring and quality assessment in Higher Education. Such a systematic and
continuous monitoring of higher education institutions will be important to create and
maintain highly granular data of an institution’s performance and enable support to not
only the national regulatory requirements but also for policy analysis at the State level.
It is essential that the State establish a statutory regulatory authority for the field of education. A single Karnataka State Education Regulatory Authority (KSERA) would be important to undertake all aspects of evaluation, regulation and monitoring vis-à-vis the State Education Policy so that quality is assured and the interests of the students are protected. The KSERA could cover, School Education, Higher Education and other areas to provide a uniform framework of regulation across the education spectrum.

KSERA is envisaged to concentrate its Regulatory functions for School Education sector and ensure that the standards and guidelines are implemented and technical evaluation/assessment of schools is routinely conducted. This will ensure greater monitoring by an independent authority of all Schools across the State in ensuring School Education affordable, accessible and qualitative.

KSERA will fill a critical gap that has existed in the education sector for bringing a uniformity and standardisation of the government schools and Private Schools and other school institutions. This authority will, in fact clear the roles of Government (in policy making and delivery), facilitator and regulator. The governance mechanisms of schools must be such that they are empowering and enabling, and this can happen through appropriate use of quality frameworks. The existing KSQAAC (Karnataka State Quality Assessment and Accreditation Council) must be subsumed under KSERA.

Regulation must be kept to a minimum and quality control should be achieved through norms for transparency, accreditation, ratings and rankings. Accreditation to reflect compliance to standards can be done largely through self-assessment, and periodic neutral assessment, with the results of both being made publicly available, for facilitating informed decisions by parents with regard to admission of their children. KSERA will work closely with the KSSEC towards their shared goals.

KSERA will also develop school evaluation/regulatory guidelines and models based on which self-assessments and accreditation can happen, in order to provide some much needed feedback to schools and support for improvement, rather than purely for ranking purposes as is often perceived by many stakeholders.

It is suggested that the school regulatory norms may be suitably considered for special schools setup by Government or budget schools that can be set up in urban areas by the private sector.

KSERA for its functioning should establish its own mechanism and structure independent of the field level government functionaries who are in-charge of school education delivery as a public service.
82.6. The evaluation and monitoring data of all schools under the KSERA must be made public.

83. KSERA can play an important role for monitoring and accreditation support for Higher Education. For every higher education institution the authority could develop detailed granularity of performance and standards compliance which will be extremely useful for NAAC related activities and also for policy analysis support.

83.1. The model of working of the KSERA will supplement and extend the work of the NAAC. It will drive the discourse on quality control and assessment, and consolidate the different assessments in the State under one umbrella to avoid duplication and to enhance the learning from these assessments. Over time it will also establish semi-autonomous regional and district agencies, with the purpose of driving assessment reforms.

83.2. Standards and frameworks should include a mix of hygiene and process indicators and must be developed with participation of stakeholders and reviewed at specified intervals. Learning outcomes will only be a part of it and should not drive it. These should be used to guide monitoring and inform development plans.

83.3. Evaluation should combine self-assessment and assessment by external persons. The latter should comprise a range of stakeholders who have received due orientation to the frameworks and processes.

83.4. All higher education institutions (government as well as private) must be assessed ideally every year but at the least once every three years and assessment outcomes should be made public.

3.5. POLICY RECOMMENDATIONS: COSTS AND FUNDING

Karnataka spends 1.8% of GSDP on education which translates into 14% of the State budget, including school education, higher education and technical education. The State is below the National average in this regard. However, given that the tax to GDP ratio in India is as low as 18% (27% in the US, 39% in the UK and some European countries) it is unlikely that governments will be in a position to enhance their spending in the near future. Yet, there is no escape from the fact that education requires much funding needs if quality outcomes are to be ensured. It is therefore imperative that innovative ways of maximising the outputs from the present spending needs to be found. The State needs to reorient its spending towards improvement of quality.

