

Government of Meghalaya

Department of Education

Final Draft Meghalaya State Education Policy



Meghalaya State Policy on Education

PREAMBLE

Education Policy is just a statement of intent and a broad vision for the people of Meghalaya to redeem their true potentials rich but largely untapped. To ensure quality education at all level the state is committed to ensure that it adhere to the National Policy on Education, 1986, Programme of Action (POA), 1992 and the different acts, such the Right of Children to Free and Compulsory Education Act, 2009 (the RTE Act) that relates to quality education. The revised Meghalaya Education Policy is being notified today vide notification no. _____ at _____. The main objectives of this policy is to create awareness amongst the general public that Education is one of the most important component in terms of developing of human resources. In absence of Education, the whole human concept of quality education will be at stake. The policy also recognises the criticality of education as the most important vehicle for social, economic and political transformation.

Chapter 1

The Basics of Educational Policy

1.1 Introduction

1.1.1 The Constitutional Amendment of 1976 placed Education in the Concurrent list of the Constitution of India. This has brought about a sharing of responsibilities between the Central and the State Governments. The State has framed this policy within the broad parameters of the National Policy on Education 1986 (NPE), POA, 1992 the Right of Children to Free and Compulsory Education Act, 2009, and the Draft National Education Policy. This will enable the state to share the responsibilities and functions as partners with the Central Government in the implementation of the National level policies and programmes.

1.1.2 Interests deeply rooted in spheres such as economics, religion, ideology, Institution, geography, race, and ethnicity will vie to have their world-wide view represented most forcefully in whatever education system emerges. The twenty first century, particularly in the last few years, represented a period of remarkably intense change with the implementation of SSA and the RTE Act.

1.2 National System of Education

1.2.1 The National System of Education which envisages a common educational structure of 10+2+3 has been adopted and may continue in the State of Meghalaya. However, the State has notified the implementation of 5 + 3 system viz., 5 years of Primary and 3 years of Upper Primary Schooling during 2011.

1.2.2 The National System is based on the National Curriculum Framework (2005), which contains the history of India's Freedom Movement, the Constitutional obligations and other contents essential to nurture national identity. These elements will cut across subject areas and will be designed to promote values such as India's common cultural heritage, egalitarianism democracy and secularism, equality of the gender, protection of the environment, removal of social barriers and observance of the small family norm and inculcation of scientific temper. All educational programmes will be carried out in strict conformity with secular values. Regional and local variations which are specific to the State would also be highlighted.

1.2.3 The Directorate of Educational Research & Training (DERT) which has been notified as the Academic Authority shall ensure that Meghalaya is keeping pace with the rest of the country in terms of the latest syllabi, curricula and textbooks prescribed for the schools so that our students are not placed at a disadvantages in comparison with students from other States and as prescribed by NCF, 2005 and RTE Act, 2009. National Literacy Programme (Shaksar Bharat):

1.2.4 The State stands committed to the eradication of illiteracy particularly in 15-35 age groups through Literacy Campaigns in consonance with National Policy which will also be geared to meet National goals like poverty alleviation; national integration and the promotion

of national values and culture. It may also facilitate energisation of the cultural creativity of the people and their active participation in development process.

1.3 Meghalaya State Education Policy

1.3.1 Policy is one of the principal vectors through which influence flows between the larger society and education institutions. The Article 21A of the constitution of India emphasizes on the need of free and compulsory education to all children between the age group of 6-14 years. On 1st April, 2010, India joined a group of few countries in the world, with a historic law making education a fundamental right of every child coming into force. In the last two decades, the educational scenario has seen major changes and new concepts such as rights-based approach to elementary education, student entitlement and shift in emphasis from literacy to basic education to secondary have been focused through SSA, RTE and RMSA.

1.3.2 Schools and teachers need to recognise that children are different from each other and among them diversities exist on various dimensions. Besides gender and social category, learners with different degrees of disability, referred as Children with Special Needs (CWSN) need to be given the opportunity to participate in general educational process. The reform proceeded on two dimensions: the provision of appropriate school services and provision of bilingual instruction to Children with Special Needs (CWSN). However, according to the amended RTE Act, provision is made to certain specific categories of disabled children namely children with “multiple” or “severe” disabilities were to be provided with the choice of attaining home based education.

1.3.3 In the present system of education, the faculty makes most of its importance, if not all the decisions about learning for the students. Therefore, subject to satisfactory transaction of the prescribed syllabus especially in the higher classes, the faculty/teachers should take the students into consideration in decision making about learning. To the extent possible, teaching and learning process should be made interactive and participative to help create a proper and happier learning environment for the students.

1.3.4 The predominant aim of the Education policy represents the clear vision for raising standards of the State education system. It recognises the need for improvement in standards of education delivery at all levels of education. The emphasis will now move to raising learning levels, competencies and greater convergence across levels of education. This will be done through making efforts to ensure that there are measureable improvements in the progress all levels of education.

1.3.5 The policy recommendations set out in this document forms the link between the long terms goals of the education sector in conjunction with the long term national goals expressed in the national education policy. These recommendations lay the foundation for undertaking much needed initiative for the furtherance of quality in education.

1.4 Vision

1.4.1 Our vision is to provide stimulating and equitable education of satisfactory quality that will foster innovation, transformation and facilitate inclusive growth and development in the State. To attain this vision and to contribute to the prosperity of the Nation, the education

system will be qualitatively transformed to ensure all round development and prepare learners for the changing world by inculcating original thinking, creativity and problem solving.

1.4.2 The very foundation of it all is obviously the Elementary level which will be adequately strengthened to ensure that the students are able to get over learning with fear, trauma, anxiety and helping every child to express freely.

1.4.3 The study of Science, Mathematics, Computer Applications and IT interfacing will be encouraged at all levels of Education.

1.4.4 Emphasis will also be laid on character building through moral education, physical and mental training through active participation in sports, games and other physical activities. Vocational Education will also be emphasis to ensure that every youth, after passing out their studies will help them to shape their dream and destinies.

1.4.5 Special efforts should be made to enable students:

- I. To think for themselves independently and critically;
- II. To seek, extend and apply knowledge for the solution of human problems;
- III. To continually strive for excellence in every field;
- IV. To become mature, spiritually aware and men and women of character;
- V. To value and judiciously use their freedom, combining with it a full sense of responsibility for their actions;
- VI. To be clear and firm on principles and courageous in action with abundant compassion and tolerance;
- VII. To be unselfish in the service of their fellowmen and concerned for the welfare of the poor and disadvantaged; and
- VIII. To become agents of social change in their own situations.

1.5 Goal Setting

The goal of education is to enable the students to live, to discover the deeper meaning of life and of transcendence, to learn to interact with others, love creation, think freely and critically, find fulfillment in work, plan their future, or in one word, learn 'to be'. It is through education that the students can be helped to become worthy citizens and we can hope for a more human and humane future and a more harmonious and inclusive society.

1.5.1 Goals for Elementary education development are:

- To expand access to elementary education in underserved locations
- To improve retention and performance of all students by strengthening reading and numeracy skills at primary level
- To improve and provide adequate facilities in schools
- To improve grade specific learning outcomes by equipping elementary teachers with right and up to date skills

- To enhance elementary students readiness for secondary curriculum by strengthening basic science and mathematics at upper primary level
- To support and build capacity of schools to undertake self-evaluation to foster continuous culture of school improvement
- To institutionalize the culture of inter-school cooperation for enhancing the efficiency of elementary education in the State

1.5.2 Goals for Secondary/Higher secondary education development are:

- To further strengthen the knowledge and skills acquired by students at elementary level
- To enhance the readiness of secondary/higher secondary students for higher and technical education
- To enhance the job readiness of secondary/higher secondary students by strengthening their cognitive and non-cognitive skills
- To improve and provide adequate facilities in schools
- To improve affordability of secondary/higher secondary by increasing targeted financial support to economically weaker sections of the society
- To improve transition and completion rates at secondary/higher secondary level
- To expand and improve delivery of practical science and mathematics by strengthening laboratories
- To encourage schools to promote innovative teaching and learning practices to ensure equity in learning outcomes
- To develop measurable indicators of learning outcome at secondary level to monitor and track learning progression
- To support and build capacity of schools to undertake self-evaluation to foster continuous culture of school improvement
- To institutionalize the culture of inter-school cooperation for enhancing the efficiency of secondary/higher secondary in the State

1.5.3 Goals for Higher and Technical education development are:

- To encourage need-based development in the field of technical, vocational and professional education in order to meet the needs of the country and even of foreign countries.
- To provide higher and technical educational opportunities for all eligible students irrespective of socio-economic background
- To promote diversified programmes that meet the emerging needs in social and economic development.
- To support higher education institutions improve quality and attain NAAC accreditation

- To promote and institutionalize high standards for research in higher education institutions
- To support higher education institutions build their high-level research capacity to promote innovations
- To develop an efficient system for targeted funding to support access and affordability of higher education
- To prohibit commercialization of higher education

1.5.4 Goals for Teacher education development are:

- To strengthen and promote high standards for teacher education institutions
- To expand access to pre-service teacher education
- To strengthen teacher and management system for improved efficiency
- To enhance professional support network for CPD of teachers at all levels of education
- To enhance terms and condition of service to attract and retain high quality teachers
- To develop in-service programs for school heads to improve school academic leadership
- To develop in-service programs for teachers to implement effective teaching learning practices

Chapter 2

Background to State Education Policy

2.1 Introduction

2.1.1 Meghalaya State is rich in natural resources, with reserves of coal, limestone, kaolin, glass sand and uranium and has the potential to generate hydro-power. Growth between 2004-05 and 2015-16 in terms of GSDP has been 9.7 per cent. At CAGR of 16.1 per cent, the secondary sector was the fastest growing during the same period. The Government of Meghalaya (GoM) proposed several initiatives to promote State as an investment destination. For example, under State Budget 2016-17, the State government proposed allocation of more than INR 100 million for various Art and cultural programme for development. However, its hilly terrain, forests (which cover some 70 per cent of the state) and limited access to national and international markets has resulted in low inflow of investment.

