4.10 Education for Social Development and Creating Futures
Report by the Committee (3)on Subdivision of Universities in Maharashtra State, appointed by the Government of Maharashtra , Aug. 2011

Abstract

This is a part of the report of Committee (3) on the sub-division of general public universities in Maharashtra. The Committee appointed by the Government of Maharashtra under the Chairmanship of Prof. Ram G. Takwale was given charge of suggesting sub-division of general public universities and creating small and efficient universities that offer higher quality education with equality of opportunity for students, research in the context of globalization and students' employability both at home and abroad. Solving these requirements was possible only through evolving a new approach for a New Age Society. Using Information Communication Technology, learner and learning- centred higher education, creation of District-wise autonomous university campuses, autonomous colleges and a central support structure, and learner autonomy in choosing courses. Goal-orientation and performance-based evaluations are among the features of this paradigm that links education to social development, eradication of poverty, the removal of disparities and ignorance. Some other characteristics of the New Education include constructivist learning methodology, a mixed mode approach of capacity building, capability building, co-creativity and use of open educational resources, using e-portfolio for performance-based evaluation tool based on relevance, work satisfaction and transformative value with productivity outputs of wholesome work – or in short a process – result based social development education.. (By: LA)

PREAMBLE

Maharashtra has a great tradition and culture of voluntary social service in education and social work. Education is always perceived as a modernising instrument of socio-economic transformation of society. The aspirations of taking education as a tool and instrument for change, for learning for life reconstruction with social and cultural goals; and is considered a way for progressing and enriching oneself and one's own people. This is also a struggle between self and selflessness, and efforts for getting a share of work and work- benefits for self, pariwar and 'our' community is the way of living and working. It has further become an attraction and basis of becoming powerful and wealthy, and obtain fair share for living, progressing and being happy and satisfied.

Education has, therefore, formed an instrument of progress and modernity, in using classical and new ideas, concepts, methods and approaches in working and using new tools and technologies in working, developing, creating and changing. A society develops and prospers on the basis of culture (attitudes, approaches and practices) and wealth created, and on working and using technologies for producing socially useful and productive work. This is a process of yoga and udyoga (industry). Living and working with a proper balance of culture of self and selfless life with voluntary work with selflessness and sacrifice by giving more to the society and taking less from it. Creativity and generosity displayed by each one as a trustee of what one creates, possesses and shares with others has formed the foundation of culture and prosperity of people and society.

Education is a life-long and life-centric learning process for knowing oneself, finding one's own intelligences and talents, and nurturing and developing them in one's personal and social life. This is also the basis of work one does, individually and in a group, and creates wealth, monetary, physical as well as non-monetary, and cultural enrichment of oneself and our society.

The new age, now getting formed with new digital technologies, which has formed a basis of globalisation and global communication, is now creating A3 (Anyone, Anytime, Anywhere) Connectedness with massification of technologies through mobile connectivity of higher and higher generations that uses now 2G and 3G connectivity, and will soon be going over to use 4G connectivity.

In this '*Age Transition*' from industrial society to post industrial society with A3 connectedness, forming education system that can help shape and reconstruct future society as well as futures of students and their learning and developing, is a great millennium challenge. We have ventured to suggest New Education using self-governance, self-development and work-centric learning and developing. This is a constructivist work-based learning and is now getting introduced at various levels of education (Activity Based Learning). The new system is to be developed by all, together in partnership with cooperative and collaborative work.

The Report development and presentation has been distributed among the three Committees. The Comm-1 has considered the approaches, polices and pathways for the reorganisation of Higher

Education and New Education, and suggested Innovation Eco-System and e-Platform in A3 society based education system. The Comm-2 gives the regulatory and statutory structure for the New Education system, and Comm-3 has considered radical reconstruction of existing Higher Education, and suggested linkages of education with social development and social transformation. All the three Committees together give a way for the New Education to create Futures for our young generation and people, who are going to live and work in a New Society based on knowledge economy in a A3 connected and life-long learning society.

Our Committee-3 was given the task to consider the sub-division of universities into small autonomous units, new universities, for working efficiently and offering quality higher education. The Comm-3 considered the issues involved in the context of globalisation and newer ways of learning and developing that are now emerging in connected society. Our report and ideas were also developed in the long discussions we have had while finding new paths and broad ways for learning and developing. *For giving different ways and viewpoints encountered in the Committee deliberations and in finding the New Education, the Comm-3 Report has obviously become quite big. We have, therefore, reorganised presentation of the Report that can be divided into three parts covering:*
- *Executive summary and Recommendations*
- *Main Chapters of the Report – Chapter 1 through Chapter 7*
- *Enclosures 1 to 4*

We suggest readers for their fast reading to read part one, which gives longish but relatively brief account of the Report; and go to the Chapters in part two for details. In part two also, Chapter-7 gives more details of Report Implementation aspects. Part C gives details of ideas and structure for Innovation Eco-System and e-Platform suitable for selecting choice based course by learners, and existing Social Wealth creation programs by NSS students.

The Committee would like to thank Government of Maharashtra and particularly Shri Rajesh Tope, Hon. Minister for Higher and Technical Education for entrusting us with this very important assignment. Thanks are also due to Mumbai University and Higher and Technical Education Department for their support to committee's deliberations and work.

Such an important Report should be shared with all the concerned people of Maharashtra and outside. We, therefore, suggest sharing this Report on the Government Website with people of Maharashtra.

We sincerely consider and hope that this document will form an important approach to the reconstruction of the existing society and transformation of it into a new society through this transformative tool and technology of new social developmental education for social transformation.

Ram Takwale
Chairman, Committee-3

EXECUTIVE SUMMARY

Report by the Committee-3 on Sub-Division of Universities in Maharashtra Education for Social Development and Creating Futures
Terms of Reference for Sub-division of Universities

The Committee appointed for sub-division of universities in Maharashtra considered the observations and Terms of Reference in the GR Letter and equivalently considered the use of globalization to raise quality and excellence in higher education, to link education with employment and wealth creation, and to ensure equality and justice for all learners in Maharashtra for suggesting Sub-division of Universities in Maharashtra.

The Committee noted the huge burden of administrative and affiliating functions, of evaluation with centralised examination systems, and of the pressure of large number of students and colleges affiliated in the University Education system. The colleges are started with good social intentions of taking this modernising instrument to remote parts of Maharashtra for regional and social development. However, this expansion has degrading impact on the quality and relevance to education and research in Maharashtra.

The Committee has the difficult task of considering the current scenario of education, guidelines suggested by the National Knowledge Commission (NKC), various approaches proposed and also the social expectation from Higher Education to support higher GER, and also the emerging new socio-economic and technological scenario being created due to ICT (Information Communication Technology) or Digital Revolution. The total consequence of the Digital Revolution is the transition from the industrial to the post-industrial society, globalised and connected nature of the society and the new-liberalisation being acquired by the New Connected People. The 'age transition' is going on and may take couple of decades to mature and stabilise into a new social order. This has made the task of the Committee-3 very complex. To find out new paradigm of education, is to find educational processes independent of 19-20th century industrial technologies, and find those mechanisms of futuristic nature of digital technologies for designing a new paradigm of education. We have, therefore, to rely on the universal processes of learning, working, developing, creating, organising and socially transforming, and to create a new paradigm of education for creating 'FUURES'.

Current and Emerging Scenario

The number of university level institutions in Maharashtra has now increased to 42 out of which 22 are public universities and 20 are deemed universities. Out of total 3258 colleges, 2182 are of arts, science and commerce and the rest are professional and engineering colleges in addition to 178 polytechnics. The total enrolment is 32.83 lakh students (21 lakh in general colleges). The three big universities of Mumbai, Pune and Nagpur in the State alone account for 61 % colleges and 44 % student enrolment. Existing higher education has already created regional rural-urban disparities in development, increased differentials between poor-rich, rural-urban, developed-undeveloped and has no solution except the 'downward percolation of development' and inclusive approach and not based on equality and justice. The NKC norm of one university per

150 colleges will require new 26 universities by 2015, more than one per district. Further, the universalization of secondary education, rise in GER from existing 18 to 25-30 and covering the needs of the future learning society and knowledge economy may require higher education system that cannot be designed with more and more universities- the principle of 'more-of-the-same'. Obviously this is not an approach to the education for the New FUTURE Society, and needs complete new approach and way to address its higher education needs. The 19-20th Century way of educational expansion is not a suitable NOW in the 21st Century.

Emerging A3 Connected Society

Recent reports of TRAI (Telephone Regulatory Authority of India) inform that 875 million out of Indian population of 1200 million are already connected by telephony. Of these 827 million carry mobiles. Nearly one-third of these connections are in rural areas covering nearly 50% rural population. The number of mobile connected people is fast rising. A connected society with mobile connectivity is fast emerging NOW with 1G (G is technology generation for internet connectivity) and 2G broadband connectivity. By considering the rate and nature of growth of ICT (Information Communication Technologies), it is safe to predict that by year 2020, almost all will be connected with 3G and 4G Internet technologies. The mobile internet communication will dominate transfer of information and **A3 Connected Society** (A3 -Anyone, Anywhere, Anytime) will be well established. However, these emerging ICT technologies will take more than couple of decades to 'mature' and 'stabilise' to frequent changes and subversions and to become a part of the people's socio-economic and cultural life. The current society is highly in a transitional stage of going from industrial to the post-industrial society (post-modernity).

Radical Reconstruction of Higher Education Relevant to A3 Connected Society

During the last decade or two the global social scenario has undergone radical changes due to the subversive inventions and mass-marketing of the Information and Communication Technology (ICT) gadgets - mobile phones, tablet PCs, broadband connectivity, networked facilitation services, etc. New digital revolution in India has begun and A3 Connectedness is eliminating space-time separation, creating new processes of sharing, communicating and giving access to knowledge resources to all.

Mass communication tools and techniques have empowered people with access to open knowledge (Open Resource Movement), which can now be used for radical reconstruction of the system of Higher Education (Education Revolution). Connected society with its global reach, Open Resources of Knowledge, Social Networking movement through face book, blogs, Wikipedia etc. have created new ways of working together, sharing experiences and using various tools and technologies for learning and developing. Till recently considered as the only centers of Higher Education, available for students for their empowerment through learning, creating and developing, are becoming available on various websites and open and omnipresent knowledge resources. This has created entirely different scenario for learning, developing and value creation and requires radical reconstruction of education to be piggy bagged on the Digital Revolution.

The New Scenario requires not only creation of Educational Information Infrastructure reaching out to each learner in Maharashtra, but also incorporation of new university functions of connected society, the functions of social development and autonomous self-governance, besides the traditional three functions of the university - creation, preservation and dissemination of knowledge.

New Education for A3 Connected Society

Our search for New Education from existing Class Creating Education to Mass Participating Education in A3 Society was greatly supported by the great educationists of India, Mahatma Gandhi and J P Naik, with their universal approaches of life-centric education, work-centric learning and future-creating education. Our education paradigm is therefore to create role based education to be linked with personal, social and connectivist learning and developing. We have proposed a new education model in which every student can be supported in his/her development through:

- *Capacity Building* with knowledge and skills through curricula and *traditional learning* processes (Self development).

- *Capability Building* with knowledge applications, and changes in social behaviour and attitudes through work-centric *Constructivist Learning* (Social Development and Change), and

- *Co-creation Building* through group, pariwar, community working together- *Connectivist Learning* (Social Wealth Creation)

New Education is based on work centric methodology of learning **for** development and learning **from** development (*Samavaya* or bootstrapping), introduces group cooperative and mass-collaborative learning and creating (production of socially useful work and services). This makes extension education and work a curricular part and A3 scenario makes possible the co-operative way of giving work output such as Wikipedia, Wikimapia, etc. A3 Connected Learning Society can create through its creativity and generosity a large store of open resources- the Common Wealth- the social commons for the use and benefit of all. New Education proposes to change the current education system **from** teacher and content centric learning-developing **to** process-result centric learning-developing of the learner and his/her learning.

Development Centric Global -Local Learning Approach

University education in the State is organised through a State Level Commission, the *Maharashtra State Commission for Higher Education and Development* (MAHED), supported by a *Apex Advisory cum Supervisory Council* (AASC) under the Chairmanship of the Chancellor and Governor of Maharashtra, to give policy guidelines and overview, programs and resources for development of the people of Maharashtra; and *Academic and Development Council* (ADC),

essentially consisting of leaders in academia and development sector to guide and suggest ways of best practices for education and development in the State.

MAHED establishes under itself the Five Divisions, which not only create the Innovation Eco-System for ALL students all over Maharashtra, but also e-Platform with rich Open Knowledge and latest technologies for learning and developing in the global and local situations. The e-Platform is a *Trans-Platform* and has high empowering and transformative value that can be added to everyone's learning and developing.

The five divisions of MAHED:

1. *MS-EDUNETS* offers digital and network services, knowledge and technology resources, facilitations and related support services
2. *Quality and Excellence Council* (QE Council) offers quality assurance, equivalence and affiliation services and helps in performance excellence raising efforts of learners, colleges and university campuses.
3. *Vocational Studies Division* (VS Division) offers large number of skill development courses and learning services through network of Vocational Education and Training services, industry placements, promotion to innovation and entrepreneurship support services in collaboration with industry and professionals
4. *Under Graduate Evaluation Division* (UGE Division) offers through Boards of Examination with on-line and on-demand evaluation services in formative and summative examinations to students from colleges and university campuses as well as to Open Learn Students
5. *Open Resource Empowerment* (ORE) Services Division offers social and group empowerment services through learning, development, value/wealth creation and social change and transformation.

MAHED essentially works by offering all the support services to all learners and education providers of the nature of administration, quality assurance, affiliation, evaluation and OER based empowering services to all learners and institutions. This is in principle a out-sourcing as well as in-sourcing by bringing in best quality professional services. With this umbrella of support services even a small and weak college can identify its role, and becomes autonomous in providing learning and developing services to learners. Finally a decision of using the MAHED services is of the autonomy of institutions. MAHED works with advice and support of AASC and ADC, in which the State, industry, academia and developmental experts/leaders and society participates, and gives services with corporate culture. This will surely work for empowering colleges and universities in maintaining autonomy and empowering them in the networked globalised world to be more competitive and effective in their survival and growth.

Implementation of New Education through Global-Local Approach
Role based course structure for learning and developing is based on capacity, capability and co-creativity development of a student and his/her groups; and is evaluated on the basis of **Knowledge** and **Skills** acquired (**Capacity**), Knowledge **Applications** by solving real life, work, lab-field problems identified by students from situational/contextual/localised/ real /virtual problems that will contribute to the socio-technological and economic solutions with value, and

change in personal and group attitude and social behaviour (**Capability**). Co-creativity is measured in terms of **personal / group wealth** and **social wealth** created. The evaluation tools are usual question papers (traditional content based exams) for capacity, evaluation metrics for capability, and personal and group reflections and 360 degree evaluation for change in individual and group framework. Only capacity based exams can be standardised and taken by the traditional ways of examinations. Others are to be left to the teachers, tutors, mentors, guides and the institution / university.

Researchers are well acquainted with capability type of evaluations. A big program of ICT literacy for e-Learning and Developing skills for various teaching and evaluation roles is therefore very essential.

In the traditional learning and evaluation there is no opportunity for creativity and innovation for learners. S/he has to follow teachers with prescribed content and process of learning. In New Education based on solving real life and work problems through assignments and projects, students have a lot more opportunity of learning from open resources, trying to solve issues and problems student has identified and are of interest to some of his people, and is therefore highly motivated and involved in learning and solving the problems and contribute his/her '*own solutions*'. Thus creativity, innovation and enterprise is displayed in the New Education and is quite a learning revolution.

New Education for Quality Education with Autonomy for Personal and Social Development
New Education starts with *samavaya;* a learning for development and learning from development through working and making the work wholesome and socially useful and productive. In the omnipresent knowledge world, globalised and A3 Connected, a learner needs higher capacity build for developing capability to the higher maturation level to produce work created and developed in innovative ways or value-wealth creation both of monetary as well as non-monetary nature of high socio-cultural value. The learning and developmental paths followed by an individual, group and institution in the globalised world; and his/her decisions at various interactions with unknown and new persons is to be guided by personal value and attitudes and cultural framework. The New Education in the open and global world has to be of high value and culture based practices. It is therefore essential to make New Education highly value and self-governance and self-reliant. It is therefore highly necessary to make this A3 Connected Society education self-reliant with well developed personal and group framework to live and work with honour, integrity and dignity.

This ethical value and autonomy orientation in the New Education in the global connectedness is the basis of new functions of education which should rely on basic values and social organisational principles of modernity enshrined in the Indian Constitution. The post-industrial era brings in post-modernity with new concepts of liberalisation and has to be supported by the State Government and modern social and civil institutions in education and social development. The New Education requires:
- Learner autonomy and freedom to choose courses and roles of his choices, capacities, capabilities to develop his/her innate talents and intelligences. S/he should have the

rights as well as perform duties, responsibilities and accountability to 'earn' education and development.

- Teacher as a learner and co-worker, and for playing various roles of teacher, researcher, guide and developer for which s/he is qualified, experienced and employed should have similar autonomy as well as duties, responsibilities and accountability. As his/her roles, teacher should contribute to the OER, observe high ethical standards and practices, and should maintain and display e-Portfolio for his/ her developmental performance excellence.
- Autonomy to University and Affiliated Colleges is to move to the constructivist work centric learning and developing students in their self, social and ethical development, help learning and developing group to identify and follow learning and development paths and to identify their place and role in the world of life and work, and promote life-long learning and developing. Each College and University Campus should follow a path of self development to rise in their performance excellence and achieve higher and higher position in the world of education, knowledge and development.
- Each college and university campus will create Study Canter to guide and help open learning students in their studies and development by providing essential quality support services by using central support services and facilitations.
- Every educational institution should have financial autonomy and should be able to charge operational fees as are decided by the MAHED and the State Government for all private and public institutions. The public institutions should obtain their development funds from Government grants and Project funding and from the personal and social wealth contributed by the College or University. Every student belonging to the disadvantaged and weaker sections of the society should get subsidy in fees, loans during learning period and opportunities in learn-develop-earn to support his/her education.