84. Some cost recovery from the skewed spending on special schools and technical degrees in colleges may also need to be considered for finding additional funding. For instance, the annual cost to government per student at a Sainik school is Rs 2,75,000, Rs 35,000 at Kendriya Vidyalayas and Rs 16,000 in government schools, all of
which is free to students. In higher education, of the expense of Rs 35,000 per student at ITIs / polytechnics only approximately Rs 5,000 is recovered. The per-student spend in general undergraduate education is a little over Rs 30,000, of which just Rs 1,800 is recovered. In medical college the per-student spend ranges from Rs 1,50,000 to Rs 6,00,000 of which just Rs 60,000 is recovered. Similarly, just Rs 40,000 is recovered from an expenditure of Rs 1,00,000 per student in an engineering college. Some out-of-the-box thinking with regard to cost recovery across school and higher education needs to happen if the additional funding to meet the goals of quality education is to be found.

85. **The State needs to set up a committee that can take a holistic view of government financing in the education sector, across school and higher education, and suggest workable solutions with regard to both recovery of costs and generating additional funding.** This needs to be done within a reasonable time frame of say six months since the situation is urgent.

### 3.6. POLICY RECOMMENDATIONS: REVIEW AND ANALYSIS

An open-architecture must drive the policy review and analysis. Karnataka must set in motion a forward-looking and pragmatic process for education policy. The elements of the policy and their implementation outcomes must be reviewed on a regular basis, involving the KSHRDAC. All inputs from monitoring the education system must be ploughed back into these reviews and into revising policy as well as its implementation plan to ensure successful outcomes.

86. **The KSEP must be reviewed every 3 years** and changes, as required, must be quickly defined and adopted. Suitable mechanism for this may be established by Government, involving KSHRDAC and other expert fora. In reviewing the Policy, state must avail and analyse the past data of education (available through the KSERA) and make a prognostic analysis for future involving experts.

87. The KSHRDAC must provide to the State an annual report on the state of education and any other advisories and guidelines – this must form part of material consultation for policy modification. In doing this perspective analysis, KSHRDAC must be supported by KSSEC and KSHEC and KSERA data.

88. All reports/data pertaining to Education – policy documents, advisory reports/data, regulatory data/reports and other recommendations of KSSEC and KSHEC must be made available in public domain.
### Appendix 1: Definitions of 21st-Century Skills


<table>
<thead>
<tr>
<th>Skill</th>
<th>Definition</th>
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<tbody>
<tr>
<td><strong>Foundational literacies</strong></td>
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<tr>
<td>Literacy</td>
<td>Ability to read, understand and use written language</td>
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<tr>
<td>Numeracy</td>
<td>Ability to use numbers and other symbols to understand and express quantitative relationships</td>
</tr>
<tr>
<td>Scientific literacy</td>
<td>Ability to use scientific knowledge and principles to understand one's environment and test hypotheses</td>
</tr>
<tr>
<td>ICT literacy</td>
<td>Ability to use and create technology-based content, including finding and sharing information, answering questions, interacting with other people and computer programming</td>
</tr>
<tr>
<td>Financial literacy</td>
<td>Ability to understand and apply conceptual and numerical aspects of finance in practice</td>
</tr>
<tr>
<td>Cultural and civic literacy</td>
<td>Ability to understand, appreciate, analyse and apply knowledge of the humanities</td>
</tr>
<tr>
<td><strong>Competencies</strong></td>
<td></td>
</tr>
<tr>
<td>Critical thinking/problem-solving</td>
<td>Ability to identify, analyse and evaluate situations, ideas and information to formulate responses and solutions</td>
</tr>
<tr>
<td>Creativity</td>
<td>Ability to imagine and devise new, innovative ways of addressing problems, answering questions or expressing meaning through the application, synthesis or repurposing of knowledge</td>
</tr>
<tr>
<td>Communication</td>
<td>Ability to listen to, understand, convey and contextualize information through verbal, nonverbal, visual and written means</td>
</tr>
<tr>
<td>Collaboration</td>
<td>Ability to work in a team towards a common goal, including the ability to prevent and manage conflict</td>
</tr>
<tr>
<td>Curiosity</td>
<td>Ability and desire to ask questions and to demonstrate open-mindedness and inquisitiveness</td>
</tr>
<tr>
<td>Initiative</td>
<td>Ability and desire to proactively undertake a new task or goal</td>
</tr>
<tr>
<td>Persistence/ grit</td>
<td>Ability to sustain interest and effort and to persevere to accomplish a task or goal</td>
</tr>
<tr>
<td>Adaptability</td>
<td>Ability to change plans, methods, opinions or goals in light of new information</td>
</tr>
<tr>
<td>Leadership</td>
<td>Ability to effectively direct, guide and inspire others to accomplish a common goal</td>
</tr>
<tr>
<td>Social and cultural awareness</td>
<td>Ability to interact with other people in a socially, culturally and ethically appropriate way</td>
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## SEL strategies common to all skills