2.1.2 As per the decennial Census, 2011, the literacy rate in the State of Meghalaya has increased to 74.43% from 62.56% in 2001. The State of Meghalaya also showed reduction in literacy rate by gender between 2001 and 2011. Similar positive trends were also observed between the literacy rates in rural and urban areas (gap reduced from 30 percentage point to 20).

2.1.3 Meghalaya has a population of about 2.96 million; out of which 56 per cent is under 25 years of age, compared to 49 per cent for India as a whole. About 11 per cent population (Rural - 12.53%; Urban – 9.26%) live below the poverty line. Most people live in rural areas (79.4 per cent).

2.1.4 The majority of the population in Meghalaya belong to Scheduled Tribe (ST). As per NSS 68th Round, the labour force participation rate in Meghalaya was 43.8 per cent (52.7 per cent male and 35.3 per cent female). The majority of workers are cultivators or in the agricultural sector (63 per cent of workers). Based on the UPS¹ approach the unemployment rate in Meghalaya is 4.8%². However, the per capita income of the State remains \$ 1,404 as compared to national average³ of \$1,546.

2.1.5 There are opportunities to generate sustainable new jobs; given fluency in English and it is the official language of the state alongside Garo and Khasi - people could compete for jobs in the region, nationally and internationally. However, because of the poor state of secondary education and technical and vocational education and training (TVET), young people are prepared insufficiently well for the local and regional labour markets.

¹ Usual Principle Status

² Source: Report on fifth annual employment-unemployment survey 2015-16, Vol-I, Ministry of Labour and Employment, Government of India

³ Source: Industrial Development and Economic Growth in Meghalaya, India Brand Equity Foundation (IBEF), December 2016

2.1.6 Overall, prospects for economic and social development are positive; the State Government recognizes the importance of investing in human capital to make sustained economic and social development possible. In its Twelfth Five Year Development Plan (2012-2017), the GoM has determined three strategic priorities, one of which is Human Development for Building Capacity.

2.2 Profile of education

2.2.1 The education sector in Meghalaya is being pushed to deliver high quality with greater transparency and focus is shifting to outcome measures related to quality. The State Government along with the Government of India (GoI) has taken multiple steps to address gaps in the education system. There is also an increased realisation to focus on quality of education, and need to view education as a continuum right from early education to higher education, integrated with vocational programmes as opposed to the disconnected silos.

2.2.2 Participation in education at all levels has expanded greatly in Meghalaya in last decade. Ever-increasing numbers of children are now making it through the elementary cycle. In the recent times there has been increased focus on expanding secondary education to meet increasing demand arising from the success of SSA. To achieve universal access to secondary education, Meghalaya government has extended its support to RashtriyaMadhyamikShikshaAbhiyan (RMSA) to attain the goal of universal access to secondary education.

2.2.3 Meghalaya, with more than 14,280 schools, about 900,000 students, about 51,000 teachers and sparsely populated areas, has achieved significant progress in the education sector in recent past. The State has made significant strides in education in the recent years and is committed to greater equity and social justice through bringing requisite reforms in education sector. While the State has made notable progress on multiple fronts including improving access, better infrastructure and focus on learning outcomes, there are still several areas that warrant a long road to improvement ahead.

2.2.3.1 Urban- Rural Disparity

The State has a predominantly rural population. However, even after more than 40 years of Statehood, the rural and far-flung areas continue to suffer from underdevelopment especially in the field of Education. The State capital, Shillong, continues to enjoy the status of an educational hub, many elite colleges are located here. However, the distribution of Secondary and Higher Secondary Schools and Colleges is highly skewed in favour of Shillong and to a certain extent, of Tura. This critical aspect will be consciously addressed and the gap progressively reduced, both in terms of percentage of enrolment and in terms of availability of good Institutions, especially in the Higher Education. It is essential that young people get higher education close to their hearts and homes so as to increase enrolment in rural areas and discourage the students from dropping out or migrating to urban centres. With the introduction of RMSA, the State is trying to expand and upgrade the Upper Primary Schools to Secondary Schools which will get access to each and every rural- based student.

2.2.3.2 Drop-Out Rate

High drop-out rate has been a major cause of concern to the State Government. It is well recognised that poverty, large size of families, distance between residence and school, a non-conducive school environment and untrained teachers are, to a large extent are responsible drop out different levels of schooling.

2.2.3.3 Implementation of the Mid-Day-Meal Programme:

The Mid Day Meal Programme which is operational in the Elementary Schools of the country since the year 1995 aims at curbing the drop-out and attracts larger enrolment. The programme is being implemented in the State with mixed results. According to the U-DISE 2014-15 about 98% government and aided elementary school provided mid-day meal to students. The State should find innovative ways of implementation of the MDM Scheme with effective and efficient delivery.

2.2.3.4 Untrained Teachers:

As per U-DISE September 2015-16 there are more than 15,000 untrained teachers. The policy of the Government will be to address the problem in future by appointment of only trained teachers. Simultaneously, the backlog of untrained teachers will be cleared by appropriate strategies. The teachers will be trained through Open Distance Learning within a stipulated time through IGNOU & NIOS.

2.2.3.5 Access to and Quality issues in Elementary Education

The problem of access to Elementary Education has been largely addressed through the SarvaShikshaAbhiyan (SSA). However, although ASER 2012 has rated the State between 3rd and 6th position in the country in terms of learning levels for Primary School students, quality will remain an important concern and will continue to be a priority as it has a direct bearing on the quality of the subsequent stages of education.

About 70% of the schools have drinking water facilities and over 50% of the schools have usable toilets. The State shall leverage all available financial assistance from the Central schemes and also achieve more effective convergence of various schemes like SSA, TSC, SGSY etc. to provide drinking water and separate toilet facilities for boys and girls in all schools.

2.3 Secondary and Higher Secondary

2.3.1 State's overall pass rate at class X (72.3%) is much lower than the national average (81%). While government schools have the highest rate, aided and unaided have substantial quality improvement task at hand. However, lower learning levels and class X pass rate of aided schools is cause for concern.

2.3.2 There is uneven pattern of pass rate in class X in different districts. Percentage students passing grade X exam ranges from 28% in South West Garo Hills to 88% in East Khasi Hills district. In fact, the districts of Khasi and Jaintia Hills have average pass rate of more than 80% whereas, districts of Garo Hills remain less than 50%. In order to improve the pass rate

in aided schools, it is important that the teachers are provided with in-service training through highly skilled professionals.

2.3.3 The agenda to expand access is very challenging. It is not simply the volume of demand, but the fact that new secondary entrants will increasingly come from disadvantaged backgrounds. This will place greater demands on the education system. These children will require more support and better-quality teaching and will lack academic assistance from within their households. Age specific enrolment rates are much lower than gross enrolment rates suggesting that many who reach secondary entrance are over age for their grade.

2.3.4 Total secondary level enrolment increased by 14% between 2012-13 and 2013-14. However, progression from grade IX to grade X remains low in the State. Moreover, the intra state gap in gross enrolment ratio (GER) at secondary level is also significant. For example, the GER varied from 45% in RiBhoi district to 74% in East Khasi Hills district.

2.3.5 There is also variability in enrolment by gender across districts with enrolment of girls being generally higher than boys. As per Flash Statistics of NUEPA, Adjusted Net Enrolment Ratio (ANER) at Secondary level has increased from 43.6 in 2014-15 to 50.3 in 2015-16. It may be noted that the State average hide problematic areas. Therefore, the State will conduct an in-depth Block-wise analysis, including the Educationally Backward Blocks, of various flow rate indicators.

2.3.6 The evidence demonstrates that Meghalaya has poor rates of survival throughout the system, up to grade 8 and beyond. The survival rate highlights a large wastage within the primary education system which has implications for performance at the secondary level. The survival rate drops to 48.1% at grade 9 and further drops to 43.4% at grade 10.