Linking Education with Wealth Creation and Livelihood: Issues of Equality and Justice

I-Eco-System with Trans-Platform (e-Platform) created by MAHED and all its resources and support services creates a *'level playing field'* for every learner. The issues of justice are to be addressed by the State Government and MAHED to give justice to disadvantaged and backward students and regions by taking specific measures. Free and accountable access to internet, access to e-Platform and quality support services to such students and institutions are some measures.

For linking education with wealth creation, employment and livelihood opportunities, the Multipurpose Skill Training Centers and their application centers could be created by VS Division in all district and block level places. Students should offer technical and vocational course, do experiential learning by doing industrial applications, work and give services that are socially useful and help in creating wealth/value addition and creation. Such works are to be obtained from local or urban and national / international industry, markets by using A3 Connections and doing virtual works. Often these jobs will be in tiny industries but they can be performed with knowledge and technology use that raises the quality to the work to the highest levels. Global job opportunities could be obtained to students from such Centers. Such work done and wealth created should have learning credits and be counted in course credits for some certificate, diploma or degrees.

Introducing learn-develop-earn courses for students as applied courses related to some academic subject or in other areas of student's need and liking, creates employment (self or social), and should be a learning process (developmental learning) to be evaluated with some tools and to be made a part of learning and developing programs. Students both independently or in a group should be promoted to establish small enterprises of service and production nature and should be helped in the venture with micro-credit funding.

Sub-Division of Big Universities for Raising Quality and Standards of Higher Education

The division of large university has been approached and solutions proposed by using globalisation and ICT by creating Innovation Eco-System of support services, high quality Open Education Resources and transformative and empowering technologies on e-Platform. The solution lies in A3 Connected L3 Society and the work-centric and innovation based New Education in all the affiliating autonomous colleges and university campuses.

All the Affiliating Universities should follow the path of creating district campuses and widen their roles and quality of education by establishing university campuses so that quality education could be offered to the learners from their associated jurisdiction,

Strong and quality **Open Learn Program** in which every student from formal or open stream depending on his/her choice and needs, should take some courses from Open Learn stream offered by the University Campuses and Colleges under the supervision of MAHED. It will be essential to integrate the open education facilities in Maharashtra of YCM Open University and Distance Education Institutions of Dual Mode Universities on the common basis with university-wise focus and identity of their services for socio-economic development of Maharashtra.

We recommend

1. Creation of District-wise University Campuses and making all affiliating colleges autonomous with the quest for raising their autonomy and self-governance for achieving higher performance excellence.
2. Creation of A3 Connectedness with I-Eco-System with e-Platform for New Education System will require fewer resources for creation and operations for any new University or its autonomous campus. The autonomous and networked nature and e-Platform enables every educational institution to focus on its core functions of academic and research work, and learner and social development.
3. It is proposed that 10 Affiliating Universities with the Department of H&T Education be sub-divided into 35 district campuses, including the existing ten public universities. Each District University Campus should be managed by the autonomous system of decentralized management with empowerment for academic and managerial autonomy with accountability. All the universities and colleges are to be A3 connected by broadband connectivity.
4. Every University Campus, existing and new, should have about 500-1000 highly qualified and active research teachers in their areas of studies and the total number of

students should be about 5000-10000 on the campus. They should carry out UG, PG studies and research and development.

5. Instead of establishing a new University for special purpose and special region, we may start with the proposed well established autonomous university campus at the district level by entrusting the special purposes and resources to the University Campus to fulfil the local or universal special needs expected to be fulfilled by the new University.

Financing HE Expansion and Development of University Campuses at District Places in Maharashtra

It is estimated that nearly Rs 4000 Cr (Rs 150 Cr per new university campus) will be required for the development of 25 new university campuses in districts where Public University Campuses are not now existing, Some funds will also be required to expand the facilities, resources and educational offerings including UG studies of quality. The period of expansion should be between 5-10 years and may start from NOW with the three big city universities from Mumbai, Pune and Nagpur.

MAHED Funding:

Funding for creating MAHED and its I-Eco-System, e-Platform and its support resources and services through five divisions should be funded by the State Government of Maharashtra through the Department of Higher and Technical Education. The Commission can be funded through:

- Additional Funds initially and later on through a percentage cut on the grants given to colleges and universities, since the services provided by MAHED will be reducing the administrative and managerial costs of the Colleges and universities.
- The yearly dividend obtained by the Department of H&T Education from MKCL share holding of Government can be passed on to the MAHED.

Various ways of funding have been suggested by the Main Committee and the Com 2 in their Reports.

Creating Internal and Social Resources:

1. MAHED can charge its support services to students and institutions and create incomes for development of Higher Education. All the educational institutions can follow corporate management culture and be accountable for their use of resources and in performance (MKCL created by the Government and Universities is a success story of a large partnership organisation of small enterprises)
2. Co-created social wealth can be converted into development funds for institutions.
3. Public-Private and Public-Private-Community partnerships could be resource generating – various ways could be invented (Innovations is the goal of education) to create internal resources.
4. University Campuses and Professional College can create incubation and facilitation centres (Vocational Skill Education Centers) with PPP, which may get some revenue for MAHED

and its VS Division. University and institutions can make the centers attractive to the society and earn some revenue.

5. Invite Industry Participation in creating 21st century university campuses with win-win approaches, private getting social development credits and costs with some legitimate financial benefits.
6. By promoting PPP (Public-Private Partnerships) and through private contributions from Corporate Social Responsibility funds or Social Capital with social development as their profits by Industry Trusts / Foundations, we may establish educational institutions to support education and prepare job ready personnel. We may invite industry trusts such as of Tata, Wipro, Bill Gates &Warren Buffet, etc and request them to establish a new University Campus with University Township.

Some Policy Recommendations
1. Every public university, affiliated college should be self-supporting in its operational costs.
2. Unit operational cost based fees be charged.
3. Individual Tuition Fee Subsidy should be paid directly in the student's bank account along with related accountability.
4. Educational Soft loans for paying tuition fees and living expenses.
5. A Learn-Develop-Earn Program with learning credits is to be developed in every university and college. Earning one's own fees should be the aim.
6. Central-Local structure of I-EcoSystem and e-Platform and MAHED support services should be able to reduce unit-cost of education quite substantially.

Towards Creating Futures
New Education tries to develop educational system that will offer OER based supporting services with tutor – mentor guidance, offer open and free space for every student for his/her creativity and innovation, and enable learners to earn education by solving socio-economic and cultural problems by identifying them from their own situations in which a student is located. A student has all the global knowledge and expert support available from open resources and can get helped from the interactivities on the e-Platform. Solutions obtained by students are owned by him/his group and contribute to the personal, group and social wealth. This linkage of education with creativity and innovation can prove to be highly motivational and involves students in the studies and development of the locality and people. This way of educating and developing obtained through Life-Long Learning paves the way for self and social transformation. Students can shape their own futures and future of society.

New Education is participatory and co-operative, and leads to the socio-economic development of individuals, groups and communities. It creates an approach to develop radically reconstructed society. Education for creating futures of the New Society is the goal of humanity in its post-industrial phase of development. Effective and efficient implementation of the New Education is a great challenge to all the learners, developers and change makers.

New Education should be nurtured and strongly supported by the State, the industry and society in creating a model of social developmental education for the progress and prosperity of Maharashtra.

RECOMMENDATIONS

Introduction

The three Committees were appointed by the Government of Maharashtra (Ref. vide sankirna-2010/(160/10)/vishi-4(part 1, 2 and 3) of August 23, 2010) to consider the purpose, policies, programs and structures of existing University system of Higher Education in Maharashtra, and suggest appropriate reconstruction of the existing system of public universities with large enrolment of students and affiliated colleges. The Main Committee 1 is to be integrative one for evolving approaches and policies for appropriate system of Higher Education in Maharashtra. The Committee 2 is to consider appropriate regulatory and governance structure for this educational reorganisation; and the Committee 3 is entrusted with the task of proposing sub-division of universities into smaller units or universities as is appropriate in the age of globalisation of 21st century society. The three Reports of the three Committees will no doubt be complementary to each other, and are expected to offer reorganisation and reconstruction of the Higher Education in Maharashtra for the New Age post-industrial society that is emerging in this century.

Terms of Reference and Sub-Division of Universities in Maharashtra

The Committee 3 considered the causes and consequences of the globalisation, as well as difficulties and opportunities offered by it for Higher Education. It also considered the educational thought, philosophy and culture of Maharashtra and India in learning and social development, and recommended many new ideas, approaches and policies, which are given in details in this Report. Of great significance is the use of the emerging A3 connected society and social networking along with opportunities for self-organization, creativity and global employment for the networked people; the access to global resources for learning and development already being used by urban young generation. This scenario of new age society is changing education and making it highly dependent on attitude to change and practices of the people acquired in the networked society.

In this context, Comm - 3 considered the observations and the TOR for Sub-division of Universities in Maharashtra and reorganised its Terms of Reference by considering post-industrial globalization as a means to:

- Raise quality and excellence in higher education
- Link education with employment and wealth creation
- Ensure equality and justice for all students / learners

The number of university level institutions in Maharashtra has now increased to 42 out of which 22 are public universities and 20 are deemed universities. Out of total 3258 colleges, 2182 are of arts, science and commerce and the rest are professional and engineering colleges in addition to 178 polytechnics, with total enrolment of 32.83 lakh students (21 lakh in general colleges). The three big universities of Mumbai, Pune and Nagpur in the state account for 61% colleges and 44 % student enrolment compared to the percentage in the State. One university per 150 colleges, a norm proposed by the National Knowledge Commission, will require to establish new 26 universities by 2015, more than one per district. Further raising GER from existing 18 to 25-30 and converting higher education as an instrument for the reconstruction of the New FUTURE

Society for its emerging knowledge economy and society will require many more universities. So creating more universities is a 19-20th century way of expansion (*more of the same*) and not suitable NOW.

Recent reports of TRAI (Telephone Regulatory Authority of India) show that 875 million are already connected by telephony and 827 million carry mobiles with them. Nearly one-third of these connections are in rural areas covering nearly 50% population. The number of mobile connected people in Maharashtra is fast rising. A connected society with mobile connectivity is fast emerging NOW with 1G (G is technology generation for internet connectivity) and 2G broadband connectivity. By considering the rate and nature of growth of ICT (Information Communication Technologies), it is safe to predict that by 2020 almost all will be connected with 3G and 4G Internet technologies. The mobile internet communication will dominate transfer of information and **A3 Connected Society** (A3 -Anyone, Anywhere, Anytime) will be well established. However, these emerging ICT technologies will take more than couple of decades to 'mature' and 'be stable' with frequent changes and subversions, and become a part of people's socio-economic and cultural life. The current society is in a transitional stage of going from industrial to the post-industrial society of post-modernity.

The present challenges in Higher Education are of concentration of university education in major cities of Maharashtra, widening digital urban-rural divide, and along with it, the divides of disparities in regional development, prosperity, progress and modernity. **Education** when linked with **social development** gives a basic tool and technique to ALL for people's development, which can be used effectively to create bright FUTURE of Maharashtra, particularly by using ICT and other technologies.

A **New Age of Post Industrial Society** is emerging. The old systems that were appropriate for 19-20th century models of education and development cannot be useful and relevant **NOW** when such revolutionary changes are taking place. What is **now** essential is to create a **Radically Reconstructed Education System** that will be useful to **create FUTURES** for the people of Maharashtra in the A3 (Anyone, Anywhere, Anytime) scenario of the Connected Society by founding the changes on equality and social justice.

We have therefore proposed a new way of addressing the problem of number of students and colleges, and the Sub-Division of Universities appropriate for the Post Industrial Society of the FUTURE.

It is therefore recommended that:

- To link education and social development, a program of *radical reconstruction of higher education* demanding extensive use of ICT (Information Communication Technology) infrastructure as proposed in the three Committee Reports be undertaken and supported by the State of Maharashtra.

- The State should play its role to protect neo-liberalisation of learners and their learning and developing in the post-industrial formation of the society. This is for ensuring autonomy in learning and development in line with Indian Constitutional obligations for all.
- The Developmental Education Infrastructure for the emergence of A3 Connect Society be promoted on priority with its use in:

  a. Creating Open Education Resource of global standards
  b. Creating empowering common support services for ALL learners
  c. Using these services and technologies on mass scale for promoting self and social development of our people in Maharashtra

- Enable and empower the students/learners and their educational institutions to become autonomous in working and developing by using self e-governance and social dependence for creating social development and change for creating the FUTURE quality education linked with development- self and social, economic and cultural - as demanded by the Indian Constitution.

Present Educational Model and its Appropriateness for the L3 (Life-long Learning) Society
Existing model of higher education adopted in India during the British Rule is typically British Education Model characterised by linearity, conformity and groupings or class creation which has dominated the current Education System. It is a Class Education model. It has been extended in areas of applications to industry, health, agriculture etc, and for various levels of post secondary education for Under Graduate, Post Graduate and Research Degrees. It is based on content learning with mastery through curricular content teaching and is highly teacher and content centric. It is based on personal excellence in logical / mathematical and communication intelligences, and neglects other forms of multiple human intelligences that are essential in life and work of any society. This has resulted in substantial failures in percentages of passing either in exams or in life. The model is suitable for capitalist developmental model of society, offers to an individual very high motivation of monetary benefits, status in society and position in power structures. The developmental model is highly competitive and not cooperative. This is obviously not suitable for mass education and certainly not in the L3 Society (L3 - Life-Long Learning) for creating Knowledge Economy based on equality and justice.

This is contradictory to the assurance given in the Indian Constitution for creating society based on values of equality and justice (values of liberty, equality, fraternity and justice) and organised with participatory democracy based on secularism and socialism (autonomous self-governed and self-reliant society- the *Swaraj*). An alternative to the Class Education was proposed in Nai Talim by Mahatma Gandhi, a great educationist recognised by the world educationists. However it was tried in India after independence and failed, because of inherent contradictions in centralised and decentralised nature of design principles reflected in the two models of the education, the British and Gandhian, and in developmental policies adopted, particularly the values and purposes associated with the policies of wealth creation and distribution.

We have proposed a work-centric learning and social development model based on the Five Lessons of J P Naik (another globally recognised educationist in the list of 100 great educationist of humanity, besides Gurudeo Rabindranath Tagore) for the *role-based education* to create

futures for the individual, groups, communities and society. This symbiotic integration of education with social development, tried and failed in the fifties in free India, was revived in the Education Commission Report (1966) entitles as Education and Nation Development, is now proposed for the L3 Society in a A3 Connected Scenario. This essentially creates a society with plenty and promotes decentralised and autonomous ways of learning and social development.

The **New Education** for the A3 Connected Society is integrating the education / learning and development and promoting L3 with creation of wealth. It is based on three approaches of Mahatma Gandhi and J P Naik:

- Mahatma Gandhi's *work centric learning* (Learning + Work + Technology ←→ Wholesome Work (SUPW))
- Mahatma Gandhi's *life centric education* (Education → Self and Social Development → Value and Wealth Creation → Personal and Social Transformation)
- J P Naik's Five Lessons for *Education for 'Creating Futures'* for individuals, groups and communities. (Role based working for creating futures by doing unique personal and group roles in real life and by becoming '**change maker**' by following learning and development paths with specific goals and mile stones)

The applications of these approaches have resulted in *Future-Now Model of Education*. The Role Based Learning is obtained through constructivist learning and development approaches being adopted now from primary education; and uses *Samavaya* (equal expenditure) of learning **for** development and learning **from** development. Learning and working is through activities resulting into work (Socially Useful and Productive Work). The work is done through the use of appropriate knowledge and latest technologies by making it wholesome, which requires a path of '*routine, rest, progress and pleasure*'. The aim of working and learning and giving wholesome work output is to create wealth and social change.

The New Education promotes mass participation in working and creating wealth, and in group development and transformation, and is therefore suitable for A3 connected society with life-centric social learning (cooperative learning) and working (Wiki processes and work output).

It is proposed that:

i. New Education with Constructivist Learning methodology be promoted with work-centric learning and developing in the A3 connected society.
ii. A system of **New Education** with *Samavaya* (learning for development and learning from development) be promoted with a goal of creating 'Social Commons' open for all through social learning, social wealth creating and using the wealth for social change appropriate for the equal and just society.

New Education based on Creativity and Innovation in a A3 Connected Society
The New Education needs to put all students, teachers, colleges and university departments on the e-Platform with LMS (Learning Management System) and digital frameworks with other support services made available on the platform. The teachers may engage students in a face-to-face mode in a classroom or in a distributed classroom. Students are provided with all the

learning material, lectures, presentations and essential notes by the teachers and are also made available on the homepage of the course on the website, and all the leaning material is available in the OER for the course. The class is more of a discussion and study by the students either individually or in a small learning group; and teachers and tutors helping them in the small or large groups to know the content - knowledge and skills - and its application to solve problems faced in the assignments or in doing projects.

The study has two aims and achievements, answering questions based on the content, the usual capacity building part (learning knowledge and cognitive and tool based skills) and applying the capacity in solving life or society or field / lab related problems and issues either individually or in a group, depending on the nature of problems. Tutors correct the answers. Students take formative exams and obtain a score. His performance is recorded in his e-portfolio along with comments of the tutor / teacher. His assignment work also finds a place in the personal portfolio. This way student completes his course study and takes final summative exams. His performance is in a course content mastery and successful application of it in the issues identified by a student in the assignments (capability building). All is recorded in the portfolio. Mentors assigned to a student in working at the college / department / field / workshop / community help students in doing the life or lab / technology related situational and contextual work.

It is thus teaching and learning work done individually or in a group and supervised by the tutors and / or mentors and can be carried out in a face-to-face situation or in virtual on-line situation.

Students are also required to contribute to wiki work on a website on some specific social issues related to their interests; and they do it individually and in a group and submit the group work report through mentors / guide / teachers. This co-creativity for social wealth / service could be recognised through the credit points for co-operative learning and developing, and contributing to social wealth. Project and wiki works could be on term / annual basis and is counted in the course end / term or yearend work assessment by teacher /department /college / study centre evaluation.