<table>
<thead>
<tr>
<th>SEL strategy</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Allow time to focus</td>
<td>Provide child with enough time and attention to allow him or her to focus on specific learning objectives (for example, set aside time for skill development).</td>
</tr>
<tr>
<td>Break down learning into smaller, coordinated pieces</td>
<td>Invest time and effort to develop a child's new behaviours and skills by breaking down learning into smaller steps and sequential and coordinated sets of activities to give the child an opportunity to link learning steps.</td>
</tr>
<tr>
<td>Create a safe environment for learning</td>
<td>Create an environment that is physically and emotionally safe for the child.</td>
</tr>
<tr>
<td>Develop a growth mindset</td>
<td>Provide appropriate praise focusing on the child's efforts and learning process instead of praising final outcomes or the child's intelligence. Teach the child the incremental theory of intelligence, which teaches that intelligence is malleable, fluid and changeable.</td>
</tr>
<tr>
<td>Encourage play-based learning</td>
<td>Provide open-ended, unscheduled time to freely and creatively explore without restrictions, rules, guidelines or pressure.</td>
</tr>
<tr>
<td>Foster nurturing relationships</td>
<td>Engage child in a relationship that stimulates his or her growth and development.</td>
</tr>
<tr>
<td>Foster reflective reasoning and analysis</td>
<td>Apply instructional strategies that require the child to analyse complex topics and reflect on his or her analyses.</td>
</tr>
<tr>
<td>Guide a child's discovery of topics</td>
<td>Balance student discovery, answering questions and working through challenges providing feedback, assessment and explicit instruction. A crucial component of this strategy is to provide scaffolding, offering support tailored to each child's needs with the expectation that assistance will diminish and be removed as the child is able to achieve the task or master the concept.</td>
</tr>
<tr>
<td>Help a child take advantage of his or her personality and strengths</td>
<td>Help the child understand his or her tendencies and temperament and equip the child with strategies to harness strengths and cope with weaknesses.</td>
</tr>
<tr>
<td>Offer appropriate praise</td>
<td>Provide praise that encourages effort and specific accomplishments, not ability. The child must believe that the praise is genuine (related to growth mindset).</td>
</tr>
<tr>
<td>Offer engaged caregiving</td>
<td>Be involved and engaged with the child, helping to nurture the child's learning and development.</td>
</tr>
<tr>
<td>Provide appropriate challenges</td>
<td>Use material that is challenging for the child but attainable with reasonable effort.</td>
</tr>
<tr>
<td>Provide clear learning objectives that target skills</td>
<td>Provide the child with clear and specific learning objectives by identifying explicitly what skills children are expected to learn.</td>
</tr>
<tr>
<td>Use a hands-on approach</td>
<td>Use instructional strategies that involve learning by doing and thus allow the child to actively participate in an activity, typically including objects, materials and other elements.</td>
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## Appendix 2B: Socio-Economic Learning Strategies Targeted to Specific Skills