2.3.7 The repetition rate reflects the inefficiency in the system. Repetition rate at various levels is as follows: primary level 2.1%; upper primary level 2.3% and; secondary level 5.8%. The repetition rate is found to be highest at secondary level.

2.3.8 Higher repetition rate at primary and upper primary level and the significant percentage of overage children results in substantial percentage of overage children at secondary level. As per UDISE 2015-16 the percentage of overage children at primary level is about 22% while the same at upper primary level is 43%. It is pertinent to mention that these are averages and in some of the remote rural areas the percentage of overage enrolment can go upto 65% - which is a huge cause for concern for the State.

2.3.9 Given the prevalence of inter-district variation in enrollment at secondary level, some districts will find it difficult to achieve secondary level GERs targets. This has several causes which includes insufficient numbers of students reaching and graduating from grade 8; inadequate levels of achievement of grade 9 entrants who may then fail to complete grade 10 successfully; insufficient access to secondary school places in some areas and surplus in other areas; wide variations between schools in staffing, class size and availability of learning materials.

2.4 Learning outcomes

2.4.1 Quality of learning continues to remain a big challenge for the Meghalaya's education system. The National Achievement Survey, 2015 (NAS) grade X results show over 35% of the students scored less than the average scores of 250 on math, social science and science assessment.

2.4.2 NAS scores across subjects also show percentage of correct responses in Grade V. At grade 5, not more than 43% percent of students could answer correctly most of the question pertaining to "grasp and interpret" in reading comprehension. In Mathematics only about 29% of students could identify "difference between numbers" correctly.

2.4.3 Other private sector surveys such as ASER conducted on an annual basis also show a similar picture of poor learning outcomes in primary with only 58% of Grade 5 students can read Grade 2 text and 29% of Grade 5 students can subtract. Percentage of Grade 5 students who could do division was less than 15%.

2.5 School Completion

2.5.1 With regard to the secondary level, while completion rates have been rising for every wealth quintile, wealth-based inequality has actually been on the rise. Children in the poorest quintile only experienced an improvement of 15 percentage points, while this jumps to nearly 22 points in the third quintile; over 30 points for the richest quintile. The richer in society tend to be the first to benefit, while it takes time for poorer groups to start taking advantage of opportunities.

2.6 School Size and PTR

2.6.1 The average school size at secondary level in the State was 75. Across all Indian States, the concentration of schools with enrolment less than 150 was one the highest in Meghalaya. In Meghalaya over 45 % of all schools have less than 50 students and cumulative percentage of schools with enrolment less than 100 is 75%. Such patterns of distribution of schools by size is clear indication of school organisation adversely affecting the quality of teaching, impacting administrative and leadership effectiveness, and lowering cost-effectiveness per student. This also leads to multi-grade, multi-level teaching challenge, which is one of core reasons for poor quality learning outcomes.

2.6.2 The distribution of teachers is very uneven with PTRs within the same district varying from below 10 to above 100. In some districts less than 30% of schools have teachers qualified in all four of the main subject areas despite very low PTRs and high teacher per class ratios. Expanded secondary schooling requires many additional teachers covering all major subjects and electives. New teachers are needed to meet new demand and reduce the backlog of deployment needed to maintain PTR 30:1. Where PTRs are low it may be possible to increase them through strategies to merge small schools, and by making use of multi-subject and multi-grade teachers within a planned system of reforms to improve the effectiveness and reduce the costs of small schools.

2.7 Demographic transition is a reality and will lead to declining numbers of secondary school-aged children. The pattern of demand for school places will be determined by

demography, topography and the current stock of schools and classrooms. The temptation to build and provide staff and facilities to meet peak demand should be managed to avoid creating excess capacity. Options to meet peak demand and “tunnel through” the peak need to be considered. These might include more flexible teacher deployment. It will also be important to monitor utilisation rates of school infrastructure so that nominal enrolments are matched by actual attendance rates.

2.8 It is important to recognise that additional demand for secondary education will come mostly from marginalised groups not previously able to enroll in and complete elementary education. These groups disproportionately include children from rural areas and from urban and peri-urban informal settlements, children from low income households, those from disadvantaged social groups. Many of these children belong to different constituencies with systematically different characteristics to those children who currently attend secondary school, especially in the low enrolment districts.

2.8.1 These differences will require analysis with regard to the needs and capabilities of specific groups to establish how their needs can be addressed through changes in pedagogy and curriculum. If this is not undertaken, expanded enrolment is likely to result in higher levels of drop out, failure to complete grades 9 and 10, and falling school effectiveness in achieving passes in Board examinations. In short, new students from backgrounds with less cultural capital and parental support, will need curricula adjusted to their capabilities, pedagogies adapted to less capable learners, and curricula option choices relevant to their likely life futures.

2.9 Higher and Technical Education

There are 10 Universities in the State, majority are privately owned universities. The State has 18 colleges per lakh population. The average enrollment per college in the State has declined from 1107 in 2010-11 to 1087 in 2015-16. Meghalaya (217) has one of the highest number of foreign students at higher education level amongst the north-eastern States after Sikkim (473). The overall Gross enrollment ratio at higher education level in the State is 21%.

Chapter 3

School Education

3.1 Introduction

3.1.1 Meghalaya has made significant progress in terms of getting students from different sections of the society in school. With the launch of schemes/Acts like SSA, RMSA and Right to Education, number of children entering and completing basic education has also experienced significant upward movement. One would argue that education is an important means to prepare students for better future and with features suited for citizenship. The logical frame would simply imply that more the number of year students spend in school; more they are likely to attain capabilities and competencies valued in their adulthood. However, this is not what always follows in reality; rather more often than not it has been shown that a majority of the students complete schooling cycle without even acquiring basic competency.

3.1.2 In the State, equality of learning opportunities at the level of school education has important role to play. Learning opportunities may be viewed in terms of expansion of capabilities of students to acquire skills that are necessary for nurturing of future capabilities. Expansion of capabilities can have redistributive effect by means of equalisation of learning opportunities. Simply years of schooling completed may not yield significant results unless the students have developed the capabilities that are important in enabling them to have valued choices and understanding of world around them.

3.1.3 The poor performance of the school could be more pronounced in situations where the family and the community find themselves unable to extend their support to students and teachers. Therefore, in the absence of community participation and ownership, effective teaching and learning may be an elusive target. It goes without saying that the socio-cultural and economic context of schooling matters the most for students to achieve better academic outcomes.

3.1.4 It is important to recognise that mere focus on promotion of basic competencies may not be sufficient to accelerate actions to promote sustainable development. In order to attain the goals of sustainable development, it is important to devise strategies that form the basis of expansion of capabilities of students for promoting real choices. Therefore, school education must not be seen only as means to achieving foundation to other capabilities but beyond.

3.1.5 A more comprehensive approach would be equalisation of learning opportunities through strategies for expansion of capability of students. Teaching learning strategies needs to take into account the inter-relatedness of capability expansion as means of equalisation of learning opportunities and learning outcomes as basis for long term sustainable development. Through strategies of capability expansion, teachers and schools should promote equalisation of learning opportunities.

3.1.6 It is important to recognise that with the expansion of schooling, a large number of students are now drawn from unprivileged backgrounds with higher ability group variation in

the classrooms than ever before. In this context, teachers and schools should assist students in achieving the pathways for developing critical and higher order thinking and the ability to communicate effectively. To put it in different words, strategies for expansion of capability should be such that it leads to reduction in inequality in learning outcomes between different groups and enhancement of other forms of capabilities. Achievement of the idea of sustainable development from the perspective of capability approach, teaching learning practices must move from formation of basic competencies to formation of ability to think and reason and be informed of world around them. School Education for sustainable development must be an education that is the basis for abilities needed to establish agency and attitudes supporting behaviour that leads to equal and just society.

3.2 Way forward

3.2.1 In accordance with Article 45 and 21A of the Constitution of India the State shall endeavour to provide Free and Compulsory Education to all children until they complete the age of 14 years. It shall also be the policy of the State Government that up to a given level, all students irrespective of caste, creed, location or sex shall have access to education of a comparable quality. In order to achieve this, the Government shall implement appropriate programmes including those funded by the Central Government.

3.2.2 The State Government shall promote equal opportunity for all sections of the society irrespective gender, religion and socio-economic background. In so far as children with special needs are concerned, the National Policy of inclusive education shall be followed.

- i. School Education sector will continue to aim at achieving Sustainable Human Resource Development at the grass-root level with a set target to bridge all social and gender category gaps at elementary and secondary level schools.
- ii. Keeping in view the Constitutional mandate of Universalisation of Elementary and Secondary Education, the State will endeavor to create infrastructural facilities to bring elementary and secondary education as per State norms.
- iii. Department of Education will continue to support national flagship schemes like SSA, MDM, RMSA, RUSA and Teacher Education.
- iv. The State Education Department will also take steps to improve the existing educational infrastructure to make them attractive and child friendly.
- v. Private aided and unaided institutions are as important as public institutions. Meghalaya's education system immensely relies on the support from the private institutions, particularly aided institutions. Aided schools form part of 49% of schools and most importantly cater to more than two-third secondary enrolment (67%). On the other hand, while unaided institutions hold about 42% of secondary schools, their enrolment share is merely 24%. Higher percentage of enrolment in aided school also indicate that these schools are larger in size than that of unaided schools, and thus makes it the most important leg to be tapped.