Students and teachers should have the basic ICT skills in network based learning, teaching and evaluating. (Learning and Development Literacy in connected communities).
Initially we use **mixed method approach** to education by combining:

- **Traditional Way of** Education in curriculum based learning and developing (Capacity building)**.**
- **New Education:** New Education based on activities, assignment work and projects with constructivist learning (e-Platform based) for **Capability** development.
- **Co-creation Building** in which **Learning is linked with social development** through group and Wiki working.

Constructivist learning based on activities can be used in all the three methodologies (cognitivistic, behavioural and constructivist) with a lot of freedom to learners to choose local-global issues and solve them. This can be adopted by each university and taken to a level of creative and innovative learning through assignment and project work. Student's creativity and innovation is promoted in these activities when students in individual and group work try to

solve the local problems of development by using global knowledge and latest technologies and contribute useful value / wealth through the wholesome work they carry out.

Essential paradigm shift is in freeing students from fixed content learnt by following a fixed process only for knowing and following the teacher / master / expert / guide. It is essential to learn from the best masters and guides, but identifying one's own creativity and talent by inventing one's own way by creating knowledge base while solving issues in assignments and projects. This will enable students to innovate and create through personal, group and community working. This is the appropriate way of creativity / innovation based learning. The work output of the assignment and projects contributes to the personal, group and social wealth. This creativity and innovations is value and wealth creation, and could be used for finding livelihood opportunities for students in life and work. This approach is already used in research processes; and it is now proposed to be used in all education with the omnipresence of knowledge in A3 connected society.

Such type of social work for creating social wealth is already being done in extension work through NSS, adult and continuing education etc, of the universities and colleges. NSS alone adds about Rs 20 crore worth of social wealth annually, without any credit in the curricular work. The approach here is to make the extension work curricular with credit points, the goal of Higher Education Policy in UGC Policy Framework (1976).

Our recommendations are:

1. **Promote New Education** in which learning and development is measured in terms of
   a. *Capacity Building* through acquisition of knowledge and skills both cognitive and tool/technology based.
   b. *Capability building* through working and learning from application of knowledge, social behaviour and learning, and change in personal attitudes and practices.
   c. *Co-creativity building* through small and big group cooperative working and learning and earning, wiki processes and wiki work participation in mass-collaboration and the personal, group and social wealth creation and contribution.

2. **Create Open Resources** of global and local nature for the situational and contextual learning and development relevant to the real life, work and futures' creation.
3. Create a '***ICT Literacy Centres***' in every college and university campuses to educate all teachers and learners in e-Learning and Developing Literacy Skills that are to be used for their roles in the working life in the A3 Connected L3 Society.
4. **Promote social organisation and empowerment** through learning and developing groups in creating personal / group wealth and in learning and developing communities for social wealth / commons creation for social prosperity and progress.

Global / Central-Local Level Structures for Quality Education for ALL in Maharashtra
Here Global / Central level refers to the Maharashtra level linked with National and International institutions for pooling resources for raising quality of Higher Education in Maharashtra. Local

Level refers to the University and its Campuses at district level and colleges located at a locality in a district / block.

Central Structure

It consists of *Maharashtra State Commission for Higher Education & Development* (MAHED / The Commission) and working for **Policy Making,** Resources **Creation** and their **Channelization** and offering **All Support Services** to learning and developing for all techno-educational activities in teaching, learning and developing processes. The Commission is empowered by the Maharashtra Universities Act 2011 and will have THREE main bodies:

1. Apex Advisory cum Supervisory Council (AASC)
2. Board of Governors of the MAHED
3. Academic and Development Council (ADC)
4. The MAHED has following Five Divisions for offering services:
a. Higher Education and Development Networking and Services (MS-EDUNET)
b. Division on Under Graduate Evaluation (UGE Division)
c. Quality and Excellence Assurance, and Affiliation Council (QE Council)
d. Open Resources and Empowerment Services (ORE Services)
e. Division on Vocational Studies and Distributed Centers (VS Division)

The Divisions essentially offer Digital framework, e-Platform and all technological and administrative services (MS-EDUNET) to all concerned and networked, evaluation and undergraduate exam services (UGE Division) both formative and summative, and offers on-line and on-demand examinations by forming Evaluation Boards of autonomous nature. QE Services will link itself with all the IQACs in colleges and university departments / campuses and offer all affiliation services to universities. VS Division will link education with vocational and professional courses and create network of facilitation centres for skill education, linkages with industry and society and livelihood and employment creation. ORE Services offer Open Learn Program in cooperation with YCM Open University, DEIs of dual mode universities and support of formal universities and colleges for creating OER as well as Open Learn Channel to all students, formal and open, of equal quality, content and performance levels.

The Central Structure of MAHED built for the State offers quality education services with equivalence in traditional and open learning and can accommodate large numbers at lower levels of Associate UG (first two years) and UG levels, and offers networked services to all students, teachers, providers and institutions.

Local Structure

All public universities along with their colleges and students are to be connected to MS-EDUNET network system. Following types of institutions will be established at the regional / local level:

Affiliating University is reorganised and reconstructed with following Institutions:
1. University's Main Campus for organisation, administration and management of Campuses and colleges under its jurisdiction.

2. Autonomous District University Campuses for Education, Research and Social Development
3. Autonomous Colleges (NAAC B+ and above) and Empowered Autonomous Colleges
4. Affiliated Colleges
5. Associate Professional Colleges with Vocation Studies and Links with Livelihood and Industry
6. Empowered Autonomous Cluster Institutions and Special Interest Based Consortia of Colleges

Each Affiliating University creates A3 Connected scenario for its colleges and students; and organises Higher Education studies at the PG and Research & Development level, Under-graduate studies at degree level and Professional and Vocational Studies at the first 2 years level with skill education at the Diploma /Certificate levels. This is similar to Associate Degree program in Community Colleges. University should help in increasing GER and link education with locality development.

The autonomous nature of the institutions is to be used to fulfil the wide variety of needs of learning and development of students as well as of people / community around.

Already nearly 23 lakh students in 7 Public Universities are connected by MKCL through Internet services by e-Suvidha for learners, and Digital University and Digital College frameworks cover 73% of the 2350 colleges of 6 Universities, besides 60% Study Centers of YCMOU. This could be a starting point for building A3 Connected Networks and e-Educational Infrastructure in Maharashtra.

While creating the Central-Local networks, we have used the principle of outsourcing commonly used for using highly profession services and freeing Colleges, and University Campuses from administration and routine managerial work, so that faculty concentrates on their core functions of education, research and development wherein they have their domain expertise. MAHED is expected to create the central backbone and structure to create Educational Communication Infrastructure required for giving freedom and autonomy to every student anywhere, anytime and for creating e-Platform for level playing field for all learners in Maharashtra.

Recommendations
On the basis of the Maharashtra Universities Act 2011, following enabling structures be established:
1. *Enabling Central Structure* as given above to offer global knowledge and up-to-date post-modern technologies and support services for personal and social / institutional learning and development in the educational model being created for the transitional measures as well as new model of education by creating A3 connected Educational Infrastructure
2. *Create* I-Eco-System environment and e-Platform for all to learn, create and innovate, and search for L & D Paths with the goal to find place for one-self and their group a place in society and world of work
3. *Reconstructed University structure* with Autonomous District University Campuses and autonomous colleges as well as affiliated colleges with their path of development to autonomy and their new roles in A3 Connected learning communities of students / learners, teachers, educational institutions and other stakeholders to achieve goals of learning and developing.

4. *Promote wider opportunities for learning and developing* by offering variety of higher education courses at the base of higher education pyramid by maintaining the same quality norms for face-to-face and in Open Learning courses with learning freedom for course selections; and offering support services of the same quality and relevance to students for both the traditional and open stream students.

5. *Choices as per the talents and needs* will create students, who go out to world of work for developmental working and learning for being effective in society, and only some will take advance courses to go for academic and professional courses requiring specific logical, communication and profession specific intelligences.

University Structure for linking Education with Social Development

1. Affiliating University should be reconstructed with academic and development centric bodies and officers. We particularly recommend the university authorities as:

a. SOUL - Society University Partnership Council, Board of Management, Academic and Development Council

b. Planning Board for Techno-Social Transformation, Schools of Developmental Studies, Board of University Education and Development, Board of Studies, Evaluation Board, and the Board for Open Resources and Social Empowerment

c. Major changes are in introducing development in various bodies to make social development and self-governance as the key functions of value creation in connected society; Domain based faculties are replaced by the Schools of Development Studies in various areas of development with Deans of Development Studies, Development is inducted in other bodies, Departmental structure is unchanged but grouped under Schools.

d. Open Learn Stream is introduced as a part of every university and college through its Study Center.

e. Each autonomous college and even the affiliated college should have similar self-governance structure but with small size bodies with teachers / heads in change.

f. Since Autonomous structures of University Campuses and Colleges are being governed by the Institution with teaching – learning and formative evaluation functions, and supported by the use of central support services of MAHED, the University and its Campuses and Colleges are not left with much of routine administrative functions. Further digital university and college framework does automatically many tasks and the college saves on the administrative costs. Conduct of evaluation and affiliation could also outsourced for their informational and routine tasks, and the Universities and Colleges, therefore, become quite autonomous and focussed on their core functions; the teaching – learning –development functions.

2. Affiliating colleges follow self-development path to autonomy and performance excellence by moving from their initial status of:
Affiliated College → Autonomous College (With NAAC B+ grade and higher) → Empowered Autonomous College
Within a fixed time frame, all the existing colleges could be autonomous. They should maintain their autonomy by maintaining high quality, standards and relevance and should move on to the path of higher and higher performance excellence. In this developmental path, MAHED and QE Council can help each college in their quest towards excellence and higher affiliation stages.

3. All the Colleges and Universities and its Autonomous Campuses should follow RTI Act and show transparency in all the relevant policy decisions and their implementation information should be displayed on their institutional website.

Autonomy of Learners, University and Affiliated College
Learner, Learning and Developing:
1. Learner will have freedom to choose the subjects of his/her liking and will have the right to achieve his/her learning and development goals. S/he has to do all the duties, observe responsibility and accountability in studying, learning and developing as well as in social collegial activities.
2. *Ensuring student / learner autonomy and accountability in the knowledge society is primary for the creativity and innovation in the creation of FUTURES.*

One of the major outcomes in New Education is not the more of the same, but more with higher quality and higher levels of achievement and performance.

Teacher, Teaching and their Different Provider Roles
Teacher is firstly a learner: life-long-learner and developer. S/he has to play multiple roles of lecturer, expert, tutor, mentor, guide, co-worker and co-creator, manager, organiser, academic and development leader, etc. Teacher has to:
1. **Play multiple roles**: Researcher, Developer, Teacher (Tutor and Mentor), Guide etc to support student's Learning and Developing - individually and socially
2. **Guide and shape the CHANGES** in students and their groups in their working and developing by giving scaffolds of Teacher Services of academic and technological nature.
3. **Follow Constructivist Learning approach** through Work/Activity Based learning and development with Assignments and Project based studies.
4. **Promote Wiki processes, co-creativity and quality of Wiki resources** and help students' organization to develop and nurture innovation and creativity and their use in creating social wealth.

It is obligatory for every teacher as a part of his/her duty and service to students, in classroom as well as outside, to present all the learning material given to / intended for the students on the website / home page of the course in OER.

Teachers can be
1. Existing teachers working on permanent basis.
2. Tenured teachers with three/five year assignment with opportunity to continue in tenure.
3. Contractual appointments for fixed period –Non-tenured teachers.
4. Temporary and contractual appointments for the job and work assigned (Empanelled Teachers, panels created by the University).
5. Outsourced work to teaching providers (group of teachers or provider institution) from inside or outside the education institutions..

Teachers will be assessed on the basis of student feedback and their performance, on personal portfolio of teacher's work showing progress in teaching, learning and up-gradation of his/her knowledge, skills and performance level.

Management Bodies – Major Changes
New learning, developing and co-creativity processes and their outcomes will lead to social development. All students in higher education in Maharashtra (about 33 lakh) participating through their assignments and projects in the social development (each for 100 hrs/year), can create nearly 33 crore man-hours of resources resulting into wiki work or social wealth. This is thrice the work contributed yearly in creating Wikipedia by the existing contributors (100 million hours / year). Students not only learn but co-create through co-operative learning (production learning, service learning and experiential learning).

Since education is getting linked with social and national development, the top bodies and authorities should have more representation of experts involved in actual development and its studies.

Autonomous and affiliated colleges should be managed by a few bodies (Executive Committee, Academic Council and Social Development Council) and the bodies should have adequate participation in Academic and Social Development Council of professionals, industry and external academia of high repute to guide the college.

Recommendations:
1. All these requirements needed to link education with social development as well as A3 Networked working should be incorporated in the MU Act 2011.
2. Two new functions of social development and autonomous self-governance should be included in the Act.
3. MAHED has the responsibility to tackle the transitional and last mile problems in the transition towards the New Education for the A3 Connected Learning Communities of teachers, learners and all related stakeholders.

New Education System: Processes, Methodologies and Mechanism
Global-Local or Central–Local model gives opportunity to create **Innovation Eco-System** (I-Eco-System) for Education and Social Development with the help of A3 Connectedness and globalisation. Global knowledge and expertise available either openly or freely could be captured in the Open Education Resources (OER) with role based courses based on constructivist learning. A problem solving approach given in the assignments or identified in project work or in the contexts created in the lab or field requires knowledge that cannot be found in the fixed curriculum designed to learn specific content. Hence the process of education changes:

FROM **Teacher and Content centric education** *TO* **Learner and Learning centric Education**

Focus changes **from** content learning given in curricula **to** process-result learning in solving problems and issues identified in assignments and projects. This is a new paradigm of education. It concentrates on capacity building essential to solving problems from real life and work or real issues in science and technologies or in any other field. In such problem solving one has to have a role to play and learning is based on knowing basic concepts learnt at the level and depth of

knowledge and skills that enables learner to find solutions. Localised and situational issues linked with life, work and development related issues through universal need, local solutions for the benefit of the locality and people. In fact concerned people or stakeholders could be the partners in solving problems. A copy approach in such a situation is completely inappropriate. Thus education gets linked with locality and situated problems and their solutions. Education gets linked with social development and involves the stakeholders, each one having to play a unique role in solving problem and achieving development.

Role of the Central Structure: Supporting Learning and Social Development
The e-Platform and learning and development environment created on the Platform is the major function of the Central Structure and its support services, knowledge and technological services. It will offer e-platform based opportunities for interactivities between students, teachers and experts. Peer learning is identified as the best way of learning and is used by many in self-learning. Learning is natural when allowed to happen in a natural and creative way. I- Eco-System should use all these ways on the e-platform and enable students to learn independently with the help of best global resources through OER.

Educational Methodologies and Approaches
1. Methodologies of learning used in the New Education with A3 connectedness will be a mix ways of cognitivistic and behavioural learning and new work-centric constructivist learning. We will also have a blend during the transitional period of curricular learning and work centric learning as given earlier.
2. Every autonomous college and university campus should go for learning and development in which capacity is used to develop capability of a student, and group with group/social wealth creation. Affiliated college in the initial stages will use capacity development as the main aspect of learning and later on move towards capability and co-creativity development. In the process, they will identify top talents in various intelligences and promote them to be innovative and creative. This will be the role of a teacher and colleges/university departments. Objective should be to develop *reflective and creative thinking*, academic and professional development linked with futures for oneself and for society.
   All these methodologies of learning will ensure *wholesome personality development* of a student and his/her group, community and locality.
3. *Learning and Developmental Streams*: All the universities and colleges shall provide the *four streams* of courses (each carrying definite credits) and curricula:
g. Academic Stream
h. Technology Stream
i. Professional and Social Stream
j. Personality and Cultural Development Stream

Every student should have the freedom to choose courses essential to develop self, group and society and, if courses of quality are not available in the college, student has the freedom to choose courses through Open Learn Stream. Every college, autonomous or not and University Campus Departments offer their courses on e-Platform. Open University and dual mode DEI offer these facilities to all students. So they offer courses not only to non-formal learners but also to regular students in colleges and University Departments. MAHED and its QE Council has a

great and important role in ensuring equivalence, quality and relevance of these courses on some norms based on performance excellence of students. There is a danger of easy low quality courses driving good and quality courses out of educational offerings. (Bad money drives good money out of market!).

Recommendations
I. Process-Result based Constructivist New Education:
a. MAHED should establish Global-Local / Central–Local model on **e-Platform with I-Eco-System,** with all the support services, communication technology use in the networked A3 scenario with access and opportunity of success for every student of Higher Education in Maharashtra.
b. The Open Education Resources (OER) with its content for role based courses be created by the Division of ORE Services in partnership with all universities and autonomous and affiliated college and Open Learn Channel be established for all. .
c. It is obligatory to all teachers and experts working in the HE System in Maharashtra to contribute their best learning materials related to their course teaching.
d. OER should have Curricula with Role Based Courses, which should be on the basis of Concept Based courses for constructivist learning.
e. Focus in New Education should change from content learning given in curricula to process-result learning in solving problems and issues identified in assignments and projects.
f. The e-Platform and I-Eco-System environment created on the Platform is the major function of the Central Structure for its support services with rich knowledge and technological resources and services to students, teachers, experts and colleges and universities.
g. I-Eco-System should promote the use of the e-platform and its Open Resources to enable students to learn independently with the help of peers and best global resources.
II. Learning Methodologies
a. In the transitional stage, we use a blend of all the methodologies with cognitivist and behavioural learning and new work-centric constructivist learning. MAHED is to lead the change towards the New Education in partnership with colleges and universities,
b. In the initial stages, affiliated colleges will use capacity development as the main methodology of learning, and will slowly shift to the New Education.
c. Every University will ensure *wholesome personality development* of a student and his/her group, community and locality as the major goal of education.
III. Learning and Developmental Steams of Courses
a. All the universities and colleges shall provide coursed in the four streams of academic, technological, professional and social, personality development and culture related courses.
b. Every student should have the freedom to choose courses essential to develop self, group and society and, if courses of quality are not available in the college, student has freedom to choose courses from any other University and through Open Learn Stream.
c. Along with freedom, student observes his/her duties, responsibilities as well accountability, and accepts conditions for reforming the system by following ethics and good practices.
IV. Equivalence of Courses in terms of their Quality and Relevance
a. MAHED and its QE Council in partnership with Universities and Autonomous Colleges should ensure quality by evolving norms for equivalence on the basis of student's performance and excellence achieved.

b. MAHED should be vigilant to avoid the danger of easy low quality courses for passing driving out good and quality courses out of educational marketing. (Bad money drives good money out of market!