**Source:** WEF report, New Vision for Education, March 2016

<table>
<thead>
<tr>
<th>SEL strategy</th>
<th>Skills</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Build confidence in the ability to succeed</td>
<td>Initiative</td>
<td>Help the child build positive self-esteem.</td>
</tr>
<tr>
<td>Build in opportunities to learn from failure</td>
<td>Persistence/grit</td>
<td>Help the child learn to overcome obstacles by allowing him or her opportunities to fail in ways that are appropriate given his or her temperament.</td>
</tr>
<tr>
<td>Create a language-rich environment</td>
<td>Communication</td>
<td>Expose the child to spoken and written language frequency.</td>
</tr>
<tr>
<td>Encourage empathy</td>
<td>Leadership, social and cultural awareness</td>
<td>Help the child learn how to understand the feelings of others and share his or her feelings openly.</td>
</tr>
<tr>
<td>Encourage questions/guessing</td>
<td>Curiosity</td>
<td>Answer the child’s questions, provide resources to help answer his or her questions and encourage questioning and guessing.</td>
</tr>
<tr>
<td>Foster cultural self-awareness</td>
<td>Social and cultural awareness</td>
<td>Help the child understand and contextualize his or her values, beliefs and perceptions.</td>
</tr>
<tr>
<td>Foster greater respect and tolerance for others</td>
<td>Collaboration, social and cultural awareness</td>
<td>Help the child respect opinions and perspectives that he or she does not necessarily agree with.</td>
</tr>
<tr>
<td>Foster the ability to negotiate</td>
<td>Leadership</td>
<td>Help the child learn to make compromises and come to agreements.</td>
</tr>
<tr>
<td>Foster the ability to process emotions</td>
<td>Adaptability</td>
<td>Help the child understand, identify and express his or her feelings in a healthy way.</td>
</tr>
<tr>
<td>Give constructive feedback</td>
<td>Critical thinking/problem-solving</td>
<td>Offer constructive criticism to help children improve their performance through a better understanding of the information provided.</td>
</tr>
<tr>
<td>Instil sufficient knowledge to ask questions and innovate</td>
<td>Curiosity</td>
<td>Ensure that the child has enough fundamental knowledge to ask meaningful questions and create and produce novel material.</td>
</tr>
<tr>
<td>Offer opportunities to build and innovate</td>
<td>Creativity</td>
<td>Provide the child with opportunities to create things.</td>
</tr>
<tr>
<td>Practise both flexibility and structure</td>
<td>Adaptability</td>
<td>Help the child respond to unexpected outcomes based on his or her tendency to be primarily flexible or rigid.</td>
</tr>
<tr>
<td>Provide autonomy to make choices</td>
<td>Creativity, curiosity, Initiative</td>
<td>Provide the child with opportunities to make meaningful choices that give him or her a sense of control.</td>
</tr>
<tr>
<td>Provide long-term, engaging projects</td>
<td>Initiative</td>
<td>Help the child become involved in long-term projects in which he or she is emotionally invested.</td>
</tr>
<tr>
<td>Provide opportunity for group work</td>
<td>Collaboration</td>
<td>Create activities that require the child to work with others to achieve similar goals.</td>
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APPENDIX – 3 : GOVT. ORDER ON KARNATAKA JNANA AAYOGA

PROCEEDINGS OF THE GOVERNMENT OF KARNATAKA

Sub: Reconstitution of Karnataka Knowledge Commission.


Preamble

Karnataka is emerging as a Knowledge State in the country and needs to take on the global challenges in terms of innovation, conservation of heritage knowledge, generation of new knowledge, application of knowledge in every sphere of life, skill development, enhancement of competencies, creation of better human capital to create new knowledge economy besides creation of a more humane society. Keeping in line with the setting up of National Knowledge Commission, the Karnataka Knowledge Commission was constituted in 2008, vide Government Order No: ED 110 URC 2008, dated 5/9/2008, under the guidance and Chairmanship of renowned Space Scientist Dr. K. Kasturirangan. After completion of three years term, the commission was reconstituted and the term was extended till June 30, 2012. Recognizing the important role to be played by the commission in making Karnataka a Knowledge State and a knowledge economy, it is proposed to reconstitute Karnataka Knowledge commission.

The Government has considered reconstitution of knowledge Commission for another term with the focus on institution building, policy innovation and excellence in the field of education, health, science and technology, industry, entrepreneurship, research and innovation, traditional knowledge, agriculture, e-governance, rural development, etc., and other relevant areas in the context of Karnataka. In view of the above, the Government has decided to reconstitute the Karnataka Knowledge Commission. Hence, this order.

GOVERNMENT ORDER NO. ED 462 URC 2013
BANGALORE DATED: 28/12/2013.

In the circumstances explained above, the Government is pleased to reconstitute the Karnataka Knowledge Commission in the State with the following eminent persons as Chairman and members.