3.3 Early Childhood Care and Education:

3.3.1 In consonance with the National Policy on Education, the State recognises the holistic nature of child development namely; nutrition, health, social, mental, physical, moral and emotional development. Early Childhood Care and Education (ECCE) will receive high priority and attempts will continue for suitably integrating this programme with the Integrated Child Development Scheme (ICDS).

3.4 Elementary Education:

3.4.1 Elementary education will continue to operate under the mandate of National Policy on Education and Right to Education Act.

3.5 Non-Government Educational Institutions: Grant-in-aid:

3.5.1 The existing multi-layered system of grant-in-aid which is highly skewed in favour of the institutions under the deficit system is undesirable and should be progressively abolished by reducing the categories of grants-in-aid. The ultimate goal in this area is to have a uniform system for grants-in-aid.

3.5.2 The procedure for recognition of private schools is to be made transparent, norm based and straight forward with minimum of bureaucratic delay. Criteria for entitlement to Government grants-in-aid will also be made transparent.

3.6 Management of Non-government educational institution:

3.6.1 The Government shall encourage institutions meeting the RTE norms and other norms as set by the government on time to time basis to establish schools. Since school mapping has already been completed by the Department, setting-up of new schools will be restricted and any setting-up of schools at elementary level will have to be properly scrutinised by the Committee to be set-up.

3.7 Improving the Performance of Government Institutions:

3.7.1 The standard and performance of most Government Educational Institutions has left much to be desired. Considering the fact that the teachers and other staff enjoy all the benefits of Government service including promotion avenues, pension, health care, house building, car purchase allowances and other perquisites, the standard of Government schools and colleges should be of a much higher order than that of private ones. To improve the system, the Government will take appropriate steps including training of the heads of the institutions, streamlining of recruitment, transfer, posting and training of teachers besides introducing regular monitoring system.

3.8 Secondary and Higher Secondary Education:

3.8.1 Secondary Education (classes IX and X) is a crucial stage for children as it prepares them for higher education and also for the world of work. It is very essential to provide good quality education available, accessible and affordable to all our children in the age group of 14-16 years. To achieve this, there is a need to strengthen the secondary school education by providing opportunities to teachers for improving their professional capabilities/capacities.

3.8.2 It will remain the case that in some situations small schools are unavoidable. In such cases new models are needed for staffing and pedagogy which are affordable and which do not compromise quality. Mega schools are likely to be unwieldy institutions which may suffer diseconomies of scale and difficulties in ensuring no children are left behind.

3.8.3 Rationalisation of resourcing through the merging of small schools and creating composite schools can release resources which can then be utilised for financing schemes needed to improve education system efficiency and quality. Mega schools need to be examined to establish whether they are justified by lower costs and higher levels of achievement. Geographic Information Systems (GIS) can provide detailed insight into current patterns of school location in relation to habitations. This can lead to the development of plans to increase locational efficiency that are both technically effective and educationally and politically feasible.

3.8.4 Major reforms will be required to transform the landscape of secondary education in the State;

- Place all government run public schools (including special schools) within the jurisdiction of Directorate of School Education and Literacy;
- Implement a District level medium term planning process;
- Preparation of State Curriculum Framework based on National Curriculum Framework;
- Develop diagnostic entry tests/assessments for Secondary entrants;
- Reform board examinations to increase their predictive validity, efficiency and reliability;
- Regulate, facilitate and manage the growth of the private schools;
- Promote open and distance learning;
- Promote network of schools for resource sharing and best teaching learning practices;
- Transparent system of quality assurance;
- Institutionalisation of school improvement plans

3.9 Open Schooling

3.9.1 School education is a very important segment of education system contributing significantly to the individual as well as to the national development process. However a large number of school going age children still remain out of school due to various socio-economic and other reasons and are beyond the reach of the formal schooling system despite the best efforts.

3.9.2 In order to widen access to school education and enhance participation of learners in the educational process, open and distance mode of delivery through the Open Learning System and by means of the State Open School is the other alternative way. The Open Schooling

System with an edge over formal schooling system due to the inherent structural flexibilities, related to place and time of learning eligibility criteria, student's choice in selecting combination of subjects both academic and vocational and scheme of examinations. It is the alternative way of reaching out to these disadvantaged children and also adults.

3.9.3 Open schooling has the potential for "reaching the unreached" and "reaching all". It will also provide learning opportunities to the educationally disadvantaged groups like drop-outs push-outs pull-outs etc. from the formal system. Open Schooling Systems could also provide responses to the challenges of Universalisation of secondary education.

Chapter 4

Science and Mathematics Education

4.1 Introduction

4.1.1 The educational priority that orients the system to enable students to learn in scientific, logical and interdisciplinary manner in order to make studentlabour market and future ready is recommended in various policy recommendations. India's initiatives such as skill India, digital India, importance of use of technology has made STEM significant in context of educational policy.

4.1.2 Policy documents reflecting upon STEM importance have figured in New Education Policy, Joint Review Missions on Secondary Education, policy recommendations of NCPCR on proposed NEP etc. and institutional initiatives of Department of Science and Technology, NCERT and NITI Aayog etc. have focused on importance of STEM education system.

4.1.3 While the education level evolves over time, the seamless integration of STEM must evolve too right from the pre-school stage to the end of secondary education cycle. Tracing the persistent barriers responsible for under-realised strength of the STEM lie particularly with the issue of unrevised curriculum, dearth of quality subject-specific teachers, mostly teacher-centered teaching-learning processes for STEM subjects and constrained institutional capacity.

4.1.4 Towards the skill-development side of the issue, such barriers become potential constraints by additional impediments due to weak school readiness, college readiness, labour market readiness and poor industry linkages.

4.1.5As per National Achievement Survey (2015), out of the seven identified domains in mathematics, student achieved higher than the national average in only three domains. In science, students performed below national average in all the five domains. Further, the results indicate that in mathematics around 56% needed improvement, whereas in science 63% students needed improvement.

4.1.6The State Government will take the approach recommended by the NKC which includes revitalisation of the teaching profession to attract and retain quality teachers by revamping of teacher training at all levels and promoting development of teaching aids to retain student's attention in classroom.

4.1.7The building blocks of an effective learner at school and beyond are functional skills in mathematics and science. Functional mathematical and scientific skills mean that young people:

- have the confidence and capability to use mathematics to solve increasingly complex problems
- are able to use a range of tools, including ICT as appropriate
- possess the analytical and reasoning skills needed to draw conclusions, justify how these conclusions are reached and identify errors or inconsistencies

- are able to validate and interpret results, judging the limits of the validity and using the results effectively and efficiently.
- There should be clear and measurable learning outcomes at secondary and higher secondary education which must have inbuilt indicators of higher/technical education and labour market readiness.

4.1.8 In the broader context of the State's capacity to reap demographic dividend, the impediments employability of graduates and formation of human capital must be addressed. To keep in conformity with the globally relevant and competent workforce, it is to be realized that adapting to optimum knowledge, attitudes and skills to encourage critical and interdisciplinary thinking and problem solving that is rooted in technology must be addressed. Science, Technology, Engineering and Mathematics (STEM) is one such matter of policy discourse that aims to treat mentioned four discrete disciplines as integrated, shaping everyday experience and the future.

4.1.9 It is also acknowledged that the majority of jobs at present and in future shall be created in fields relating in varying degrees to the STEM education.

4.1.10 The need for the formation of sound human capital base, it is important that opportunities of learning in context of the STEM education must be re-examined. STEM education that maximizes students' capacities to delve into critical thinking by engaging with basics of science, fundamentals of mathematics and competencies in computer sciences evolve from the formative stages – pre-primary, elementary, secondary and higher secondary levels of education. Corresponding curriculum and related pedagogy must evolve to develop related competencies of students through-out the educational cycle.

4.1.11 Extremely urgent barriers relating to STEM gaps pertains to the supply of quality science teachers, quality of education resources (required laboratories etc.), lack of clear guidelines and standards on STEM education and integration of STEM throughout school education, making curriculum and pedagogy relevant. Therefore, strengthening the policy framework including capacity building of teachers engaged in STEM courses (in terms of development of their subject related and pedagogic competencies), improving infrastructure, revised curriculum in-line with the National Curriculum Framework and textbooks, integration of ICT to make schools technology ready are identified important enablers.

4.1.12 Qualified teachers for STEM courses would mean that we focus on efficient teaching and effecting teaching-learning in classrooms. This would further necessitate the teachers to engage in continuous learning through professional development, collaborative and structured efforts to induce the required STEM related competencies in students.