V. Evaluation of Student Performance:

a. It will be on the basis of personal e-Portfolio developed by a student for giving his/her learning and development, and will be measured on the basis of credits s/he accumulates and will be evaluated on the basis of:

- Requirements prescribed by the University or Autonomous College
  - Self-development - Capacity (knowledge and Skills development)
  - Social development - Capability (Development in capacity applications, attitudes and social behavior)
  - Co-creation of Social Wealth / Commons - Performance /results delivered, and Professional development
  - Personality framework development that includes individual and his/her social values and behavior.

b. Students can choose their studies as well as vocational courses to learn-develop-earn programs of colleges and continue to learn as a life-long learner. S/he may be a full-time student or own time learner.

State Level Evaluation Boards and Formative & Summative Examinations

The paradigm shift in New Education is to focus on process-result based studies; and in terms of evaluation, focus is on both the formative and summative aspects of process and results. The e-Portfolio is therefore an important developmental tool for student's study process.

The Capacity Development in terms of knowledge and skills could be evaluated by the traditional tools of questions and answers and lab-field testing. All the teachers and experts and senior students could be involved to create evaluation resources.

Recommendations

1. MAHED creates such a division or Body, which creates the backbone and framework for all the formative and summative services, prepares and offers evaluation resources, and offers academic formative and summative services on-line and on-demand.
2. We recommend a state-wide body by MAHED and four Evaluation Boards to promote UG level evaluation services with a view to equalisation of standards amongst the universities and colleges and offer evaluation services for all courses in a customised way.
3. Equivalence of curricula of different universities /autonomous colleges and examinations will have to be established under the guidance of the MAHED and its UGE Division and QE Council in partnership with universities.
4. *Capability* and *Co-creativity* building aspects are to be examined by the teachers and institutions-Colleges, University Campuses and Consortia of Colleges.

New Mechanism for New Education
Following mechanism in education are very vital for the New Education based on Open Education Resources:

1. **E-Platform, I-Eco-System** creating right kind of learning environment and opportunities, Learning and Learner Management System with digital frameworks.
2. **A3 Networks for learning and development** and organising special interest groups /pariwar and communities for wiki working and developing.
3. **On-line and on-demand Evaluation services** for formative and summative development of a learner.
4. **Credit Banking** and space for **personal portfolio** development and *free space* for personal creativity and innovation.
5. **Course Teams** of providers, teachers, experts, tutors for developing and deploying courses.
6. **Study Centers and SC Teams** of local experts and mentors for personalisation and localisation of work of a student and his/her group.
7. **OER** for Role Based Courses for learning and development.
8. **Community and stakeholders** related **Networks:** For learning and development groups in community of interests and role of a student and his/her groups in their development.
9. **Creation of Commons and Social Wealth** for developing Equal and Just Society

Linking Education with Wealth Creation, Livelihood, Prosperity and Progress
MAHED with its Division of Vocational Studies can create a network of vocational training and create tech-voc education resources with the help of industry and social institutions where usually such a man-power is required at the workers or supervisory or higher levels of employment. The services may be required locally, regionally or internationally. The MS-EDUNET services and various mechanisms to be created by the VS Division, in partnership with professionals and their associations and industry partnerships, can create local partnerships at block / district / and the State levels and provide relevant vocational training for their employment. The professional / vocational training and production centers can be established in each colleges (mostly for soft skills) and Vocational Centers either at the Associate Professional Colleges or higher level Professional Colleges with win-win partnership with industry, and managed and run by the professional with corporate and company culture. This should not be left with academicians since they do not have such professional qualifications and experience to run such centres.

Similar is the case of working with people for field developmental work aimed at wealth creation through vocational and social work. We should have partnerships with NGOs, the State and other field development agencies to participate in the social work for social wealth creation and social development and change. Many colleges and universities have done such social work but there is no learning out of it. Linkage of all such socio-technological and economic developmental work should be made a part of *co-operative learning (production learning, social service learning, and experiential learning)* by using group reporting in which evaluation of work is done through some tools, and counted as learning credits for personal or social or professional development.

Earn and learn scheme is quite popular in many rural colleges. Students usually do physical work of lower skills and the work has to be subsidised. We should change the approach and with the help of skill development centers established at various places with the latest technologies such a

MIT FabLab, pilot production centers, incubation centre etc, students should be encouraged to undertake social and economic developmental tasks by employing higher knowledge and technologies and offer the services for which they can earn money or social credits for contributing social wealth. The products and services of such work should be of highest quality and relevance possible. In fact in India, industry engages persons in nearly 87% jobs done by people (tiny industry) in services to earn a tiny amount and somehow survive on such jobs. Such a tiny industry and SMEs needs such type of training in quality raising and taking the products and services to highest national and international levels. Students with some encouragement from small, medium and even big industry can do such jobs with high knowledge and technology inputs for value addition and create small enterprises. They should be promoted by such Vocational Training and Professional Education Centres by giving financial micro-credits to students.

Recommendations
1. Establish Multipurpose Skill Training Centers in colleges and Associate Professional Colleges; and students be encouraged to learn vocational skills and apply to earn their livelihood and create social and personal wealth. Such work should have learning credits and be counted in course credits for some certificate or diploma degrees.
2. Introduce learn-develop-earn while students are taking academic courses in their applied subjects or in other areas of their need and liking. Creating employment (self or social) should be a learning process to be evaluated on the basis of some tools and be made part of learning and developing programs.
3. The Skill Training centres should run not only as enterprise and creativity centers but also as finishing school centers for production, marketing and wealth creation processes.

Many innovative ideas could be generated by students while learning; and small tiny enterprises could be created with production and service quality of national and global standards. Outcomes will be addition to the personal, group and social and financial wealth. Students can find their employment and livelihood and contribute to the prosperity and progress of the individual, group and society. MAHED and particularly AASC can play very important role in this development.

Inclusion, Equality and Justice in Higher Education in Maharashtra
I-Eco-System with mechanism of Trans-Platform (e-Platform), MS-EDUNET reaching every student, teacher, provider institution in rural as well as urban areas, and a global – local model of social developmental education, and use of Open education Resources (OER) accessible for all on the e-Platform along with quality support services offered by the five divisions of MAHED for all learners, creates the environment of '*level playing field'* for offering higher education with inclusion and equality.

Equality of access and success ensures to some extent justice to all the disadvantaged from rural or urban areas. Inequalities arising due to economic disparities, particularly poverty based have to be taken into account by ensuring subsidies to get access on the e-Platform and special compensatory packages for their social backwardness.

It should be noted that in the New Education linked with social development, it is not the *giving-taking* or *provider-consumer* process of education, but *taking - earning* or *prosumer* (Producer + Consumer) model of education aimed at nurturing thinking and reflecting abilities for creativity, innovation and enterprises to become successful in developmental education.

We recommend some policy decisions to ensure equality and justice:
1. Give connectivity access and its free use to the backward regions and disadvantaged learners on priority basis. (Free and accountable access to internet)
2. Access to the e-Platform should be ensured first to the backward region in the State
3. Quality support of learning services should be ensured to the students of the poor and rural sections of society.
4. Subsidy given directly or indirectly be deposited directly in the personal Bank account of the student and its accountable use is the responsibility of the learner, which s/he demonstrates with record of performance achievements

Sub-Division of Big Universities for Raising Quality and Standards of Higher Education
The problem of sub-division of universities with large enrolment of students and colleges, that will be coming in Higher Education now and in future as knowledge economy and life-long learning society emerges and becomes inclusive to cover every one (democratisation of education), has been approached and solved by using globalisation and ICT by creating Innovation Eco-System of support services and high quality Open Education Resources and transformative and empowering technologies on e-Platform having high transformative value. The solution lies in A3 Connected L3 Society and the work-centric and innovation based New Education in all the affiliating autonomous colleges and university campuses.

All the Affiliating Universities should follow the path of creating district campuses and widen their roles and quality of education by establishing university campuses so that quality education could be offered to the learners from their associated jurisdiction.

In spite of these efforts, the University Campuses will not be able to cover more than 10-15% of total UG students. Similar will be the case for PG courses and research functions. It is therefore proposed to have a strong and quality **Open Learn Program** in which every student from formal or open stream depending on his/her choice should select some courses from Open Learn stream offered by the University Campuses and Colleges under the supervision of MAHED. It will be essential to integrate the open education facilities in Maharashtra created by YCM Open University and Distance Education Institutions of Dual Mode Universities on the common basis with university-wise focus and identity of services for socio-economic development of a student and region of Maharashtra.

Establishing New and Special Purpose Universities in Maharashtra
There will always be a demand to create a new university for a region or for special purpose. The approach to New University in the connected society should now be changed. It is not the isolation of a university but its functional integration with other universities and colleges for establishing co-creativity, help society around to develop socially, economically and culturally, and use global knowledge and resources for the success of a student.

Every university should distinguish itself by its culture of quality and excellence, the socio-economic model of development it promotes, the brand and level of commitment of its faculty and students, and the achievements for which its faculty and students should excel and distinguish themselves. Achievements of innovation and creativity, their translation into socio-economic and cultural developmental of society, and the global recognition it receives in the New Age of post-modernity should decide the distinctive nature of each university and the autonomous college.

Creating a new University with special purpose, either of global or local needs, is but a small step. It could be done by promoting the related District Autonomous University Campus with special grants, resources and special functions to form a new university. The University District Campus created in each affiliating district of affiliating University, and run as an autonomous unit of the University successful with quality and excellence achievements, becomes a good potential candidate for the new University. However, instead of following 20th Century practices, we propose that a new approach be followed for creating a new University.

We recommend
1. Creation of District-wise University Campuses and making all affiliating colleges autonomous with quest for raising their autonomy and self-governance and achieving higher performance excellence.
2. Creation of A3 Connectedness with I-Eco-System with e-Platform for New Education System will require fewer resources for creation and operations for any new University or its autonomous campus. The autonomous and networked nature and e-Platform enables every educational institution to focus on its core functions of academic and research work and learner and social development.
3. It is proposed that 10 Affiliating Universities under the Department of H&T Education be sub-divided into 35 district campuses, including the existing 10 public universities. Each District University Campus should be managed by the autonomous system of decentralized management with empowerment for academic and managerial autonomy with accountability. All the universities and colleges are to be A3 connected by broadband connectivity.
4. Every University Campus existing and new, should have about 500-1000 highly qualified and active research teachers in their areas of studies and the total number of students should be about 5000-10000 on the campus. They should carry out UG, PG studies and research and development.
5. Instead of a new University for special purpose and special region, we may start with the existing well established autonomous university campus by entrusting the special purpose and resources to the University Campus and fulfil the local or universal special needs through it in the networked scenario of Higher Education.

Immediate Subdivision of Big City Universities
It is recommended that Large Universities (Mumbai, Pune and Nagpur) will immediately have:
- Main Campus and Sub-Centers/Campuses at Suburb and District Places.
- The existing and new campuses are created as autonomous campuses and add undergraduate education programs as a part of the academic activity linked with PG and Research and Development programs.
- Main University Campus functions with all the central bodies and authorities for promotion, coordination and quality assurance of all the campuses of the University and its affiliated colleges.
- The basis of sub-division is not on numbers but the need of quality and relevance of higher education both for PG and UG courses and strongly linked with socio-economic development of the district/region. We may recommend forming Sub-Campuses at the undeveloped district places and create Campus facilities for quality education and development.
- While selecting Campus Place for a new University center, linkages with resources required for its creation and development as well as industry nearness may also be taken into account besides the availability of large campus area for its development.
- University follows a policy of creating large campuses with up to-date Research, PG and UG facilities. Main University carries all the authority; and sub-Campuses will have delegated autonomy with authorities for efficient functioning and raising quality and relevance of higher education in their learning, developing and social transformation processes.

Financing HE Expansion and Development of University Campuses at District Places

It is estimated that nearly Rs 4000 Cr (Rs 150 Cr per new university campus) will be required for the development of 25 new university campuses in districts where Public University Campuses do not now exist. The period of expansion should be between 5-10 years and may start from now with the three big city universities from Mumbai, Pune and Nagpur.

MAHED Funding

Funding to create MAHED and its I-Eco-System, e-Platform and its support services through five divisions should be provided by the State Government of Maharashtra through the Department of Higher and Technical Education funding. The Commission can be funded through:

- Additional funds initially and later on through a percentage cut on the grants given to colleges and universities since the services provided by MAHED will be reducing the administrative and managerial costs of the colleges and universities.
- The yearly dividend obtained by the Department of H&T Education from MKCL share holding of Government can be passed on to the MAHED.

Various ways have been suggested by the Main Committee as well as by the Comm 2 in their Reports.

Internal Generation of Resources

- When privatization is accepted as a policy by the State Government, it is natural to expect that both the private and public institutions in Maharashtra should have the same level playing field in terms of fees for tuition and development. Equality and justice should be ensured by providing subsidy and soft loans to disadvantaged students directly.
- Higher Education system as developed in our Reports is linking education with socio-economic development; and creates job-ready students in many hard and soft skills useful for industry and society. A student has an opportunity to work, learn and earn his/her costs by obtaining and applying knowledge and skills to socially useful and productive work. This also carries Credits for developmental learning.

Permanent supply of resources: financial, academic, technological

1. Central Bodies of MS-EDUNETS, UGE Division, VS Division, QE Council and ORE Services can create resources from their services. Corporate and professional culture of operations should be employed for efficiency and productivity. (MKCL created by the Government and Universities is a success story.)
2. Co-created social wealth can be converted into development funds for institutions.
3. Public-Private and Private-Community partnerships could be resource generating – various ways could be invented (Innovations is the goal of education)
4. University Campuses and Professional College can create incubation and facilitation centres (Vocational Skill Education Centers) with PPP, which may get some revenue for the MAHED and its VS Division. University and institutions can make the centers attractive to the society and earn some revenue.

Industry Participation in creating 21ˢᵗ century university campuses

We aim to have job ready personnel by promoting PPP (Public-Private Partnerships) and through private contributions from Corporate Social Responsibility funds or Social Capital with social development as their profits by Industry Trusts / Foundations in establishing educational institutions to support education. We may invite industry trusts such as of Tata, Wipro, Bill Gates and request to establish a new University Campus with University Township.

Some policy Recommendations

1. Every public university, affiliated college should be self-supporting in its operational costs.
2. Unit cost based fees be charged.
3. Individual tuition fee subsidy should be paid directly in the student's bank account.
4. Educational soft loans for paying tuition fees and living charges.
5. A Learn-Develop-Earn Program with learning credits is to be developed in every university and college.

New Age University in a New Age University Townships

All the new university campuses could be created as a part of New Townships appropriate for the 21ˢᵗ century technologies, industries and networking practices (Ref to the Main Committee Report). The University should work with people for social development and partner with private industries with PPP and have a win-win model instead of promoting profit maximization. The model of socio-economic development based on the approaches of social business and social production model with social benefits could be developed by offering jobs and work to the poor and disadvantaged after their training in quality skill development. A '*Maharashtra without poverty'* could be the goal for such social enterprises.

Many corporate bodies these days are creating huge funding foundations for supporting and creating a new industrial and cultural society by supporting many social and educational programs, (for example, Tata, Wipro, Bill Gate Foundations). We may invite such foundations to be a partner in development of the University Township and New Age university based on autonomy and self-governance models with PPC Partnerships. The foundations can create and contribute social capital for the development of a University Education and support social change to establish emerging Knowledge Economy and Knowledge Society.

University system has the challenge to evolve social developmental /business / production model for the new age society formation and development.

INTRODUCTION

Globalization brought about by the **Information Communication Technologies** (ICT) is changing not only domain of communication, but also economy, social working and organization of the people. ICT is creating technology based society (Techno-Society) with new processes and mechanisms that are continuously emerging, changing. These are, in turn, changing and restructuring the entire society. This revolution is being brought about by ICT. Researchers and technologists are inventing and marketing other technology applications; and people are using them in life and at work. A **New Age – Post Industrial Society** is emerging. We all are in the transitional stage. The old systems that were appropriate for 19-20th century cannot be useful and relevant **NOW** when such revolutionary changes are taking place.

What is **now** essential is to create a **Radically Reconstructed Education System** that will be useful to **create FUTURES** for the people in the A3 (Anyone, Anywhere, Anytime) scenario of the Connected Society. Government of Maharashtra, with the leadership of the Hon'able Minister for Education, has taken a very visionary step in appointing three committees. The role of these committees is to:

- Find out the nature of New Globalized Society
- Explore new ways of communication as well as education
- Suggest appropriate New Education System that will offer relevant education to the new generation of learners in Maharashtra

The approaches, measures and methodologies suggested for the New Education for the New Age should enable higher education to address the problems of number of students and colleges, their quality, relevance and applicability of the degree education to the globalised as well as localised scenario that is emerging now and by 2020-30.

The New Education System should link learning with the development of students, not only in academic way but also help them with their carrier paths for their livelihood in local as well as global society along with socio-economic development of Maharashtra.