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Name and Address</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Dr. K. Kasturirangan, Member (Science), Planning Commission, Government of India, Director, National Institute of Advanced Studies Bangalore</td>
<td>Chairman</td>
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<td>2</td>
<td>Dr. Sudha N Murthy,</td>
<td>Member</td>
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<tr>
<td>1</td>
<td>Chairperson, Infosys Foundation, Infosys Towers, No 27, JP Nagar, 3rd Phase, Bannerghatta Main Road, Bangalore – 560076</td>
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<td>3</td>
<td>Prof. M.R. Satyanarayana Rao, Ex-Director, Jawaharlal Centre for Advanced Scientific Research (J.N.C.A.S.R), Jakkur, Bangalore – 560064</td>
<td>Member</td>
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<td>4</td>
<td>Dr. Nazeer Ahmed, Advisor, World Organization for Research Development and Education, Ex-Scientist, NASA, No. 4, 9th Cross, Jayamahal Main Road, Jayamahal Extension, Bangalore – 560046</td>
<td>Member</td>
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<td>5</td>
<td>Mr. B.V. Naidu, Chairman &amp; CEO, Sagitaur Ventures India Pvt. Ltd, Unit G – 02, Ground Floor, Prestige Terminus-II, 901 Civil Aviation Road, (Old HAL Airport Exit Road). Konena Agrahara, Bangalore – 560017</td>
<td>Member</td>
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<td>6</td>
<td>Prof. Sunny Tharappan, Director, C.L.H.R.D, Valencia Circle, Mangalore – 575002</td>
<td>Member</td>
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<td>7</td>
<td>Prof. G. Padmanabhan, Former Director of IISc, Emeritus Professor, Department of Biochemistry, Indian Institute of Science, Bangalore – 560012</td>
<td>Member</td>
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<td>8</td>
<td>Dr. Gayatri Saberwal, Institute of Bioinformatics and Applied Biotechnology, Biotech Park Electronics City Phase I, Bangalore – 560100</td>
<td>Member</td>
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<td>9</td>
<td>Prof. S. Sadagopan, Director, IIIT-Bangalore, 26/C, Electronics City, Hosur road, Bangalore – 560100</td>
<td>Member</td>
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<td>10</td>
<td>Dr. Venkatesh. Valluri, Chairman, Ingersoll – Rand (India) Ltd., Plot No 35, KIADB Industrial Area, Bidadi, Bangalore – 562109</td>
<td>Member</td>
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<td>11</td>
<td>Dr. Devi Prasad Shetty, Heart Specialist, Narayana Hrudayalaya, 258/A, Bommasandra Industrial area, Anekal Taluk, Bangalore – 560099</td>
<td>Member</td>
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<td>12</td>
<td>Dr. S. Rajashekar, Director (U.S.M) Jawaharlal Nehru Medical College, JNMC Campus, Nehru Nagar, Belgaum – 590010</td>
<td>Member</td>
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<td>13</td>
<td>Dr. B.M. Hegde, Ex-Vice Chancellor, Manipal University, Manipal</td>
<td>Member</td>
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<td>14</td>
<td>Dr. P. Balakrishna Shetty, Vice Chancellor, Sri Siddartha Deemed University, Agalakote, B.H. Road, Tumkur – 572 107</td>
<td>Member</td>
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<tr>
<td>15</td>
<td>Dr. B.S. Sherigara,</td>
<td>Member</td>
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| 1.    | **Sri. Rahul Sharad Dravid,**  
Cricket Player, No. 5, 5th cross, 13th Main, Indiara Nagar, Bangalore – 560038 | Member                    |
| 2.    | **Sri. Prakash Padukone,**  
Prakash Padukone Badminton Academy, No. 4, 3rd Main, KBA Stadium, Jasma Bhavan Road, Opposite to Congress office, Vasanth Nagar, Bengaluru – 560052 | Member                    |
| 3.    | **Smt. Shukla Bose,**  
Founder CEO, Parikrama Humanity Foundation, 1846, 3rd Main, C Block, Sahakara Nagar, Bangalore – 560092 | Member                    |
| 4.    | **Sri. Vikram Sampath,**  
Young Author, Mysore | Member                    |
| 5.    | **Sri. Srinivas Valluri,**  
Head of Technology at MHealth Ventures, | Member                    |
### KARNATAKA STATE EDUCATION POLICY (KSEP)