4.1.13 Further, the nature of assessments of formation of fundamental base for science, technology, mathematics, and computer science means revisiting the assessment standards at elementary, secondary and higher secondary levels. For this, the institutional framework governing quality of teachers, assessment standards, remedial education for STEM courses, resource provision in terms of infrastructure and ICT must be clearly established for each level of education in policy framework. These provisions must be based on evidence on

pedagogies and new approaches to the teaching of Science, Mathematics and Technology in school education to improve learning outcomes.

4.1.14 Keeping in mind the demographic and geographic context of the state, policy recommendation for rural areas and children belonging to marginalized communities must be differently mapped. Facilitation of learning processes by integrating curriculum and pedagogy rooted in local context, generating opportunities to explore and experiment, and provision of interface of students with wider scientific community can be encouraging to the learning process of students and development of scientific temper.

Chapter 5

Assessment and Examination Process

5.1 Introduction

5.1.1 The National Policy on Education (NPE), 1986 postulated that the examination system should be recasted so as to ensure a method of evaluation that is a valid and reliable measure of student development and a powerful instrument for improving teaching and learning. Whether we need the present form of examination or we need some other forms of examination is an issue which calls for an immediate debate. The term evaluation is associated with examination, stress and anxiety. All efforts at curriculum definition and renewal come to naught if they cannot engage with the bulwark of the evaluation and examination system embedded in schooling. The ill effects that examinations have on efforts to make learning and teaching meaningful and joyous for children are an issue of great concern.

5.1.2 Examination systems represent important avenues for educational change and the basis for reform in curriculum and teaching. Reform in curriculum is possible through bringing meaningful changes in examination items explicitly linked to learning goals. Sound balance is required between demands of the examination for learning outcomes and the learning goals stressed by National Curriculum Framework.

5.1.3 A good evaluation and examination system can become an integral part of the learning process and benefit both the learners themselves and educational system by giving credible feedback. The role of evaluation is to gauge the progress that both learner and teacher have made towards achieving the aims that have been set and appraising how this could be done better. The need of the hour is to evolve strategies to address evaluation issues in the form of introducing various reforms.

5.1.4 A lot of stress is related to the excessive length of the question papers. Effective strategies need to be worked out for shortening question papers by reducing the length of the examination. A shift in emphasis in form of testing competencies and departure from memorizing would certainly reduce stress, in addition to aiding the validity of examinations. There is no evading the fact that the purpose of Board exams is to certify the satisfactory completion of a course of study. There will always be some individuals who cannot demonstrate such satisfactory completion. They should be provided a number of chances to re-take one or more exams (within a three or even a five-year period). Till then, they are 'working toward the certificate'. Even after the expiry of this window, they should be free to attempt the whole exam (in all subjects) again. Hence, while it is possible to not succeed in passing an exam, no one ever definitively (and permanently) 'fails'. The above distinction is meaningful, and considerably different from the current understanding of boards on the issues of passing and failing.

5.1.5 A school-based continuous and comprehensive assessment (CCA) system be established in order to (i) reduce stress on children, (ii) make evaluation comprehensive and regular, (iii) provide space for the teacher for creative teaching, (iv) provide a tool for

diagnosis and for (v) producing learners with greater skills. The CCA scheme will be simple, flexible, and implementable in any type of school from the elite one to a school located in rural areas. Therefore, CCA can be summarised as- (1). a pedagogical process aimed at enhancing learning. (2) Criterion based as opposed to the current & deeply entrenched norm based. (3) Comprehensive assessment in terms of developing higher order cognitive skills of learners.

5.1.6 Keeping in view the broad principles of the scheme, each school will evolve a simple suitable scheme involving its teachers, and owned by the teachers.

5.1.7 It is important to note that learning assessments to have deeper impacts, there must be a framework to ensure learning assessments have clear connect with teaching policy and are embedded in classroom practices. This is a necessary requirement for transforming assessment data into meaningful instrument with pedagogic value for teachers, and mechanism to address learning gaps.

5.1.8 The State endeavors to introduce an effective evaluation and examination system with due emphasis on flexibility, credibility and transparency. There is urgent need for capacity building of teachers for effective implementation of CCA in the State. The in-service programme planned under MSIP should provide adequate inputs to teachers in CCA and should provide crucial avenues for implementation of CCA.

5.1.9 MSIP should create a framework for implementation of CCA that enables teachers to recognize CCA as avenue for continuous updating of their knowledge and important pathway for improving student's cognitive and non-cognitive skills. Following recommendation could serve as the basis for identification of capacity building needs, pertaining to effective implementation of CCA in the State;

- Assessment practices carried out in schools needs to be improved to address the learning gaps.
- A framework for continuous assessment needs to be developed following the local context of schools and capacities of teachers on effective ways of implementing CCA through in-service programme.
- CCA competencies should be assessed through planned procedures of evaluation.
- Assessment for learning needs to be promoted to bring equity and fairness in the assessment process at the school level to identify clear evidence of what students have actually mastered.
- Under MSIP, in-service training programme could be designed to build the capacity of teachers, so that they are able to provide formative feedbacks to students and identify barriers to learning in a much more realistic manner.

5.1.10 MSIP should design in-service program pertaining to effective implementation of CCA keeping in view the following:

- Tools for the teachers to identify competencies to be attained by the students.
- Enhance the ability of teachers to construct assessment tools involving criteria for student success for assessing the competencies.

- Enabling teachers to use assessment findings to develop and plan teaching.

5.1.11 Learning outcomes are important means of assessment that indicate expected level of learning that students must achieve for respective class-levels. The comprehensive set of learning outcomes, provide points at end of each standard and over period of time, to help assess the quality and nature of learning acquired by students over time period. Such outcomes provide individual and collective understanding of students' learning levels that teacher can use to assess; these provides important reference points for the teachers to know what students are able to acquire in terms of knowledge, skills and relevant competencies, class-wise (at end of each class such as class I, II etc.) and level-wise (end of each level, viz. elementary, secondary and higher secondary).

5.1.12 From a policy point of view, learning outcomes are strategic because they reflect broad conceptual knowledge, specific and generic skills, attitudes and learning experiences that are crucial indicators of quality of education that a system claims. These outcomes are also precursor to the minimum performance that must be achieved as against performance achieved across different point in school cycle.

5.1.13 Various policy documents, such as National Policy on Education 1986, the 12th Five Year Plan, RMSA policy references and draft of the New Education Policy (2016), have talked about the need to ensure minimum learning standards and learning outcomes at the end of each grade. This is to bring quality, accountability, uniformity and efficiency in the education system. Emphasis has been made on improving learning outcomes at all levels of school education. However, the current structure and pedagogical process underlying different levels of education could not integrate across levels and, with the approach underpinning the National Curriculum Framework (constructivist pedagogy). It is realized that there are disconnects between school and higher education; school level outcomes are categorically listed subject and grade-wise for elementary level, but the need for learning outcomes at secondary and higher secondary education requires attention.

5.1.14 The DERT and schools must make efforts jointly, to strengthen the understanding of evaluation system in a manner that examination can reflect on learning outcomes and related competencies students must develop at end of each cycle (elementary, secondary and higher-secondary) and across grades. Structural changes to surpass the barriers to bring in sync evaluation, examination and identified learning outcomes over the learning continuum right from elementary to higher-secondary must look at understated issues;

- 1) Establishing state-specific, culturally responsive framework for learning outcomes that seamlessly integrates the learning outcomes at elementary stage (inclusive of education in mother tongue and multilingual education), to the outcomes emanating from elementary education being scaled-up to the identified competencies at secondary and higher secondary education
- 2) Norms for learning outcomes and evaluation should be such that caters State-specific needs and must be uniform for different types of schools (private/aided and govt.). State must be enabled to engage in establishing norms that are State-specific yet comparable across nation to inform better decision making across country

- 3) Teaching-learning standards must be in sync with the identified learning outcomes at each level of education; pedagogic processes must make teachers to undergo understanding of evaluating outcomes and develop related competencies to address learning needs of diverse students
- 4) Opportunities for remedial learning must be provided to fill the already existing learning gaps for children; clear policy guidelines on subject-specific requirements at each educational level must be established to fill the learning gaps with respect to the expected learning outcomes

Chapter 6

Teacher Education

6.1 Introduction

6.1.1 It is recognised that the teacher is the single most vital factor in the educational system. Therefore, teachers will be recruited based purely on merit and only qualified and competent teachers will be appointed. The Government will also endeavour to create conditions, which will help motivate and inspire teachers along constructive and creative lines. Their pay, service conditions and fair retirement benefits have to be commensurate with their social and professional responsibilities. This will attract better talent to the profession. The recruitment of teachers will be streamlined and guidelines will be formulated to ensure objectivity in their postings and transfers. The appointment of teachers shall be school-specific and college-specific and no transfer will be made till they are due for promotion as heads of the institution concerned.