Formation of the THREE Committees and Committee (Comm - 3) on Subdivision of Universities:

The Government of Maharashtra has appointed three committees:

1. First one is the Main Committee for overview, policies and final recommendations (Comm - 1)
2. Second one is for the regulatory framework for the Public Universities in Maharashtra (Comm - 2)
3. Third one is for the Sub-division of the Universities (Comm - 3)

The Committee on the Sub-Division of Universities is essentially formed to sub-divide big universities like Mumbai, Pune and Nagpur into smaller universities or their sub-campuses. This hopefully will make them more quality oriented and globally competitive. The committees worked together in which:

- **Comm -1**, headed by Dr. Anil Kakodkar, discussed and proposed policies, approaches and designs of the institutions (forms and functions)
- **Comm - 2**, headed by Dr. Arun Nigavekar, proposed the nature and forms of governance of the university authorities and bodies, mechanisms and approaches for the New Age University system.
- **Comm - 3**, headed by Prof. Ram Takwale, while considering sub-division of big universities, proposed reconstruction and reorganization of higher education in the form of New Education to serve the New Age requirements of the A3 (anyone, anywhere and anytime) connected society that is emerging rapidly.
  The new society will have a clear picture about its techno-socio-economic development by 2020-30.

Terms of Reference (TOR) of Comm - 3 and their Reorganisation in the New Context

Briefly the terms of reference (TOR) not only of Comm-3, but also of the other two committees were given general observations in the Introduction of the Letters of Appointments (Ref. vide sankirna-2010/(160/10)/vishi-4(part 3) of August 23, 2010 for Committee-3. Following are the observations:

- It is the responsibility of the Universities to offer quality higher education to its students and citizens.
- The Honorable Governor and JBVC members expressed their concern about falling quality and standards of higher education in Maharashtra.
- Students should be educated to make them capable to compete internationally in quality and competitiveness for research and job opportunities.
- Large number of students and affiliated colleges have created a huge workload of administrative, affiliating and evaluation functions on the University administration that has resulted in lowering the level of curricula, their relevance and modern nature; and on the whole, reduced performance quality and standards of students.
- By considering the suggestions of the National Knowledge Commission of having one university for every 150 affiliated colleges, Maharashtra immediately needs sub-division of three big universities (Mumbai, Pune and Nagpur) with 8 new universities and 18 more by 2015 for increased GER (Gross Enrolment Ratio).
- We may need many more universities when universalisation of secondary education takes place and citizens become life-long-learners in the Knowledge Economy and Knowledge Society, which are in the formative stages.

While proposing measures for making universities efficient and effective, the Comm-3 should consider the following (main TOR-given briefly):
1. Consider the measures used by other universities in the world.
2. Consider also the measures such as:
a. Forming subject-wise universities
b. Creating more universities by sub-dividing existing affiliating universities.
c. Create a State Board for undergraduate examinations and entrust matters related to affiliated colleges to such a Board with appropriate University authority.
d. Any other way of reducing the burden of universities and making efficient and effective in imparting education.

3. The recommendations should be practical, realistic and implementable.
4. Should suggest measures of good governance.
5. Consider also the new universities in view of the larger and ever increasing GER.

The globalisation and Information Communication Revolution has created global opportunities for our students for working and employment as well as opportunities for learning and raising standards through internet access to the omnipresence of knowledge now accessible to anyone connected to the networking. The usual approach of sub-dividing big universities into small ones is no longer relevant and need some other way to do the same thing but with different approach, which will enable to maintain high quality and standards of each autonomous unit of university as well as of an affiliated college. Autonomy is the key approach with networked support of all technological, administrative and knowledge based support services to all the university campuses, autonomous colleges and affiliated colleges as well as to 'open learning' students from anywhere anytime. Final goal of university education in the 21st century is to prepare students and citizens of Maharashtra to become competent and capable to work in and benefit from the emerging future knowledge economy and knowledge society.

In this context, Comm – 3 reorganised the TOR for Sub-division of Universities in Maharashtra and considered globalization as a means to:
- Raise quality and excellence in higher education
- Link education with employment and wealth creation
- Ensure equality and justice for all students / learners

All this needed radical reconstruction of higher education demanded by ICT (Information Communication Technology), which is based on emergence of the A3 (Anywhere, Anytime, Anyone), scenario to connect society with its global open resource and social networking movement. The New Connected Society has unleashed many ways of self-expression and forces of self-organization. Connected people are contributing their creativity and generosity for creating social wealth/commons. This demands a review of the PRESENT (NOW) education system to create FUTURE for students for their learning and development in the new society.

Committee - 3 Activities and Feedback
The Committee -3 on Sub-division of Universities held 5 meetings, received feedback from vice-chancellors and directors of BCUD as well as through detailed discussions with certain sections of Mumbai University (University professors, students and administrators). The committee feels that the feedback should have been still wider and from all stakeholders of university education system. The Committee had the opportunity to hear Sir John Daniel, the President and CEO of Commonwealth of Learning, Vancouver, Canada on his perspective of global higher education and his experiences.
We are thankful to the Hon'ble Minister for Higher Education and Secretary Shri Mahesh Pathak and his colleagues in the Department of Higher and Technical Education (Shri Jadhav, Dy Secretary) and Dr. Rajan Velukar, Vice-Chancellor of Mumbai University and Prof R S Hande of BCUD for the University support to the committee meetings and deliberations.

CHAPTER 1 - Brief Overview of Higher Education in Maharashtra

Expansion of Higher Education in Maharashtra was essentially seen after the independence in 1947 and it grew faster after the establishment of a separate State of Maharashtra in 1960. The former Bombay Presidency had the pockets of education and culture distributed across very few cities and princely states. Cities like Pune and Bombay had a long tradition of education and scholarship. This tradition has still retained the distinctive nature of the universities belonging to those cities.

Maharashtra has a great tradition of social reforms. During the pre-independence period, education, particularly, the one that was promoted by the schools supported by the British Rule started percolating in the social strata that was not having access earlier. This social and educational expansion continued and spread in all regions, districts and became the basis of further higher education.

Expansion and Educational Development: Qualitative Review

Higher Education (HE) has been an instrument not only of modernization but also for emerging into higher levels of social and economic status and esteem. In a society where majority did not have access to education, this was accepted as a social challenge and educational institutions spread all over Maharashtra at places and people unreached. Many educational institutions and educationists have created educational institutions and used social as well as political powers to spread education. This was legitimate aspiration in the new democracy. Maharashtra has seen rapid growth in social, economic and educational fields and the leadership has come up from all strata and places as well as from rural areas. The sudden expansion and urge to make education an instrument of social justice and status has seen sudden growth. The nature and need of education as a personalized learning process and its social developmental nature has been disregarded under the pressure of numbers. It expanded in many ways.

- Expansion of Higher Education to unreached places: From districts, to blocs and further interior places
- Expanding coverage of socially and economically disadvantaged and poor strata for access to Higher Education.
- Realizing the financial and administrative limitations, the State Government introduced various policies of privatization for receiving support from public and the rich. (No-grant approach, Management quota, Total unit cost based fees, etc).
- Expanded coverage of disciplines and professional areas to make education relevant to professional and technological development of the State

The number of university level institutions has now increased to 42 out of which 22 are public universities (19 State, 1 Central and 2 Institutions of National Importance) and 20 are deemed universities. Out of total 3258 Colleges, 2182 are of arts, science and commerce and the rest are professional and engineering colleges. In addition to these, there are 178 polytechnics, with total enrolment of 32.83 lac students (21 lac in general colleges). The three big universities in the State account for 61 % colleges and 44 % student enrolment.

Clearly the distribution of student enrolment and colleges are concentrated in 3 major cities of Maharashtra and rural area students rush to the cities for better education and job opportunities. The issue is to create a system of education that will keep them in their own districts and give all

the urban job and learning opportunities by using globalisation and ICT connectedness. This is a great challenge to be handled by using ICT in higher and technical education.

Three periods of HE expansions:
- More of the same during fifties, sixties, and seventies
- Expansion for professional and technological programs with privatization since eighties
- Introduction of Open Education stream for expansion, better quality and higher access

Challenges NOW
1. Globalization and its demand for quality, standards and competitiveness of education in Maharashtra - regionally, nationally and globally. This is now projecting disregard to quality while expanding the colleges and enrolment. How to raise the quality and standard of colleges and university education uniformly in urban and rural Maharashtra so as to be competitive globally is the major issue. Many other issues of educational management, resources and unethical practices neglected so far are now coming up as hindrances in global competitiveness and in the fast and liberal expansion of education internationally.

2. How to use globalization and liberalisation to enhance job and livelihood opportunities for our graduates now require high priority along with higher quality and competitiveness of education.

3. Problems of equality and justice to the rural and disadvantages students and regional imbalances will be coming up in education quite fast. How to support the disadvantaged learners and use the welfare state approach to ensure equality is another great issue to be addressed.

> *A globally connected system is emerging; technology is in the developmental stages and bringing up subversive interventions.*
> *A new challenge for all teachers and education institutions*

4. Raising quality, excellence and performance of learners, their learning, of teachers and institutions imparting education by some sustainable means is the main issue before universities in Maharashtra. In such a search, how to use A3 connectedness and access to open and global resources now available through internet access is the question that should attract our high priority.

Three streams of Higher Education
1. Formal and Traditional University and College education
2. Non-Formal and Distance and Open Education including dual mode university education
3. Informal /Extra Curricular / Extension Education

Privatisation as well as open and distance education has been adopted nationally as a policy for expansion of educational access in India. Disparities in standards in dual mode universities and open and other universities is always an issue, more of attitude and mind set and less of researched issue. The open and distance education stream has also considered more of expansion

and less of quality assurance in some of their programs. This has now created major issues, which are not objectively evaluated, but settled in favour of traditional approach. This is also a major issue and needs to be settled by using ICT connectedness and resource sharing by all the formal and non-formal students. This is now possible when A3 connectedness is created with intimacy of 2G and 3G broadband use.

All these different forms of education - formal, non-formal and informal that includes extension - are now present and accessible to all in Maharashtra in all colleges /universities. However, they are not integrated with curriculum and learning, and, therefore, do not have curricular credits and academic importance.

New Age Challenge
Since the advent of Communication Technologies and their applications in all walks of life, particularly during the last decade, many revolutionary changes are taking place. Creation of global connected society is the outcome. The technology is in the developmental stages and yet to mature. Many new devices and gadgets are entering into the market and in the hands of common people. As per the recent reports of TRAI (Telephone Regulatory Authority of India), 875 millions are already connected by telephony and 827 million carry mobiles with them. Nearly one-third of these connections are in rural areas and its numbers are rising.

The class most distinguished and attracted by the new technologies is the school and college going students and youth. Whether educated or not, they are using these applications for communication. The ICT (Information Communication Technology) has great features that are not available with other technologies. ICT gives access not only to people at distance but also to information and knowledge from all over globe, and youngsters are using not only latest generation of connectivity (2G and 3G) but many are going for self-learning with available free open knowledge resources and taking tests and certification available from all over the world. This scenario creates a new challenge of information age for all teachers, education institutions and the entire education system.

CHAPTER 2 - Educational Needs and Goals

"Learning for Life, Learning from Life and Learning throughout Life"
- *Mahatma Gandhi on Learning Society*

General Needs of Higher Education
We have completed first decade of the 21st Century. However we are still in the 19th-20th Century framework, and continue with old issues, processes, mechanisms and old approaches. Hybridization of new technologies with old practices is being tried by some. However, this will never lead to a NEW PARADIGM of education, which should use new technologies along with new practices, processes and mechanisms of the post-industrial society. Hybridization is creating many conflicting situations that need radically different approaches, designs and models of education. For example, when knowledge is omnipresent and available to every student anytime anywhere, content based teaching, learning and evaluation becomes meaningless and irrelevant. Instead of learning content based courses and assessing student's mastery in contents, it will be essential to **learn how to learn** various basic processes of **knowing, doing, working together and forming, reforming and transforming by creating and using social wealth and prosperity.**

New technologies are percolating far and wide in all living, working, social organizing and communicating processes globally. Global resources such as Google, YouTube, Blogs, Social Networking sites, Wikipedia are now open for every connected learner. Every new technology has two faces - brighter and darker. New generation has now to be nurtured in what to choose and why? Where to apply and where not to? New Education System has to make 'Searching New Ways' an integral part of learning, teaching, evaluating. Also the system needs to promote and nurture the process of creativity, innovation and entrepreneurship needed in the 21st century society. An Indian student of the **FUTURE** society has to be thinking and reflecting learner and must look at the changes that are taking place all around locally and globally quite critically before accepting and adopting them.

Radical Changes in Education: Linking Education with Development
Human society is now changing from Industrial social order to the new Post-Industrial Society. It is using the new technologies and reorganising itself with adoption of newer technologies and is creating new age practices. Education being sub-system of the existing social order will not remain unaffected.

The forces of change are socio-economic in nature and are guided by the economy and the wealth creation processes which are now becoming increasingly dependent on marketing forces, either global or local. This enables use of

Changing the social educational environment to achieve co-creativity through group working, and

education system products, the graduates and educated manpower, in the industry processes of giving products (artefacts) and services. Development of the nation is limited here to employment and increase in GDP needed by the society and nation. The products – artefacts - and services are traded in the society locally and globally by forming regional, national and global markets. This is a wealth creation process. Unfortunately wealth is measured in terms of money and private industries, having the goal of profit maximisation and accruing profits, mostly of monetary nature, influence socio-political and cultural life of the society. Education in such a situation has to play an important role of a change maker with some view of the society - perspective of the future of the society – and prepare the next generation and all learners for their future in this fast changing social scenario.

Education is to be linked with development; with self-development, including institutional development or/and social development, in which the system relies on the financial support either by creating wealth or by receiving grants-in-aid support. The system also enters into the activity zone in which moral values and ethical practices come into play. Education system so far remained isolated from social development, which culminates into wealth creation. The two stages– learning stage and working & earning stage - were isolated and are usually liked by the academia, since they were systemically separated. In a class creating educational system, this is inevitable and is left to the managers of powers that may operate in all three main forms of power- political, economic and knowledge.

Linking education with social development has therefore to face all these problems. However education when linked with social development uses newer learning processes such as cooperative learning: **production learning, service learning, experiential learning,** etc. Their nurturance is linked with working in small or big groups, and the value system and goal of working are adopted by the group in the nature of a group work culture. This group working and learning also require well accepted social organisational principles. They really control the goals, the forms of wealth creation, monetary and non-monetary. Further, the other forms of wealth – knowledge wealth, technology wealth, social wealth, ethical and moral wealth, and natural wealth– are of non monetary in nature and are not given due importance. Unfortunately, their conversion into monetary wealth alone is deciding the nature of marketing transactions. Market is therefore unavoidable if social development and livelihood creation is to be associated with education. The educational transactions have to be linked with all these wealth in this age of life-long-learning and development for socio-economic growth and progress. The education therefore has to play a fundamental role in shaping the minds and ways of thinking and working together of the younger generation. We, therefore, need "**radically reconstructed education**" system appropriate to link education with social development in the   ICT connected society.

In India, 83 crore people are already connected by mobile cell phones, and the rest will be connected within the next 5-10 years with increasingly intimate technologies of communication. When **anyone** is connected to **any other anytime anywhere**, we are creating closely or A3 (Anywhere, Anyone, Anytime) connected people located at their places and times and are creating **New Connected Society** (A3-Connected Society).

Essential Approaches for Educational System

Focus of education NOW in 21st century should be to create FUTUREs. Educational goal changes from only knowledge or information acquisition to its application to the future scenarios being created now and in the existing situations in the areas of:

1. Scientific and technological development and emergence of techno-society
2. Socio-economic development and change
3. Cultural and wealth creation processes based on ethics, values and social change forming secure and just society of the future
4. Empowering and Developing creativity, innovation and entrepreneurship for creating personal and social wealth and prosperity
5. Producing and co-creating Social Common Wealth (Open Resources and Wiki-organizations) for economy of permanence

The processes and results should provide access to all with equality and justice and offer equal opportunity for all learners to get success in life and work.

Major approaches:
1. Avoid **One-fit-for-all & More-of-the-same** approaches and promote group customization and mass-personalization by creating and using appropriate technologies (LMS, e-Platform etc).
2. Change **Content and Teacher centric education TO Learner and Learning centric education** with **Wholesome** Learner Development, that includes:
   - Self-development (Capacity development in terms of **Knowledge and Skills**)
   - Social-development (Capability development in terms of Application, **ethical/attitudinal and social behaviour**)
   - Personality Framework Development (In terms of values and social attitudes and behaviour nurtured in learner through *learning to be* and forming self.)
3. Create '**Marketing FOR Society' (Social Marketing) NOT 'Marketing OF Society':** This appears to be the main issue of social and economic development linked with education. Markets and trading is essential to convert one type of wealth into another in the give and take process. The transactions are either at the personal, social or financial trading /marketing levels and are broadly referred to as the 'business' process. Our approach is to prefer and promote, in the present connected society context, **social business model,** entirely based on ethical and moral values to ensure equality and justice for all in the Indian democratic polity.

   The focus of New Education is therefore to be on learner and his/her group work and their transactions of learning and developing, creating values of cultural and socially useful and productive nature. This will also need the environment of the social education based on cultural and socio-historical heritage of development processes of Maharashtra. The goal should be to achieve co-creativity through group working, and contributing to the Social Capital /Wealth creation. The New Education should therefore promote not only personalised learning but also cooperative and mass-collaborative working (such as Wiki processes resulting into Wikipedia) to achieve common social and national development goals. In all such change processes it is essential to start from **NOW**, where we are and go on making radical changes in the education system. Creating **FUTURE** through education is embedded in changing attitude and practices of the existing socio-economic and cultural systems. Changing social educational environment is therefore a great challenge. The Innovation Eco System will enable to change the environment within a short period under the compulsion of developmental needs with universal values and culture. Since learning is to cover everyone in the Learning Society, the goals of learning are

changing to creativity and innovation. This environment is, therefore, called as the Innovation Eco-System (I-Eco-System) in our Report.

Specific Needs Placed Before the Committee on Sub-division of Universities
The Committee on Sub-division of Universities is essentially given a task to find out solutions to ensure:

1. **Quality in Higher Education**
- As the universities are overburdened with administration and evaluation work, Quality of education has gone down in research and PG and UG education.
- With some exceptions, majority of students do not get right kind of education with high quality and performance excellence. This has reduced employability of students in India and abroad.