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<td>6</td>
<td>Sri. Manish Sabharwal, Co-Founder and Chairman, Team Lease Services, 6th Floor, BMTC Commercial Complex, 80 Ft Road, Koramangala, Bangalore – 500095</td>
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<tr>
<td>7</td>
<td>Mr. Sangeeth Varghese, World Economic Forum, Founding Curator, Global Shapers, TF9, Lotus Crest, Phase -1, brook Fields, Mahadevapura Post, Bengaluru – 560048</td>
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<tr>
<td>8</td>
<td>Smt. Nandita Gurjar, Member Executive Council and Group Head of Education and Research Infosys, Plot No. 44, Hosur Road, Electronics City Phase I, Bengaluru-Karnataka, 560100</td>
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<td>9</td>
<td>Dr. P.N. Rangarajan FASC, FNASC, Prof of Biochemistry, Department of Biochemistry, Indian Institute of Science Bangalore, India – 560012</td>
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<td>10</td>
<td>Dr. Mohan Alva, Chairman, Alva Education Society, Vidyagiri, Moodbidri, Dakshina Kannada Dist – 574227</td>
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### Ex-Officio Members

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<tr>
<td>1</td>
<td>Principal Secretary, Higher Education Department, 6th Floor, 2nd Stage, MS Building, Bangalore – 560001</td>
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<td>2</td>
<td>Principal Secretary, Health and Family Welfare Department, # 105, 1st Floor, Vikasa Soudha, Bangalore – 560001</td>
</tr>
<tr>
<td>3</td>
<td>Principal Secretary, Primary and Secondary Education Department, 6th Floor, 2nd Stage, MS Building, Bangalore – 560001</td>
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### Term of Reference:

The Commission shall strive to give recommendations in the following areas.

1. To focus on institution building, policy innovation and excellence in the field of education, health, science and technology, industry, entrepreneurship, research and innovation, traditional knowledge, agriculture, e-governance, rural development, etc., and other relevant areas in the context of Karnataka.
2. Build excellence in the educational system to meet the knowledge challenges of the 21st century and increase Karnataka’s competitive advantage in the fields of knowledge.

3. Promote creation of knowledge in all formal and non-formal educational, scientific and Knowledge institutions of Karnataka.

4. Improve the leadership and Management of educational and knowledge institutions of Karnataka.

5. Promote knowledge applications in agriculture, rural development, health, industry and other areas.

6. Enhance the use of knowledge capabilities in making government an effective service provider to the citizen and promote widespread sharing of knowledge to maximize public benefit.

7. Promote inter sectoral interaction and interface with the objective of preservation, access, new concepts, creation, application, dissemination, outreach and services relating to knowledge.

8. Develop appropriate institutional frameworks to strengthen the education system, promote domestic research and innovation, facilitate knowledge application in various sectors.

9. Leverage information and communication technologies to enhance governance improve connectivity and reduce digital divide.

10. Device mechanisms for exchange and interaction between knowledge System in the global arena.

11. Conserve indigenous and heritage knowledge in Karnataka for better Utilization of time tested concepts and knowledge by society.

By Order and in the name of the Governor of Karnataka

Sd/-
(S.R. Revanna)
Under Secretary to Government
Higher Education Department (Universities)

To,
The Complier, Karnataka Gazette -for publication in next issue of the Gazette.

Copy to:
1. The Principal Secretary to Hon’ble Chief Minister, Government of Karnataka, Vidhana Soudha, Bangalore.

2. PS to Chief Secretary / Additional Chief Secretaries / Development Commissioner to Govt., of Karnataka, Vidhana Soudha, Bangalore.

3. All Principal Secretaries/ Secretaries, Govt. of Karnataka, Bangalore.
4. Dr. K. Kasturirangan, Member (Science), Planning Commission, Government of India. Director, National Institute of Advanced Studies, Bangalore.
5. Vice Chancellors/Registrars of All Universities.
6. Executive Director, Karnataka State Council for Higher Education, Bangalore
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32. The Commissioner, Dept. of Collegiate Education, Bangalore.
33. The Commissioner, Public Instructions, Bangalore
34. The Director, Dept. of Technical Education, Bangalore.
37. Dr. Mukund Rao, Adjunct Faculty, N.I.A.S, Bangalore – 560012.
Karnataka Jnana Aayoga
(Karnataka Knowledge Commission)
Government of Karnataka
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Vikasa Soudha, BENGALURU – 560001
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