6.1.2 Apart from raising the minimum educational qualification of an elementary school teacher as highlighted in the NCTE notification No. 6103/20/2010/NCTE (W&S) dated 23rd August, 2010 that only pre-trained and Class XII passed candidates with 50 % marks (45% for ST/SC/OBC) has been prescribed as an essential qualification for appointment of such teachers as per RTE Act 2009 norms. This will improve the quality of education and reduce the dropout rate. Similarly, the minimum qualification of an Upper Primary School teacher should be raised and their entry will also be made only after completion of Pre-Service Training.

6.1.3 The State is already making an effort to conduct the Teacher Eligibility Test in the days to come. Untrained Teachers of the elementary level will be trained through ODL Mode. Teacher education refers to the policies and procedures designed to equip prospective teachers with the knowledge, attitudes, behaviors and skills they require to perform their tasks effectively in the classroom, school and wider community. The Directorate of Educational Research and Training (DERT) has been notified as the Academic Authority for the state of Meghalaya to oversee the academic quality of education as required under RTE Act 2009.

6.1.4 The persistence of low levels of learning outcomes achieved by students in the State only reiterates the need for capacity building of teachers. However, this alone may not yield the desired outcomes unless there are also mechanisms to enhance teacher performance. Improving teachers' time on task and reducing absenteeism are also crucial ways to ensure that the efforts towards building the capacity of teachers are translated into change in the classroom.

6.2 Directorate of Educational Research and Training (DERT)

6.2.1 As the nodal academic agency for teacher education, the Directorate of Educational Research and Training (DERT) has responsibilities for curriculum and syllabus development, content and materials production and capacity building of all teacher training institutions. As

the key agency vested with the administrative control and responsibility for research and training related to teacher education in Meghalaya, the involvement of the DERT is an essential prerequisite for any educational intervention.

6.2.2 Although considerable progress has been made in the last decade, there remain pressing needs for building the capacity of the DERT, particularly in view of its importance as the prime State agency for the promotion of reform. The State has planned to improve the quality of its teachers through Open and Distance Learning (ODL) initiatives and through building the cadre of teacher educators.

6.2.3 Building the capacity of the DERT is important for creating a pool of qualified teacher educators and developing outstanding teacher education institutions. To ensure the effectiveness of the efforts, the capacity building of DERT needs to result in the formulation of contextualised strategies for the capacity building of teachers to enhance their effectiveness. Following are the policy options to strengthen DERT

- Design appropriate teacher competency framework in line with NCF and NCFTE.
- Develop teacher performance indicators to gauge subject knowledge of teachers and to identify appropriate In-service teacher training program.
- Develop indicators of best classroom practices through generating evidence on classroom practices and learning outcomes.
- Design appropriate and need based capacity building and CPD programs.
- Design compulsory induction training course for new teachers as per the guidelines of NCTE.
- Design performance management, target and review cycle for assessing teaching quality.
- Design supervision and support mechanisms at school and system level.
- Develop teaching manual of effective pedagogy and practice.
- Design coaching and mentoring framework to transfer good practice
- Design framework to support teachers for assessment and tracking of ‘at risk students’.
- Design and implement a leadership programme for teacher educators involving personnel from DIETs, BRCs and CRCs.
- Arrange training of all the Education Administration staff at the State, District, Block and Cluster level.
- Capacity building of DERT in developing a framework for the review of the existing ODL programme.
- There should be clear division of work and roles and responsibilities between various State/District level agencies.
- Capacity building of DIETs in undertaking a review of and improvement in the In-service education.
- DERT shall;
 - undertake a comprehensive needs analysis for all stakeholders;
 - formulate a comprehensive training plan for all stakeholders;

- formulate an effective plan for the deployment of teachers linked to supply through pre-service education;
- formulate an effective plan for the deployment of Teacher Educators to match emerging demand for training at sub-state level; and
- Review and analyse existing teacher education materials, develop teacher education materials using findings of review, pilot and finalise these materials.

6.3 In-Service teacher training

6.3.1 Teachers have always been recognised as key to the success of any educational system. However, a large number of teachers in the State are untrained. It is important to note that a ‘good teacher’ is often regarded as being synonymous with a ‘qualified teacher’; however qualification alone does not guarantee quality. Therefore, innovative strategies for continuous professional development (CPD) of teacher will be required to attain sustainability through the intervention, particularly;

- 1) Promotion of activities to foster greater association between professional development and classroom practices. This should further be accompanied by regular follow-up activities and strong system of monitoring.
- 2) Creation of greater convergence across schools through formal and informal peer interactions. Such support may be institutionalised through formation of learning communities focused on the innovative classroom practices and resource sharing.
- 3) Inculcation of leadership skills amongst the head teachers is another factor for rendering support for new and innovative methods of teaching.
- 4) Focus should also be given upon ways to create meaningful linkages between professional development and curriculum and assessment.
- 5) Career path teachers must correspond to the progression of their competencies over the years and that should relate to their future role as principle, administrator etc.

6.3.2 Adequate reference resources and materials must be made available to all teachers in the system. Programme evaluation shall be permanent component of all packages. For teachers already in place, flexible quality programmes and mechanisms need to be offered to enable them to acquire the mandatory requirements.

6.3.3 In-service programme needs to be designed and developed by conceptualising the modules and packages as a continuation of pre-service courses. In order to make these efforts effective, there is need to constitute Programme Advisory Committee for the TEIs. Following policy options could be used to streamline in-service education;

- Design need-based capacity building and CPD programmes for teachers and head teachers at regular intervals.
- Academic Leadership training for school heads should be made compulsory.
- Mechanism to provide school level in-service support to teacher shall be put in place.
- Framework for ICT supported teaching learning shall be developed.

- Conduct regular and systematic principal and teacher appraisals in conjunction with NCF and NCFTE.
- Train teachers in outcomes-based assessment and use assessments to adjust curriculum.
- Review of current pedagogical and assessment practices used at each grade level. Use the results to create State guidelines for developmentally appropriate pedagogy and assessment approaches for each grade level.
- Conduct grade level training and coaching programmes for teachers to enhance developmentally appropriate practices and build peer accountability.
- Create a standardised EMIS for in-service teacher training to keep track of progress and for future intervention.
- Institutionalised results-Based management processes.
- ICT enabled system of capacity building initiatives at district and sub-district level
- Introduce viable and adaptable innovations that have been show-cased through research, based on sound evaluations.
- Develop avenues for in-service teacher training through open and distance learning

6.3.4 All other agencies including NGOs, involved in teacher education in the state, should get their modules/programmes approved and vetted by the DERT, which is also the Academic Authority.

6.4 Pre-Service teacher education

6.4.1 All DIETs and College of Teacher Education in the State will ideally conceived of, and organised as a seamless continuum, teacher education is often divided into these stages:

- Initial teacher training / education (a pre-service course before entering the classroom as a fully responsible teacher);
- Induction (the process of providing training and support during the first few years of teaching or the first year in a particular school);
- Teacher development or continuing professional development (CPD) (an in-service process for practicing teachers).

6.4.2 Teacher Education envision the role of the teacher and the shape of teacher education unfolding in the coming years, it would do better to take note of the movement of ideas, globally, that have led to current thinking on teacher education. While the search for a philosophy of teacher education that satisfies the needs of our times continues, we seem to be converging on certain broad principles that should inform the enterprise. First, our thinking on teacher education is integrative and eclectic. It is free from the hold of 'schools' of philosophy and psychology. TEIs should realise the tentative nature of the so-called knowledge base of teacher education and made reflective practice the central aim of teacher education.

6.4.3 Pedagogical knowledge has to constantly undergo adaptation to meet the needs of diverse contexts through critical reflection by the teacher on his/her practices of teaching, evaluating and so on. Teacher education institutions have to build the ability in the teacher to

evolve one's own knowledge to deal with different contexts based on understanding and analysis of experience.

6.4.4 Against this backdrop and keeping in view the vision of teacher education as articulated above, the following set of concluding statements relating to perception of teachers' role, and philosophy, purpose and practice of teacher education can be made:

- Teacher Education Institutes (TEIs) should be prepared to care for children and love to be with them, love knowledge and be constantly learning, own responsibility towards society and work to build a better world, develop sensitivity to the problems of the learners, commitment to justice and zeal for social reconstruction;
- TEIs should ensure that teachers change their perception of child as a receiver of knowledge and encourage its capacity to construct knowledge; they should ensure that learning shifts away from rote methods. Learning is to be viewed as a search for meaning out of personal experiences and knowledge generation as a continuously evolving process of reflective learning;
- TEIs should engage with theory along with field experiences to help trainees to view knowledge not as external to the learner but as something that is actively constructed during learning. Teacher education should integrate academic knowledge and professional learning into a meaningful whole;
- TEIs need to train teacher trainees in organising learner-centred, activity based, participatory learning experiences — play projects, discussion, dialogues, observation, visits, integrating academic learning with productive work;
- TEIs should engage teachers with the curriculum, syllabi and textbooks to critically examine them rather than taking them as 'given' and accepted without question;
- TEIs should provide opportunity to trainees for reflection and independent study without packing the training schedule with teacher-directed activities only;
- TEIs should conduct a programme that helps teachers or potential teachers to develop social sensitivity and consciousness and finer human sensibilities.
- In view of the many-sided objectives of teacher education the evaluation protocol should be comprehensive and provide due place for evaluation of attitudes, values, dispositions, habits and hobbies (in addition to the conceptual and pedagogical aspects) through appropriate quantitative as well as qualitative techniques.