2. **Quantity in Higher Education**
- Number of students in the classroom is very high. Higher Secondary, particularly the (Junior) colleges have created resource constraints on the college campuses and increased administrative and student number related issues. Teachers are mostly engaged in teaching content and are not doing research. They are not able to absorb global changes in their courses. Teacher's personal attention to a student work is practically impossible. This has reduced their ability to make their teaching relevant to the individual needs as well as the needs of the modern and future society. Universities are faced with large number of colleges; and their affiliation and management problems dominate in academic bodies.
- Relevance in education is highly essential. However, mass education given in classrooms is not linked with applications to job and livelihood opportunities. This linkage is essential particularly at the Under Graduate level.

3. **Globalization of education with global employment opportunities enabling access to global resources requires changed approaches in education.**
- This not only requires raising the quality bar and cost-competitiveness but also aiming at higher performance excellence and making the learning creative/innovative.
- In professional courses, students should be developed to be job ready and should be given work opportunities. The student should be trained with latest technologies and work processes.
- Use of existing resources, creating new Open Resources and promoting open resource movement and wiki-processes and organizations is essential in higher education.

Education, in general, needs radical changes and the Higher Education system should be so designed that it will serve the purpose of creating a world class post-industrial society in India. This is a great challenge and opportunity for all educationists and social and economic leaders. This is a new age creating opportunity and should not be missed by Maharashtra and India.

Comm - 3 task is to suggest and recommend the system of education that will give the correct approaches, directions and ways to evolve the solution to the illusive triangle of quality, quantity and equality in education (Quality Education for All - J P Naik).

CHAPTER 3 - Philosophical and Methodological Approaches

"Education is essentially Yoga, Udyoga and Sahayoga"
- *Vinoba Bhave*

In this Chapter we consider, very briefly, the Foundational Approaches for the New Education Paradigm for the New Age (post-industrial age). The approaches have to be based on technology independent ways of education developed through Ages by great educationists and philosophers of India and the world. They will help us in finding right approaches and directions of development of the New Education in a completely New Age Society being created by new technologies, social empowerment generated by massification of new technologies and sharing benefits and having power in the new society organizations.

Various Approaches

There are many approaches and programs that have been evolved during the last century and the first decade of this 21st century. They essentially consider education in a holistic way and link it with development and social change. They include:

1. UNESCO's FOUR Pillars of Education for 'Learning To Be'.
2. Education for Sustainable Development (UNESCO- Decade of E4SD- 2005-14 & achieving MDGs (Millennium Development Goals))
3. Education is: Yoga, Udyoga, Sahayoga (Vinoba Bhave)
4. Life-Long-Learning in Knowledge / Information Society (Post modernity need)
5. Learning for Life, Learning from Life and Learning throughout Life (Mahatma Gandhi)
6. Education for Creating Futures for each student/learner and society. (J P Naik)
7. *National Education System* linking *Education and National Development* (Education Commission Report (1966))
8. *Open Resource development movement* for Creating Learning and Developmental Commons and pooling generosity of the society.
9. *Creating Economy of Permanence* based on social values of voluntary and selfless services. (J C Kumarappa)

All these approaches and their values need to be taken into account while designing and developing a New Age Education.

Prevailing Model of Education

Prevailing Model of Education, the Western Model, is useful for Capacity (Knowledge + Skills) Development. It is a form of Industrial Model of education and is designed on the industrial processes of linearity, conformity and bunching (Class creation model). This obviously relies on the needs of the industry and its mass production and global marketing processes essential for wealth creation and employment. The industrial process is hierarchical and factory management and their power and work are distribution for the goal achievement of the industry or the owner of industry, the corporation. Education has to support the processes for living; working becomes the essential part of the industrial culture and model of production and marketing. Usual goal is the maximization of production, productivity, marketing shares and monetary profits. Humans

are being treated as the 'resources' for industry / factory or as the customers for selling products. This makes every human being either a cog in the social machine to earn money or a customer. Separation of production and consumption processes and linking all industrial jobs in and around the factory /industry is the nature of the working of the industry and its supporting society. Main features are conveyer belt operations, division of work, work specialization and its routine and observance of well-defined product and service features (global or ISO standards of quality) for factory /industry work output.

In general, industry or working is the basis of social wealth and social welfare creation process in any society. Industrial age process of mass production and global marketing are not the processes of equality and justice for all in the society. Mass production and mass-marketing take away many livelihood processes from common people. Earlier in Agrarian Age, they were trained in various skills which were socially useful and accessible to every common person. Factory mass production and mass-marketing are obviously exploitative processes for undeveloped human societies and for natural resources. All the

> *Prevailing mode of education tests mostly for the mastery in content, the knowledge and associated skills; but*

issues of disparities and poverty are arising out of this model, unless the industry leaders take the role of becoming trustees of the wealth created and use human and natural resources with non-exploitation and to create culture of permanence. Furthermore, the wealth accumulation at the cost of other social wealth usually creates many harmful impacts on society. They slowly translate marketing *for* society into marketing *of* society. The society creates producer and customer classes and brings in inequality between the two. The whole process is more of competition and not of cooperation. In such a scenario, even though there are some good aspects of promoting creativity and innovation, wealth generation becomes a great motivator. The education system also supports the same values, the class creation and competitive approach.

The existing education model is useful to impart knowledge on the basis of accumulated knowledge resources available in libraries and with experts. It tests mostly for the mastery in content, the knowledge and associated skills and has '*conformity to standards*' as the main quality aspect. Certification enables learner to obtain jobs or further admissions to higher learning and specialized positions. This upgrade 'class' path has been very high motivation for learning and getting degrees and higher positions in careers. The model is highly competitive, standardized and does not promote cooperative learning and working together in the education programs. Certainly this is not a mass education system promoting equality and justice for all. Further, this model separates learning and working periods in life: one-time learning and all-time application in working during employment/working period. With the changing scenario and with A3 connectedness, access to knowledge resources is now available to every learner anytime anywhere. This has created a new scenario and need for a different education model.

UNESCO'S Four Pillars of Education

Sr. No.	Process Learning to	Result	
		Personal Development	**Group / Social Development**
1	Know	Knowledge	Social Knowledge

2	Do	Skills -Competencies	Social Expertise
3	Work Together	Cooperative / Collaborative Learning	Social Wealth/Capital creation (Monetary and Non-Monetary) (**Udyoga**)
4	Be	Self-Formation & Self-development (**Yoga**)	Social Development: Social Reconstruction, Formation and Transformation (**Sahayoga**)

UNESCO has given basic processes of learning and forming and transforming as:
- Learning to know
- Learning to do
- Learning to work together
- Learning to be

These processes, as given in the table, show briefly the links with the learning processes for knowledge, skills, applications and self-change and self formation in cases of individual and group learning. They can be used for groups with added processes of cooperative learning and developing, and formation and transformation of individual and group through working and developing. Thus the processes get linked with the educational processes of **Yoga, Udyoga (Industry) and Sahayoga (Co-operative Industry)**. These are personalized and group processes. If pursued for all the life, it becomes L3 and finding one's own goals and paths in life and work.

Learning & Development Paths are to be used for learning to be, preferably as a **Universal Man in a Global Society** with Universal Human Values (with core values and principles as given in the Indian Constitution). Paths have to follow the stages of:

Learning → Developme → Value → Transformatio
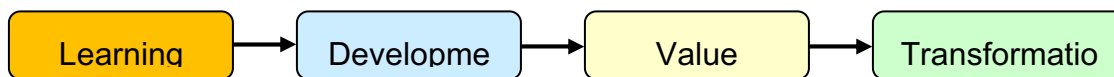
How to make all these processes and stages of development an integral part of the education is the main task for the education of the A3 Connected Society.

Model of Work-Centric Learning and Developing
A connected society with omnipresence of knowledge on www and open resource movement gaining grounds, knowledge in multiple media formats is now available to anyone anytime. This requires education to be linked with development, wealth creation and social transformation processes for an individual and a group or institution in their processes of learning and developing. The best model of education proposed in 1936 after experimentation of nearly four decades, is the model of Nai Talim or New Education proposed by Mahatma Gandhi. This model can be expressed as a recursive equation:

Education + Work + ⇄ Socially Useful and Productive Work

This promotes process of New Education (Nai Talim: Work centric learning based on basic industry processes) linked to Social Productivity and Social Usefulness of work (SUPW). Quality assurance is in the PROCESS and RESULTS (SUPW) and in the outcomes of work in terms of products (artefacts) and services provided. They are produced in terms of better work that is enriched with knowledge and technology, which, in Gandhian approach, is to be used rather non-exploitative and non-destructive way while making and doing **wholesome** work (**Wholesome** work is the work that contains **simultaneously** *Routine, Rest, Progress and Pleasure*)

> *The New Age Education is a mass-education based on work centric learning leading to process of education for*

Considerations of Quality and Excellence
Work based learning is useful for CAPABILITY Development (measured in terms of applications done, ethics and values observed and social behaviour displayed in working together). It is also linked with **perspective quality** of products and productivity. Quality in this respect is of

- Relevance (Fitness for the purpose)
- User / Worker Satisfaction (Value for the money)
- Transformative Value in personal and social change

These aspects along with standardised quality provide a sequence of quality improvement process that forms the quest for excellence - an internal quality improvement process of an individual, or group or an institution. (Quality is what is demanded, and excellence is what is achieved. The internal process of raising quality in the processes of **standardisation, relevance, satisfaction and transformation** forms the process of excellence. This could be adopted as the operational definition of the excellence).

Educational Model for Creating Futures
J P Naik in the last publication of his life (Book on The Education Commission and After, 1981) has given five lessons to create FUTURES, which give deeper insights in formative and transformative processes in society. They can be used as the Founding Principles or – **Mantras of Lessons** for designing '*New Education' for Creating Futures:*

1. Create a Picture of a FUTURE society
2. Link education with society (Social Developmental Education)
3. **Socio-economic transformation** is always accompanied by '**radical reconstruction of education**'
4. Individual and Society has to pay the 'price' for creating a National /Social System of Education
5. **Every citizen and every social group is an actor** (Change Maker) with its own unique role in the Social System of Education

We use these 5-Lessons as Approaches for the New Age Education starting from NOW to create FUTURES for every student and their groups (Family, Pariwar and Community).

Essential Features for the New Education of New Age
The A3 Connected society will now need a **New Education Paradigm and System** that should incorporate:

1. **Educational Information Communication Technology (ICT) Infrastructure** which connects learners, providers of educational services and all developers and transformers into a single network - the Knowledge and Development Network - accessible to all. The ICT Network is used to create a **'level-playing–field'** by using **state-of-the-art technologies** for all learners.
2. **Mass Education Model** (Work-Centric Learning) that can enable students to learn throughout their life and transform oneself into a wholesome personality with a chosen career by working and creating wealth for self, family, pariwar and communities.
3. **New Education** should be able to **create futures** for every learner and their groups, institutions and society.
4. **All citizens** should be enabled to participate in this **Social and National Education and Development system**, and should work and perform **their unique roles** as well as role of **change makers** in achieving their personal and social goals.

This is a **mass-education** approach based on **work centric learning** leading to process of education for **reconstruction and transformation of society**. In order to create New Society of the post-industrial age, it is essential to create education system with connected network and e-platform with resources and services that gives access and helps all students / learners in getting success.

Context of Globally Connected People and Knowledge Society

The emerging connected society and knowledge based economy will no doubt need highly flexible, need based education at different levels, in various fields of social and economic activities. By considering the number of colleges and their growth rate, the National Knowledge Commission of India has recommended one university per 150 colleges. Maharashtra alone will need more universities than one per district. As in the other developing counties, Higher Education GER (Gross Enrolment Ratio) in India is expected to go above 30 within this decade.

On the question, "Will universities become extinct in the networked world?" Prof Jim Taylor (Taylor, 2004) argued that the present traditional approaches based on conventional classroom teaching and learning and a hierarchical, bureaucratic academic structure would not be capable of meeting the escalating demand for higher education in the knowledge based society, and that universities must therefore adapt or face the fate of the dinosaurs.

For many institutions, as Taylor predicted, survival in an increasingly globally competitive world has necessitated change and the search for new markets / employment opportunities and value creation opportunities. The labels 'virtual education', 'on-line learning' and 'e-learning' have emerged to describe the application of ICT to enhance distance education, implement open learning policies, make learning activities more flexible and enable these learning activities to be distributed among many learning venues. (Farrell, 2001). This is easily enabled by the A3 connected global society.

Generations of Technology Used in Open and Distance Education

Prof Jim Taylor (2000) identifies 5 generations of Distance Education Technology/ systems:
1. The Correspondence Model
2. The Multimedia Model

3. The Telelearning Model
4. The Flexible Learning Model
5. The Intelligent Flexible Learning Model

Prof Jim Taylor charts their characteristics in terms of their flexibility as to time, place and pace of study, the refinement of the learning materials, the level of interactivity characteristic of the predominant media used and the impact on institutional variable costs.
Allen and Seaman (2003) have classified the first four *types of courses* on the basis of proportion of the content delivered online:

1. Traditional
2. Web facilitated
3. Blended / Hybrid
4. Online

All these are dependent on delivery of content; delivery of learning materials and learning services offered through internet and network by using various connecting devices- online and mobile. The online category may not have any face-to-face communication; it may be through devices such as Distributed Classroom and guided by tutors and mentors who offer personalised or group customised support services.

Important features of these FIVE generations of tele-learning are the separation of 'distance' between provider of education and student learning at a distance. With 3G connectivity, the audio-visual distance is vanishing, except the limitations of media of communications. The five generations are provider lead- the provider-receiver model of education. (pl ref Review by Andrea Hope, 2010)

All the distinctions between various modes of education or technologies vanish when students come on platform with A3 connectedness. This mode of education has no parallel in the history. A mode of education, called in sequence the 6th Generation Learning (6GL) model, is of education system in which all the learning resources, static as well as dynamic, are provided ON-PLATFORM. This resembles *Jatra* or Mall model of provisions in which education system is supported by teachers by guiding students in why, what, how and where to choose for shaping the futures of students in life and work. With the help of the e-Platform and all its transformative power, we will be creating a new paradigm of education - the transmode of education. In the new mode also, we will have to face the last mile problems of the modes of education, which we are currently using.

e-Platform Becomes the Trans-Platform
A new paradigm of education will be created through **e-Platform** on which all the latest learning tools and technologies useful for personalised and group learning will be provided. The e-platform automatically records all the individual and group activities and interactivities and allows the study of processes of learning and working together. This platform enables to offer support services on e-Platform; and helps creating level playing field for all.

Due to A3 connectedness, the e-Platform services and provisions can offer support and scaffolds to learners for the services of the type of *'just-in-time'* and *'just-for-me/us'* This platform is

therefore a transforming mechanism that can be created by all providers of education and learning and developing communities by working together.

The e-Platform enables to create New Paradigm of education once all the resources, global as well as local, and static as well as dynamic, are made available on the e-Platform. The education is not of the **provider** to customer / receiver type but **selection** by customer/receiver supported by tutors and mentors. In this paradigm, tutors and mentors have to play important roles. Simultaneously all the educational providers, the State and society have to join hands in creating such a 'level playing field' for all. Learners have to be supported by the appropriate policies to ensure equality and justice for educational access and opportunities for learning and developing, creating and innovating, and to create wealth -monetary as well as non-monetary. The e-Platform will also create organised and promoted processes of real and virtual organisations of learners and teachers into learning and developing communities so as to achieve the goals of social and national development. The Wiki processes of mass-collaboration and cooperation are the consequences of working on a platform. These are the multiple learning opportunities one gets in a connected society.

Highly personalised processes can now be added with cooperative learning, developing and working together processes in small group and mass-collaborative formats to create common wealth /capital for social good. The wiki processes and practices will change the nature of society and the world emerging.

With mass-collaborative and community cooperative working processes, the people can create socio-economic commons essential for total social development. This Platform may contain all the Open Education Resources (OER), global as well as local, created by all learners, teachers/experts and practitioners. They can be managed by self-governance and autonomy by small /large groups and communities with special interests. The transformative power of the platform depends of the OERs - knowledge, technology and other resources required for development, as well as the commitment and generosity of the people in collecting and contributing commons for all. Many paradigms of development could be created to develop many FUTURES appropriate for the individual and social aspirations within the framework of global human values and accepted social organisational principals. (as in the Indian Constitution).

Transition from NOW TO FUTURE
- Existing education system should go through radical reconstruction changes by using internet and forming connected society in which formal, non-formal and informal modes of education loses their distinction. This is a change **from NOW existing distinct modes (formal & non-formal) to the Technology Mediated Open and Distance Education (Tech-MODE) mode** for enabling access to all eligible learners. Higher Education for ALL learners with own-time learning and developing is now a distinct possibility. This is a hybridization of old model of education with new technologies that are promoting new models of education. (Hybrid or Transient Models of education)
- Distinction between the three modes (**Formal, Non-formal & Informal**) is completely eliminated when new processes and

Transition from

Formal

+

Non-Formal *Stream*

Integrated Modes of

Education to
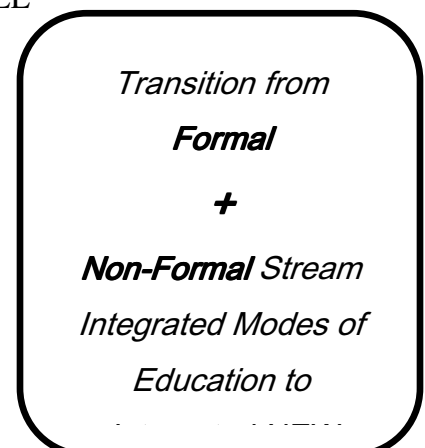
mechanisms created by the ICT are being used by the new society. The A3 connected society not only uses new technologies of communication, networking and new ways of management, but also changes ways of learning and developing. It is a **Trans-Mode Education** with processes and mechanisms created by ICT and used in the A3 connected people all over the world. The education becomes a great transforming instrument. This transformation is enabled by the **transforming platform** created especially for the education with use of LMS, support services for learning and open resources of knowledge, tools and technologies that are made available on e-Platform to every networked learner and developer.

- *In such a scenario, no distinction exists between formal and non-formal courses.* **Same courses and methods of communicating - Learning – Teaching - Evaluating could be used in real face-to-face and in virtual situations.**

Educational Concepts that can be used in Post-Industrial Society
Many of the concepts that are either not age-dependent or dependent on the new age processes can be adopted in creating new paradigm of education for the new ICT based society. Some of them are:

- Nai Talim by **Mahatma Gandhi** - (New Educational System): It is a work**-centric learning** for producing Socially Useful and Productive Work (SUPW).

Education + Work +	→	Wholesome Work / SUPW

- New Age with Open Resource movement (Wikipedia and Wikis) and omnipresence of knowledge changes the basic concepts and goals of education:
- 'Move from Class to Mass' Education; from teacher/content centric learning to application centric learning.
- Is based on continuous innovations / renewals of all that is involved in learning and working. (C K Prahalad, the Management Guru, calls '21st Century' as the 'Age of Innovation')
- **Move to Process-Result Based Education** and have pursuit of *Yoga, Udyoga and Sahayoga* as a part of life-long-learning. They are implied in the Four Pillars of Education of UNESCO. They are also similar to Baldrige Model approach for development and performance excellence in education, a variation of CMM (Capability Maturation Model). It is based on **levels of achievement in Learning and Development**.
- Educational Courses could be designed on **Role Based Education** with **unique role** as well as **change maker role** that can be identified and acquired by each learner or their groups in their living and working life.
- **Trusteeship or sharing ones creativity and generosity with people of the society/world**: Each one can consider himself or herself as a trustee of whatever one is having in excess; or can create something one is capable of for society and share it with all others (*Dana* as a *Dharma*) through wiki processes (accountable and open way of sharing). This enables to create learning and developmental commons for all, and gives opportunity to create a society based on equality and justice.
- **Move from** prevailing *Transient economy TO Economy of Permanence*; based on Sustainability and Core Values and Founding Principles as given in the Indian Constitution.

- **Peer learning** and **self-organization** start appearing and dominating in social action when latest technologies of communication are made available to all. (Clay Shirky: Here Comes Everybody) and people get organizational power without organization.

Post-Modernity Empowerment of Every Learner
- Transition in humanity is from:

| Tribal Society | → | Agriculture Society | → | Industrial Society | → | Knowledge/Information Society |

- Every age has added social structures and mechanisms for the prosperity, security, peace and happiness of people.
- Tribal Age has shown the ways of living with PLENTY of natural resources.
- Agrarian Age has added personalized processes of development and social organization with wealth production for safe and secure living.
- Industrial Age has added globalization, mass-production and global marketing systems to achieve national development, productivity and wealth
- Post Modern Society is producing PLENTY due to automated production systems, sharing resource globally and socially and making available decentralized and autonomous ways of learning and development that promote cultures and creativity.
- Post-industrial society needs Access and Support of Learning & Developmental Services to everyone through:
- A3 Connectivity
- Processing Power
- Access to OER (Global + Local)
- Contribution and access to large information databases: Creation and analysis of mega data / Information created by developers and service providers in the network
- Change Education FOCUS *FROM* Content Based Mastery *TO* Innovation, Creativity and Entrepreneurship based development /transformation:
  Content is just a vehicle; however, one needs domain knowledge and expertise in solving related issues of deeper and wider nature.

Education and Teacher Roles in Educational Revolution (Social Reconstruction and Transformation)
Employment of New Age technologies may lead to *Educational Revolution (Social Reconstruction and Transformation)*. Role of teachers is to:
- **Play multiple roles**: Researcher, Developer, Teacher (Tutor and Mentor), Guide etc to support students Learning and Developing- individually and socially
- **Guide and shape the CHANGES** by giving scaffolds of Teacher Services to form a learner/student, their groups/communities and their institutions
- **Follow Constructivist Learning approach** (Work/Activity Based learning with Assignments and Project based study)
- **Promote Wiki processes, Quality of Wiki resources** and their use for innovation and creativity
- **Create Learning and Development Groups, Pariwars and Communities** and participate and lead in their open learn processes

In this educational revolution and evolution of highly decentralized and autonomous learning and development centric education system, everyone is a change maker and has to carry out their respective unique role in the social change processes. The selfish forces of seeking power and

exploiting common or personal wealth for selfish living is constantly opposed by the self-less and voluntary social workers from society. This eternal conflict between power and morality in the mass developmental education system has to find its permanent resolution by strengthening democracy with empowerment to common people and participatory decision making in creating economy of permanence.

Education based empowerment with decentralized, autonomous and Enlightened Self-Governance by using mass-education processes is the final goal of education. It could be linked to *antyodaya* and *sarvodaya*.

Constructivist Role Based Learning Model for A3 Communities:
Project by I-CONSENT
The Nai Talim model did not survive and grow in the shadow of British Education Model adopted during the British rule. It had basic contradiction in its design that it was work centric, highly decentralised and personalised and was not appropriate for the Centralised Factory Model of Education based on linearity, conformity and promoting groupings or classes.

Revival of Nai Talim through New Education for A3 Connected Society
However, the nature of post-modern society is highly decentralised, mass-personalised and shares the resources and experiences openly and generously with all globally. This changed scenario of the Information Age makes the situation very appropriate to revive the Nai Talim in the context of A3 Connectedness and omnipresence of information and knowledge.

A group of dozen institutions, consisting of university departments, a college, research institutions, IT Corporation and NGOs have formed a consortium called I-CONSENT (Indian Consortium for Educational Transformation) and are evolving a new educational model based on constructivist learning- a Scenario-Situation Based Learning Model. The efforts are supported by the Commonwealth of Learning (COL), Vancouver, Canada.

The Education Model is based on:
- Mahatma Gandhi's work centric learning (Learning + Work + Technology $\leftrightarrow$ Wholesome Work (SUPW))
- Mahatma Gandhi's Life-Centric Education (Education $\rightarrow$ Self and Social Development $\rightarrow$ Value and Wealth Creation $\rightarrow$ Personal and Social Transformation)
- J P Naik's Five Lessons for Creating Futures. (Role based working for creating futures by doing unique personal and group roles in real life by following learning and development paths with specific goals with mile stones)

The applications of these approaches have resulted in Future-Now approaches - Scenario/Situation Based Learning, obtained by playing different roles in various scenarios created from real life and work situations that are related to creating futures. Learning and working is through activities resulting into work (Socially Useful and Productive Work). The work needs to be made 'wholesome' by doing iterative processes or reform loops for improving and internalising learning obtained from every iterative and development process (Developmental Learning). The learning and development is obtained through process of *Samavaya* (equal expenditure) of learning **for** development and learning **from** development.

Constructivist Future Now Education Model: the New Education

Development centric education has both the earnings - learning as well as self and social development as outcomes. Constructivist Future-Now Education methodology has outcomes obtained as learning and development, self as well as social, by doing activities and working in real life and work situations.

Money marketing or alternatively social marketing the work output leads to wealth creation both of monetary as well as non-monetary nature. This value creation process is the enrichment of the personal, group and social wealth. The non-monetary and non-physical wealth is of unlimited nature in the digital world, and needs no processes of societal and natural resource exploitation. Such wealths include Knowledge Wealth, Technology Wealth, Social Organisational Wealth and Ethical and Moral Wealth. Human survival is dependent on the natural wealth available with communities, societies, nations and the World. Preservation and enhancement of natural resources therefore becomes the responsibility of all and each one, since its growth has always a limit.

Industrial society model placed heavy emphasis on personal excellence and motivation, and therefore has self and competitive development as an important motivation for growth and prosperity. The model is a capitalist development model of education and of monetary wealth development. Money motivation is dominating and becoming prime mover to action.

Development in which we create wealth of any nature needs group working and learning together (Co-operative Learning) and brings in a value system of different nature in working and sharing processes. In a factory model, the collective action is organised on a conveyor belt operations and is not a creative or wholesome work.

In the A3 connected society, we promote wholesome work with creativity on e-Platform with cooperative working. These are the co-creation processes in which mass collaboration work (Wiki process) can lead to social wealth to be shared with all. This is a new co-creation process for wealth creation by all connected people and can form an important part of the A3 Connected society.
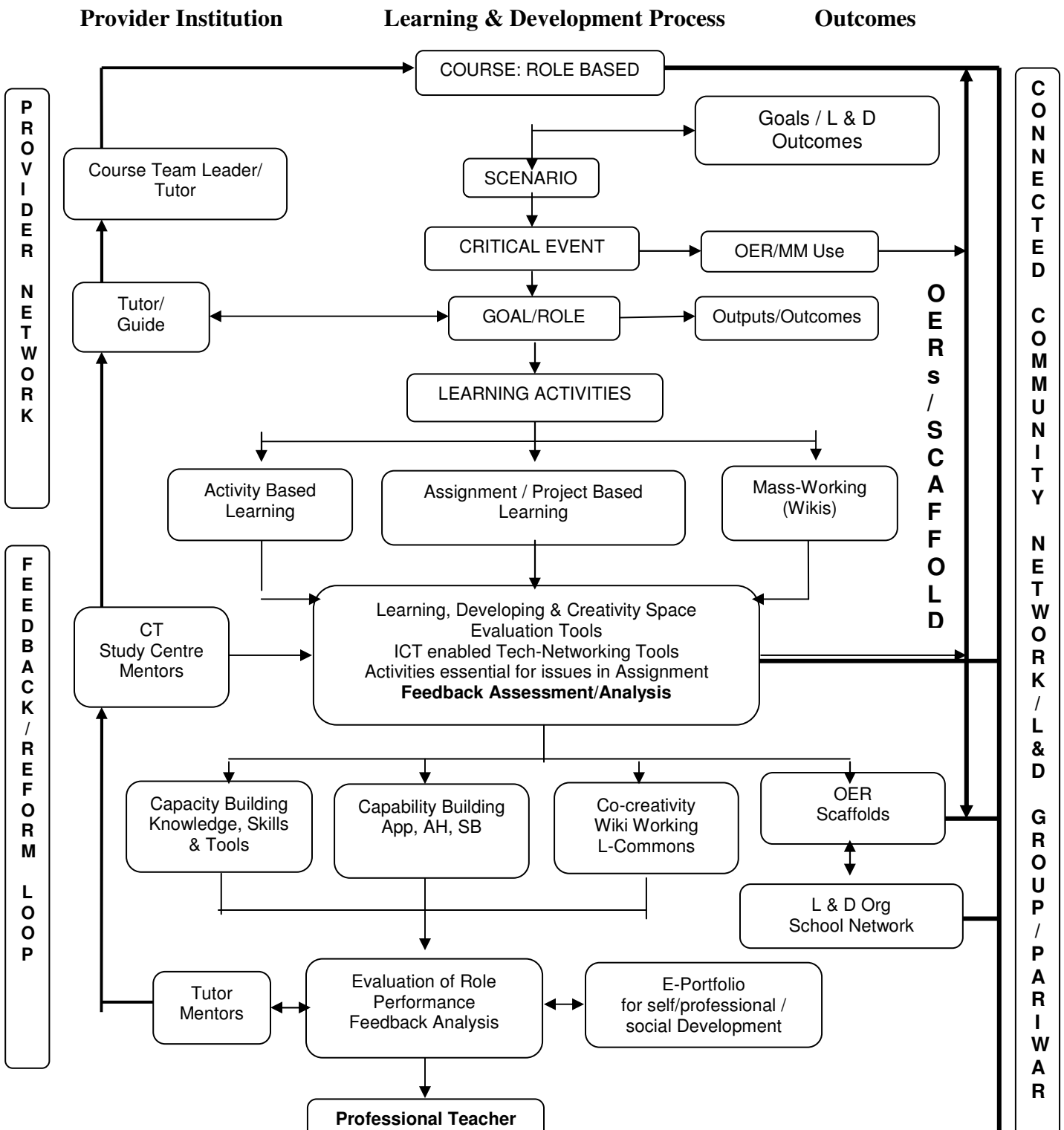
Wealth creation does not automatically lead to self and social transformation. It is also a process of Yoga; and needs self-developmental process of reflections and self control that should lead to changes in one's views, attitudes and practices in personal and social life. This is a personality framework development and should be a part of every learning and self educative developmental process. The Constructivist Method adds a personal portfolio development in which personal framework development is very important.

The model is given in the form of a chart on the next page. Though developed for teacher education, it can be used in every degree learning program linked with application of the knowledge to life and work situations. The program is based on a role based course, and the course content is the list of concepts essential to learn role related knowledge and skills (cognitive as well as tool based), which are related to issues and problems in playing that role and for delivering the outputs - performance. Role playing has to pay attention to the learning of processes essential in doing the role better and giving the superior performance - the process-result/ performance based learning and developing. The level of performance depends on

personal talents and work done to obtain the performance. The problems in role playing are obtained from the scenario- situated based issues faced by the individual or group and has not only personalisation but also localisation / situationalisation. The assignment evaluation is to be done by the tutors and mentors who are observing student's learning -and performing.

The Chart gives the I-CONSENT Constructivist Role Based Learning Model.

I-CONSENT: Constructivist Role Based Learning Model

Provider Institution   **Learning & Development Process**   **Outcomes**

- PROVIDER NETWORK
- FEEDBACK / REFORM LOOP
- COURSE: ROLE BASED
- Goals / L & D Outcomes
- Course Team Leader/ Tutor
- SCENARIO
- CRITICAL EVENT
- OER/MM Use
- Tutor/ Guide
- GOAL/ROLE
- Outputs/Outcomes
- LEARNING ACTIVITIES
- Activity Based Learning
- Assignment / Project Based Learning
- Mass-Working (Wikis)
- CT Study Centre Mentors
- Learning, Developing & Creativity Space Evaluation Tools ICT enabled Tech-Networking Tools Activities essential for issues in Assignment **Feedback Assessment/Analysis**
- Capacity Building Knowledge, Skills & Tools
- Capability Building App, AH, SB
- Co-creativity Wiki Working L-Commons
- OER Scaffolds
- L & D Org School Network
- Tutor Mentors
- Evaluation of Role Performance Feedback Analysis
- E-Portfolio for self/professional / social Development
- **Professional Teacher**
- OERs / SCAFFOLD
- CONNECTED COMMUNITY NETWORK / L & D GROUP / PARIWAR

Following mechanisms are used in the Role Based Learning Model:
1. Process-Result Based study: Input, process (throughput) and output and outcomes
2. Provider Institution:
a. Course Provider Institution and its Course Team (CT) for development and deployment of the course
b. Tutors working with Course Team
c. Mentors at the Study Centre for localisation and personalisation
d. Tutors and Mentors under the guidance of Course Team do the performance evaluation
3. Process of Learning and Developing:
a. Role Based Course with outputs and outcomes
b. Learning related content for role playing (Knowledge and Skills)
c. Activities given by the CT along with Scaffolds – leads to **Capacity Development**
d. Assignments and issues /problems in the situation of the role. Personal and group study and performance
e. Report of Assignment work: **Capability Development** evaluated through application success, attitude displayed and group work and the personal role in the group playing and their result.
4. Learning, Development and Creativity Space: Specific to every student /group to display their talent and innovations.
5. **Co-Creativity** work by:
a. Groups and their pariwars to achieve group performance
b. All contributing to the common work theme to create social wealth
6. E- Portfolio preparation by the student with his/her teachers – tutors, mentors, guides - comments and evalutation and expressed in the portfolio for presentation and performance evaluation. It has the components of:
a. Personal Portfolio with self and professional development records
b. Personal Framework Development Portfolio
c. Group Work Portfolio
d. Group Framework Development Portfolio
   The portfolio are used for the Term-End and Program-End Comprehensive Evaluation
7. Outcomes:
a. Learning
b. Development
i. Personal, group and social wealth creation
ii. Forming Learning and Developing pariwars and communities

The devices and mechanisms can form operational mechanisms for any degree and course program. Further peer evaluation processes in various open forum on e-platform could be used for learning and developing.
In Conclusion

New Education should aim at creating such an education system based on open education resources and access to all the learning and developing tools. It obviously needs different management system. It cannot be hierarchical, controlled from the top to bottom. This will need some foundational social organizational principles in small and big group working. The basis is what is given in the Indian Constitution - democracy for participative decision making, secular and self- and autonomous social governance starting from bottom.

CHAPTER 4 - New Education for A3 Connected Society

"The problems cannot be solved at the same level of awareness at which they are created."
- *Albert Einstein*

General Approaches

Since the emergence of A3 Connected People with global connectivity, the broadband width is increasing from one generation to another rapidly. (We have now 1G and 2G (Second Generation) connectivity, moving on to 3G and preparing for 4G). Today's techno savvy people are the young generation. Children take to technology very fast. This is the next generation which is going to be intimately connected from anywhere anytime. They are demonstrating one of the best principles of learning - the effectiveness of the activity based and autonomous way of learning with peer support.

Further, the ICT and other technologies are creating new knowledge and communication based economy. The socio-economic scenario, which is getting created now, is radically different from the 20th century society. Education has to respond to this unfolding scenario whose nature is unclear now. The future scenario will also be changing fast and is unknown. It depends on the perspectives of the technological and social leaders the world and India can have. Hence our model of education has to be founded on the basis that will not change even though technologies change substantially. Past technology (Industrial Society) based models are of no use in the 21st Century Society, except the universals and invariables they incorporate. Under the guidance of Dr Sam Petroda and others, a national program is being undertaken to create Information Communication Infrastructure for India. The education system being a sub-system of the existing social system therefore needs its own infrastructure to produce and disseminate educational products and services. Our objective of the education system and its learning and developing outcomes should be clear so as to participate in the process of reconstruction of the new education system of the connected society.