6.4.5 With Central assistance, 7 District Institutes and Training have been set up. These institutions will be strengthened and their intake capacity will be increased to help facilitate the adoption of policy of appointment of only pre-trained teachers. DIETs will also be set up in the DIET-less districts of East Jaintia Hills, South West Khasi Hills, East Garo Hills and South West Garo Hills.

6.4.6 In so far as Secondary and Higher Secondary Education is concerned, there are only 2 government owned, one government aided and 2 private Colleges of Teacher Education

(CTEs) in the State. Their capacity needs to be increased so as to enable them to offer not only pre-service but also in-service programmes. The State has already taken a lead to enhance the capacity of the State owned CTE's, and it is imperative that these CTE's increase their intake at the earliest, to help tackle the untrained teachers situation in Meghalaya.

6.5 Expansion of Pre-service teacher education in the State

6.5.1 The State government shall expand access to teacher education to meet future demand for teachers at all levels of schooling. Following policy option could be the basis of meaningful expansion of pre-service teacher education in the State;

- Strategically invest in opening of new Pre-service education institution in the State to meet the future demand with specific criteria that take into account considerations of cost effectiveness.
- Pilot modalities for offering pre-service education in open and distance learning mode.
- Explore avenues for supporting in-service teachers to acquire professional degrees like B.Ed, D.Ed, Bl.Ed through open and distance learning
- Develop strategies for training of teachers without professional qualification.
- Undertake research to understand factors shaping "Teaching Profession" as career choice in the State.
- Strengthen the capacity of existing teacher education institutions.
- Review pre-service teacher education curriculum in line with National Curriculum Framework for Teacher Education (NCFTE) and contextualise as per the needs of the State.
- Make it compulsory for existing teacher education institutions to follow NCF and NCFTE as guiding principal to offer pre-service courses.
- Develop mechanisms to provide accreditation to all existing teacher education institutions within specified timeline.
- Ensure that existing teacher education institutions function and follow as per NCTE norms.
- Develop a framework for inter-institution linkages for the exchange of best practices.
- Provide access to appropriate technology to support learner-centred teaching and learning.
- Implement a Centre for Instructional Support to work with faculty to build competence in student-centred teaching and instructional design.
- Develop system for monitoring of pre-service education institutions.

6.5.2 The government shall ensure steps to elevate the status of teacher education in Meghalaya to higher education institutions and to ensure that teacher education institutions do not operate in isolation. Necessary steps need to be undertaken to ensure that the pre-service education programme in the State are aligned with the NCF 2005, NCFTE 2009 and RTE Act 2009.

6.5.3 The core question however relates to the strategies to prepare teachers to face the challenges they might encounter with increased diversity in the classroom. Further, a related

question is how teachers devise strategies to enhance student participation in teaching-learning practices? Fundamental to this is the recognition of National Curriculum Framework for Teacher Education (NCFTE) – 2009, which outlines the basic principles for preparation of teachers. Through a Constructivist teaching approach, children are encouraged to construct their own knowledge based on experiences.

6.5.4 Teachers are meant to act as facilitators rather than just transmitters of knowledge. Constructivism has also been mandated by the National Curriculum Framework (NCF) – 2005. “Constructivism leads to new beliefs about excellence in teaching and learning and about the roles of both teachers and students in the process. In constructivist classrooms, students are active rather than passive; teachers are facilitators of learning rather than transmitters of knowledge”.

6.6 Teacher Management Information System

6.6.1 Keeping in mind the importance of Digital India initiative and e governance, Govt. of Meghalaya has initiated development of Teachers Information Management System (TIMS), which is a web based automated system which will revolutionise operations of Education Department. The Application Development is near complete and awaiting User Acceptance Testing and thereafter launch.

6.6.2 The features of the project include 1) Complete & authenticated teachers data with unique code including their service records like appointment, retirement, qualification 2) Forecasting, planning, Automated alerts functionality 3) School profile information like infrastructure, Manpower etc 4) Capturing of attendance, salary etc. 5) Multi-level & integrated access system 6) Provision for Teacher evaluation, School action plans, MDM reporting 7) Automated dashboards 9) Automated processes for salaries, appointments, transfers etc.

6.6.3 It is imperative that TIMS is launched and adopted successfully over the next years, which will have a transformational effect on the functioning of the Department, which will improve efficiency, reduce redundancy & waste, increase data based decision making, improve transparency and speed in appointments & transfers, enhance operational hygiene with attendance tracking & Salary data and other advantages.

Chapter 7

The Meghalaya School Improvement Programme

7.1 Introduction

7.1.1 The Sustainable Development Goal (SDG) highlights how critical it is that the gains of the last two development decades are consolidated. With SDG in place, education sector now has 10 targets and over 40 indicators, aiming to ‘ensure inclusive and equitable quality education and promote lifelong learning opportunities for all’.

7.1.2 Target 4.7 of SDGs seeks to “ ensure all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture’s contribution to sustainable development’.

7.1.3 However, under SDGs, still a greater emphasis is placed upon access to and participation in education as an instrument of development and little explanation for what could be the corner stones of sustainability. Without doubt education is at the heart of development and learning achievements are necessary condition for development.

7.1.4 The SDGs fails to advance discussion of what actions and strategies is to be valued for what purpose? It is reasonable to expect out of SDGs to express “what should go into the 1200 hours of school that the sustainable development anticipates for schooling”? What would constitute a schooling fit for purpose in the context of sustainable development? What would close the learning gap that exists between the achievements of privileged and unprivileged 15 year olds students in different societies to achieve the SDGs in the local contexts? How can students of secondary schools understand enough to have an informed view on sustainable development?

7.1.5 The Meghalaya School Improvement Programme (MSIP) provides unique opportunity to advance the discussion around strategies that could support achievement of SDGs in the State. The MSIP is a School based program where schools (SDMCs), teachers and principals collaborate with district authorities (DRGs, DIETs, BRPs, CRPs) to customize strategies to the specific context of the district and school with a view to improve learning outcomes of students. It is cyclical (continuous) in nature and focusses on incremental changes.

7.1.6 MSIP provides schools in Meghalaya with a framework for enhancing student outcomes and organisational development, aimed at strengthening the school’s capacity for managing change and sustaining improvements in student achievement through recurring cycles of collective inquiry and action research. Under the MSIP, every S&HSS schools will prepare a School Improvement Plan (SIP) that will focus on the following key areas that touch various facets of school life:

1. Quality
2. Equity

3. Curriculum delivery
4. School learning environment
5. Parental involvement

7.2 Envisioning the Purpose of MSIP

7.2.1 Understanding which groups are disadvantaged is an essential first step in locating the correlates of educational disadvantage and exclusion. This can inform the design and development of policies and targeted interventions that address the needs of these groups. Local design for school improvement under MSIP is potentially attractive since it offers opportunities to match materials with aims and objectives from the outset; it can accommodate local pedagogical traditions; assessment procedures can be integrated to outcomes thought desirable; development can incorporate formative evaluation more readily; users can be involved in the development process and the prospects for effective implementation enhanced as a result.

7.2.2 In this context, MSIP provides unique opportunity to the State for developing localised system of school development in line with national system. Broadly, MSIP may aim at the following;

- Through MSIP, State may establish an assessment cell to provide continuous support to teachers and students on one side and create much needed evidence base to inform future policy intervention;
- MSIP should aim at creating a roadmap for convergence of different existing educational schemes in the State for achieving greater efficiency in the utilization of scarce resources;
- MSIP should develop a localized system for teacher professional development by focusing on streamlining the teaching-learning process in the State;
- More focused short term in-service training for group of head teachers pertaining to monitoring academic activities of teachers may be more effective and less costly with greater flexibility at addressing the differential needs of head teachers. This may also help State in creating communities of learning of head teachers for achieving sustainability in peer group support mechanism at the CRC and BRC level.
- A framework could be developed under MSIP for enhanced inter-school cooperation and establishing communities of learning for exchange of best practices pertaining to teaching and learning in the State;
- Importantly, MSIP should also aim at developing cadre of master trainers through customised programs in specific areas of school development, such as academic leadership, ICT, CCA, instructional strategies aimed at improving learning outcomes at both elementary and secondary level; and capacity building of CRC and BRC in areas like monitoring of academic activities, student academic progression and school site support.
- In order to achieve these goals, State government needs to formalize and institutionalise MSIP. To support this initiative, State needs to create dedicated funding mechanisms for MSIP to achieve long term benefits of MSIP.