In a country like India, with a wde disparities, people even today live in tribal and purely agrarian societies. Now the urban societies are industrial communities of the 19-20th centuries; and ICT related people are already entering into the post industrial age of the 21st century. It is therefore essential to link education with not only self development of a learner, but also with social development, social reconstruction and social transformation. Earlier age societies, tribal and agrarian, should be given special provisions for leap-frogging to the new knowledge society of the 21st century by keeping their universals in their social culture and practices.

Because of the use of broadband connectivity, networking and falling prices of access devices like cell phones and lap or palm tops, learning can be linked with working and value creating processes of a learner anywhere anytime. The use of technology therefore can be employed to offer access to '*Quality Higher Education for ALL'*. The biggest challenge is to design appropriate New Age education system that will be really democratic, secular and socialistic (autonomous and self-governed pariwar and communities) as demanded by the Indian Constitution.

Past Experience of Sub-division of Universities

After creation of a new university by identifying its jurisdiction, time required by a new university to come up to some acceptable standards is quite long for various reasons. It usually requires anywhere between 10-20 years to acquire comparable standards. During this period, students and parents from the region do suffer; some of them go outside the university jurisdiction for better facilities and places of learning.

How ICT and Networking Can Help?

Use of ICT and networking that connects all students, teachers and educational institutions with their support services, could be used to speed up the process of equalization of standards. ICT can be used for all universities and colleges to supplement and complement the existing course teaching-learning-evaluation system. This requires IT literacy and networking with mechanisms that will support every learner with appropriate personalized services. This eliminates the difference between distance education and campus based formal education systems. The campus based and field based teaching-learning systems required for a course delivery (teaching) and by learners (learning) in this could be the same. This is integration of formal and non-formal system of education and is possible only because of A3 connectedness now available.

The use of technology can be employed to offer access to 'Quality Higher Education for ALL'.

Network of Department of Higher and Technical Education and MKCL

The report of the Ram Takwale Committee, appointed by the Department of Higher and Technical education of Government of Maharashtra in 1999 on 'Use of ICT in Higher and Technical Education in Maharashtra', was adopted by the Government and was implemented by the Department of Higher and Technical Education. Outcome is the **Maharashtra Knowledge Corporation Ltd (MKCL)**, which has completed a decade of successful existence and operations. MKCL was given the mandate to generate its own finances and create a new e-education paradigm and avoid digital divide in Maharashtra. For this purpose, and without any reliance on the State resources, MKCL was created in the form of a company with heavy control in share holding from the Maharashtra Government and Public Universities in Maharashtra, to work with corporate culture, earn profits and create e-education and digital link in Maharashtra. It has already created its own business network in Maharashtra of more than 5000 access and service centers, who are mostly educational institutions or small private entrepreneurs employing more than 25,000 persons. Many of these small entrepreneurs are the share holders of the MKCL. In a way, MKCL has proved to be a new model of Corporation, which is declared by the Government of Maharashtra as a Public Authority. MKCL has spread IT literacy to more than 6 million students since 2001, and evolved e-education system that is being extensively used all over Maharashtra. MKCL network is the biggest educational /training network available and many of the states in India are adopting the model of MKCL in their states (RKCL in Rajasthan and Orissa has already sighed MOU for this).

The Department of Higher and Technical Education has already entrusted a task of creating digital university network to MKCL. The network already created in Maharashtra could be used

as the beginning for creating network and e-platform for various educational services and student support. (For details of services offered, refer PART - C)

Statistical Information of Digital University Framework Created by MKCL in Maharashtra

Sr. No.	University Name	Colleges	Colleges covered	% Colleges	Students admission First year (yr 2010-11)	First yr admissions facilitated (yr 2010-11)	eSuvidha to Students %	Overall Students facilitated till acd yr 2010-11
1	Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur	774	566	73%	1,25,000	1,06,957	86%	1,52,971
2	Shivaji University, Kolhapur	260	242	93%	1,10,000	81,036	74%	2,55,235
3	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad	357	242	68%	1,26,552	64,447	51%	3,37,387
4	North Maharashtra University, Jalgaon	230	180	78%	55,000	52,520	95%	1,76,802
5	YCMOU, Nashik	3,300*	2049*	62%	95,000	70,247	74%	6,11,284
6	Mumbai University, Mumbai	605	379	63%	2,03,099	1,54,000	76%	6,06,746
7	Solapur University, Solapur	124	110	89%	40,000	32,000	80%	1,60,514
Total		2350*	1719*	73%	754651	561207	74%	2300939

* Study centres of YCMOU
* YCMOU Study Centers are excluded from the total

This networking and digitisation already achieved could be the starting point in Maharashtra for further development in the creation of New Paradigm of education for the A3 connected society. The network covers:
- 73 % of the 2350 colleges of 6 Universities

- 62 % out of 3300 study centres of YCMOU
- 74 % of the 7.55 lakh students getting admission in 2010-11

E-Suvidha are being provided to 23 lakh students in this network. (Refer **PART – C - Enclosure 2** for the MKCL networking and e-Suvidha)

Higher Education: Stakeholders
Finally we are aiming at the creation of L3 (Life-Long-Learning) society with all having access and opportunities for learning throughout living and working period, However, we have to start from NOW with a model of education that can be scaled up to give access to ALL.

Primary Stakeholders
- Students – Learners registered in Colleges and Universities

Secondary Stakeholders: College / University Department Related Providers
- Teachers
- Education Managers
- Local L-Support Service Providers (Experts, Professionals, Practitioners etc)
- System related people (from Universities, Providers of Services – Outsourced agencies, Central organizations, etc.)

Tertiary Stakeholders
- Parents
- Local Institutions and Community
- Employers of Students /graduates
- Industry (Big, Medium, Small, Micro/Tiny)
- Social Institutions and Organizations-local, state, national and global

All these stakeholders will get involved to a lesser or greater extent in educating the students either at the University campus and colleges. Their need will be very high in cases of technological, professional and social expertise depending on the nature of courses needed by learner for their applications and in socio-economic change.

All the stakeholders are also the learners of the Learning Society; and, therefore, are students of the Higher Education system we are evolving.

Teachers and Providers of Educational Services
Teachers are all those who help learners in learning, working and using technologies in field or shop work for training and developing.

When diversification in learning courses takes place, the *mass learning system* will need expertise in different areas of learning and development. Hence for diversified and relevant education, the system will have to employ teachers and experts in different types of categories, some on contractual and work basis. Appointment and promotion policy with new approaches also will have to be adopted.

Teacher has to *play multiple roles* in teaching, learning, evaluating and guiding, other than roles which a teacher has to do as an expert and professional or academic. Teacher development programs and promotion policy have to be adopted in quite a different way. The existing policy of tenured positions with all full-time on-scale policy needs to be changed and permanence based teacher, and for educational providers and evaluators   needs to be developed.

Every University / college will have *various types of teachers* employed for specific types of work, responsibility with specific outputs /outcomes. University and colleges should also set up panels of experts, teachers, professional and practitioners for various roles to support learner's learning and development.

Mass Education System that can fulfill requirements and needs of learning and development will require involvement of all the experts and providers of education and development services.

New Society by 2020/30
Information Communication Revolution is creating a new society - A3 connected society and the process of change is rapid and is expanding out to large masses as well as unreached people and places. New processes and mechanisms are being evolved, which had never existed in earlier centuries. This Post-Industrial Society now emerging is seeing a **'death' of distance** (geographical) and every one with mobile and other access devices like PDA (Personal Digital Assistance), lap/palm top, e-mail, websites, blogs, social networking, e-portfolio etc. These new mechanisms can be used in educating processes and development. .

New Processes and Mechanisms
- *IT Created Processes*: Digitization, Virtualization, Mass-personalization / Group-Customization, self-mobilisation and A3-Connectedness (A3 = Anywhere, Anytime, Anyone)
- *A3 Connected People Created Processes and Mechanisms*: Global Standards and Protocols, Open Resource (OR) Movement, OER for learning and development for socio-economic transformation, blogs/ websites for self-expressions, social / business networks, face book, twitter etc., for self-expression and real and virtual organization
- *OER based Wiki processes*: Sharable products - creation of cognitive and developmental commons / wealth / capital. Examples - Wikipedia, Wikimapia, Wiki-Educator, MIT Open Courses, etc. Self-organization, self and peer learning (Hole-in-the-wall experiment of Sugatha Mitra)

Wiki-Organizations and Empowerment of Connectedness: Wiki is a mass collaborative process promoted by web based technology mechanisms open to all; and with clear assurance that the resources so created by the collaboration processes shall belong to public. People and experts voluntarily contribute to it and see that the quality of resource is maintained and enhanced. Nearly 3.5 lac people work for Wikipedia and spend 100 million hours of work every year for the social cause. This is the finest example of social creativity and generosity pooled together voluntarily and globally. Organization of agitation for democracy in Egypt was triggered by the Facebook's social networking technology and its social connectivity enabled youngsters to

organize their views on common goals and action which resulted in the demonstration known to all.

A3 Connectedness creates great empowerment and process of developing commons for learning and development. This could be a great empowerment for socio-economic transformation and can be used to fulfil the dreams of the great social reformists of Maharashtra who have worked towards the upliftment of common people – the movement of *sarvodaya* and *antyodaya,* right from the time of the British rule in India.

Information Communication Infrastructure in India
Under the guidance of Dr Sam Petroda, Information Communication Infrastructure is being created in India. The corporates involved in IT devices marketing are also creating their own business marketing networks. Many programs like UID - Unique Identity Number to every Indian, networks of airlines, railways and various transport and courier services, banking networks are some examples of the great networking program undertaken by various economic and development sectors of India.

Education system also needs its own infrastructure to produce and disseminate educational product and services. Since education is to be linked with global learning, developing and value/wealth creation opportunities, it is essential to use the globalization with the following approaches and mechanism.

- **Open Resources** for learning and developing should be made accessible to ALL. Open access to ALL will reduce global- local disparities and offer opportunities for creativity and innovations.
- **Global Quality in cost and competitiveness** of products and services will emerge; survival will be dependent on *quality and excellence adopted and developed by individuals, groups, institutions and society.*
- **Future A3 Connected Society** will create multiple choices and opportunities for learning and development. This will enable the society to change towards equality, liberty and autonomy – individually, group-wise and institutionally.
  Many newer technologies are getting created in various fields of communication and development. Use of these latest technologies is therefore essential for radically changing education and developing processes.

Linkage of Education with Society
In the A3 connected society, learning, working and developing is possible from anywhere anytime. This needs creation of Educational Information Infrastructure using ICT extensively. It also gives opportunity to create omnipresence of learning and developmental resources, both of static and dynamic nature for learning-developing-creating wealth. In this case, goals and objectives of learning and development, processes and mechanisms of learning and developing become entirely different.

We consider the general approaches essential for linking education and development - self and social.

Approaches in Educating and Socially Developing

1. Create A3 connectedness with educational infrastructure: We are creating Learning Ecosystem for education in Maharashtra.
2. Promote **group cooperative and service learning and developing**. This should have mass collaborative working approaches to create common wealth like Wikipedia, openly available for all.
3. *Develop Value Based Education*: To ensure working socially together, it is essential to follow the *Founding Principles and Values* essential for linking education with social development (Preamble of the Indian Constitution includes Values like Liberty, Equality, Fraternity and Justice and social organization principles of Democracy, Secularism and Socialism (Autonomy with Self-Governance of and by the learners / students in their learning and development).
4. *Promote L3 and Developing*: **Adopt processes of learning and educating** from Agrarian and Industrial processes / practices that are independent of past technologies and models, and create new models and designs (paradigm) useful for post-industrial technology and A3-connected society. Education is to be universal and founded on **universal human values for** living **and working in knowledge society**.
5. *Promote Social Creativity and Generosity*: Create **Wiki processes** and **learning and developmental commons** by creating mass-collaborative processes and social networking that promotes Private-Public-Community Partnerships organized through Consortia.

All these approaches are being inducted in the proposed Education System.

Radically Reconstructed Education System
When society is changing so radically and creating entirely new processes, mechanisms and social and technology networking, it is imperative to use all of them in education for learning, developing, creating and transforming processes.

Radically Reconstructed New Education for New Society/Post Modern Society should be based on:
1. *Connected Communities* organized through learning and developing learners, L-groups, pariwar (group of groups) and communities.
2. *Open Resources* created by movement using Wiki Processes (Mass Collaboration)
3. *Enabling Learner in L3 and developing (D) and transforming* through (L&D Paths):
   - Self-development
   - Social development
   - Personality framework development
   - Personal /social value addition and wealth creation (Creating Commons)
4. Teachers and students to play multiple roles (Role based education)
5. Organize Social Networks for L&D by empowering them through knowledge and developmental capacities and capabilities. (Cooperative Learning)
6. Create Global + Local paradigm of education: Developmental designs and models with FUTURE NOW Approach.
7. Create Social Developmental Business Model based on universal human values and ethical practices as an alternative for the financial business model. The Social Development Business model should lead to the Economy of Permanence that includes sustainability.

Society Involvement with their Unique Roles and 'Price' Paid

Individual and the Society **has to Pay the Price** to create National or Social Education system which they can adopt. In this context of mass-education following points are pertinent.

All education is not good: Education is either good or bad or indifferent; and any education system adopted socially and nationally creates *an eco-system that promotes learning of anyone, anywhere, anytime. Education is the mother of all development processes. It may generate good value system and social wealth or bad system of values, and promote selfish and exploitative development.*

Learning is natural; self-organization is equally natural; regimentation is unnatural. For any unnatural / forced system, everyone pays the price and reaps good or bad results.

Modern Education System: Education should be based on agricultural learning processes - personalized development system. Use of industrial processes is essential for globalization, sharing and caring approaches evolved by global community for modernity (Culture based approaches), and now for moving to post-modernity (Creativity & innovation based culture of learning and developing)

Social Development Centric Education - Creating Wiki Resources and Organizations: Each one is a change maker when social education is evolved and used for the entire society. Each one is endowed with 'something' surplus of what s/he can give to the society in creating Common Wealth to be shared openly by all. This process involves sharing our excess and contributing to the Social Wealth (due to value of trusteeship) and enriching society and people. One of the basic movements is to create Open Resources for educating and developing through wiki processes. Twenty first century society can thus be created with cooperative learning and developing and social generosity by all.

Education system particularly in unequal and unjust society can use this concept of Creating Commons for learning and developing of all organized in groups, pariwars and communities and creating a system that promotes **All for One; One for ALL.** Global Learning and Development resources will be for ALL and all will care of one, once they come to know of the special needs of one. Each one of us will contribute to all such common resources. Together we will ensure safety and success of each one and his/her locality. Globalised humane society should create directions of development with creativity that enriches individuals, creates leaders out of them for creating equal and just society.

> *No single university can alone provide all the learning and developmental needs of a learner, together we can do it!*

The next two chapters are devoted to create the new structures and functions that will enable to have New Age Education system for A3 Connected society.

CHAPTER 5 - Higher Education: Central Structure for New Paradigm

Introduction
A3 Connected society is creating a new world of networked people with a challenge to create a new society with knowledge based economy. The new society also offers globally linked opportunities of livelihood and wealth creation. It is obvious that education system promoting learning and development will be the key instrument for such a revolutionary social transformation.

No single university can alone provide all the learning and developmental needs of a learner who wants to find out his/her life-long learning and development paths. However, t*ogether they can do it* by organizing centrally and cooperatively. ICT is changing fast and IT dependent services will also change equally fast. What can be the form and functions of such a system of education that will enable the learners to adopt/adapt changes and create their own/group/social /national futures?

A3 connectedness requires management tools and techniques that will be different in such a society. Centralized top-down hierarchical management may need radical changes. The networked society is promoting individual identity as well as group / community participatory management in an autonomous and self-governed way for social and work related goals.

University Education Functions of Higher Education
Higher Education is organized through Universities and their Affiliated Colleges. Universities are suggested to carry out the following functions in A3 Connected society:
1. Traditional Functions:
- Creation of Knowledge
- Dissemination of Knowledge
- Preservation of Knowledge
2. Knowledge based Networked Functions:
- Social Development: Application of Knowledge in creating wealth and prosperity for the individual and society
- Autonomous Self-Governance: Self Organization, e-Governance and Management of Learning, Learners and Development (L&D)
Linking education /learning with sustainable development changes the whole picture. We can bring in constructivist learning approach, which is being introduced right from the primary school stage, with work-based learning in which one can learn FOR development and learn FROM development. This is the *samavaya* approach of the Nai Talim, which can be employed in this developmental education. Many of the activities could be carried out as wiki processes and organizations; and the outcomes will be the learning and developmental commons to be shared with all students and teachers.

Problems in Number Based Approaches
Creating More Universities
Sub-dividing Parent University into one or more universities is going on since the division of Mumbai University for western India into its present Mumbai University status. The times have

changed and the new age is emerging and creating knowledge society with life-long-learning (L3).

Main problems are as follows:

1. Proposal is to create one university for every 150 colleges (nearly 75-150 K students). This will require at least 8 new universities to be created from the existing three big universities of Mumbai, Nagpur and Pune. Increase in colleges in the existing 10 affiliating universities projected by 2015 will need 18 more universities. This brings us to nearly one university per district. This number may further grow. This is not the approach for higher education for the learning and developing society.
2. For each new university, large resources are required to be spent in centralized administrative and educational service facilities. This will be accompanied by cost needed for all the university bodies, officers and staff to be supported by the state government through the State grants.
3. Cost of each university will be approximately Rs. 150 Cr / university; total Rs 3900 Cr in 5 years. (Eight more universities now and 18 more by 2015). Government will not be able to find all the resources; hence different approaches will have to be found out. Otherwise each new university will suffer from paucity of funds and the quality of education imparted in these universities also will be affected.
4. Quality and standards will have to be ensured at all the new university campuses. Existing ways will not enable uniformly high standards and quality of teaching, learning and research.
5. New university degree may not be recognized by the public for admission in higher institutions, and industry for its employment. Students and people under the jurisdiction of the new university may suffer.
6. Use of existing degrees in employment, particularly of general degrees (B. A, B. Com, B. Sc etc) is already very limited. The program needs to be linked with restructuring of a first degree program to enable to link academic work with practical applications. Universities in isolation will not be able to do it.