7.2.3 The MSIP is a blue-print for how a school envisages/plans to improve. The purpose of the programme can be seen in the following statements:

- School improvement has a moral purpose and, at its crux, is to increase the life chances and achievement of all students.
- Improves the quality of teaching and learning in the school, so that greater numbers of students achieve proficiency in the core academic subjects and co-scholastic areas.
- Prevents overloading teachers, principals and SDMC members with over-ambitious and unrealistic improvement activities and voluminous School Development Plans. It recognises that meaningful change occurs incrementally.
- Encourages teachers, principals and SDMC members to take up change-agent roles and implement Central/State policy mandates and directives within the local context.
- Places accountability on schools. Accessible data and information enables stakeholders such as students, parents, teachers, administrators, and the broader community understand the needs of their school, enables them to take ownership and contribute to the development of their school and also hold the school management to account.
- Enables S&HSS track, review and revise the implementation of SIPs.

7.3 Way forward

7.3.1 Almost every country has undertaken some form of teacher education reform during the past two decades, but very few have succeeded in improving their systems. MSIP being an umbrella programme needs to be strengthened and following recommendation could be used to enhance its effectiveness;

7.3.2 Recommendation 1: Capacity building of teachers in pedagogical concepts:

Research evidence indicates that different forms training delivery have a range of strengths and weaknesses. Evaluation of in service teacher training under RMSA-TCA points to the fact that teachers appeared to be relatively satisfied with training model that emphasised on pedagogical practices despite what appears to be a heavy reliance on conventional instructional methods (e.g., lecture, whole group discussion). One of the important recommendations was that teachers should be exposed to the wealth of open access digital educational content available to them and provided with opportunities to integrate and use it in their classrooms. Under MSIP, State can develop an ICT enabled framework to support continuous professional development of teachers. Further, this could be supported by creating cadre of resources pool of certified master trainers. These master trainers must be identified among existing school teachers with basic ICT skills.

7.3.3 Recommendation 2: Improving Teacher effectiveness: Research suggests that teacher quality is an important predictor of student achievement. Research findings revealed that quality of teacher removes the difference arising out of disadvantaged background of the children. Further, evidence indicates that mean differences in the achievement score is arising out of disadvantage background nearly disappears given child is consistently exposed to quality teacher. Further, it is demonstrated by researches that the single most important factor

affecting student achievement is teachers, and the effects of teachers on student achievement are both additive and cumulative. Important message from the research experience is that that lower achieving students are most likely to benefit from increase in teacher effectiveness. The State should promote rigorous research through MSIP to identify key characteristics of teachers effectiveness associated with improved student outcomes. It will be important strategy for MSIP to identify under what situations does the learning outcomes of students belonging to disadvantaged background improve.

7.3.4 Recommendation 3: While ‘resource’ interventions dominate the debate, ‘process’ deserves as much attention: The conventional modes of transaction still dominate the existing in–service teacher training in the State. MSIP should identify innovative ways of in-service training such as video, informal support group and those that are geared toward knowledge consolidation (practical work, project work).

7.3.5 Recommendation 4: Roadmap for Involving and allowing students in teaching learning process: NCF 2005 provides the justification for adopting constructivism as approach towards capacity strengthening of teachers to manage classroom. The learner centered approach to teaching has become the dominant discourses in curriculum implementation. The constructivist approach assumes that students build their own understanding of the world and interpret it in various ways which reflect their specific circumstances. The role of the teacher in this is that of training students in efficient ways of constructing knowledge and understanding the multiple social constructions of meaning and knowledge. Under MSIP teacher training should be designed by identifying ways to promote student centred learning environment in classrooms.

7.3.6 Recommendation 5: Attention to diversity influences the idea about how schooling should be improved: Findings from previous research points to increasing diversity in student composition at all levels of schooling. The immediate implication of increasing diversity is the challenges associated with school organization, responsibilities, functions and implementation of curriculum. Typically actions to building capacity are warranted at four levels of governance in managing the diversity namely school support system (CRCs and BRCs), school teachers, the school leaders, the policy and planning bodies. The evidence indicates entrusting school, teachers and leaders with clear support system appears as an effective mechanism to bring transformation. Effective support system typically involves:

1. Providing targeted support to schools teachers;
2. Providing targeted support to schools leaders;
3. Enabling bodies likes CRCs, BRCs, DIETs and DERT to act as a buffer between the policies and planning bodies and the schools in order to manage any resistance to change.
4. Promotion of collaborative exchange between schools, by facilitating sharing of best practices between schools, helping them to support each other, share learning, and standardize practices.

7.4 Capacity building

7.4.1 The implementation roadmap for the capacity building under MSIP should entail participation of the CRCs, BRCs, DIET and DERT and enhancing their capabilities around the issues of managing diversity. Sustainability of the interventions under MSIP will in part also depend upon the degree of involvement and enhancement of the capabilities of the CRCs, BRCs, DIETs and DERT.

Chapter 8

Higher and Technical Education

8.1 Introduction

8.1.1 The need to maintain certain standards and protect higher education from degradation was recognised in the National Policy on Education, 1986. The major thrust area envisioned in NPE 1986 was consolidation and expansion of facilities in existing institutions. Autonomy and accountability in the system were recognised as important endeavours for the development of higher education. NPE 1986 placed great emphasis on state level planning and coordination of higher education, and on the prohibition of commercialisation of education.

8.1.2 Higher and technical education is a primary agency for development of the State. The State is committed to build strong vibrant and nationally/internationally competitive higher education system to meet the demands of the people of the State and regional economy for skilled and educated workforce. There is a strong belief that development of higher education is fundamental to the socioeconomic transformation of our State. Higher education has an important role in North Eastern region through human capital development, and providing research and innovation to support the transformation process, but it is affected by many problems.

8.1.3 Higher and technical education must be developed and delivered within national strategic framework and the developmental needs of the State. Priorities for development of higher and technical education may include: enrolment growth and gender equity, quality and relevance of undergraduate and post graduate programmes, promotion of research and innovation, fostering linkages between higher and technical education and labour market and purposeful integration of ICT.

8.2 State Council of Higher Education:

8.2.1 It is desirable that a statutory body of the State Higher Education Council (SHEC) be established to oversee the functioning and coordination of higher education in line with NPE and UGC. The Council may be a regulatory body, the head of which will have regulatory power to prescribe standard of education including fees and courses. The Director of Higher & Technical Education will be its Member Secretary.

8.2.2 The Council would be headed by a distinguished academician as is done in the case of the UGC. It may have representatives of the Vice-Chancellor of NEHU, renowned academicians, industrialists, experts and senior representatives of the State dealing with Education, Planning, Finance and Industries. The Council may be engaged in academic planning, management of institutions of higher education and matters relating to finance and other related matters.

8.2.3 According to the UGC guidelines SHECs are entrusted with planning and coordination, academic, advisory and administrative functions. The Twelfth Five year plan National Mission on Higher education 2013 has placed greater premium on the need for state level

planning for higher education, wherein state councils for higher education are expected to play key role. The centrally sponsored programme of RUSA relies on SHECs for its planning and implementation.

8.2.4 The RUSA covers only government institutions/colleges for funding purposes. However, all institutions (public and private) are covered for all other aspects of the RUSA. The funding pattern and fund flow mechanism need to be streamlined and the role of SHECs need to be clearly defined.

8.2.5 There are questions about improving the higher education sector when funding does not cover the majority of institutions which are in the aided sector. Allocation of funds for activities under different components of RUSA such as funds for developing State Level Information system could be included in research and innovation component. Accreditation of institutions is mandatory.

8.3 Quality of higher education

8.3.1 The growth of higher education brought in new issues related to quality, structure of higher education and governance. The issues related to the relationship between University system and government on the one hand and the autonomy of the University on the other. The State level planning for higher education needs to be institutionalised and SHEC should act as catalyst. SHEC should take the center stage and provide support to the State government in planning and management of higher education in the state. Following policy option could be undertaken to improve the quality by strengthening SHEC;

- SHEC should make efforts to streamline the requisite data on higher for the preparation of sound perspective plan
- SHEC needs to be empowered with regard to regulation of higher education in the State in the interest of improving the quality
- SHEC should identify avenues for setting up world class State university in the State
- SHEC needs to be empowered in the matters of regulation of admission to private higher education institution
- The SHEC should develop mechanisms to inspect and monitor quality of service delivery in private and government higher education institutions
- SHEC should offer handholding higher education institutions in the State to go for NAAC assessment
- SHEC should develop a framework for promotion and enhancing the standard of research
- SHEC should design leadership programs for college heads and faculty

8.4. College Education

8.4.1 Consolidation of the existing facilities, selective expansion with diversification of courses, improvement of quality education with emphasis on courses which are relevant to the needs and aspirations of the people and are employment oriented will be undertaken. In order to facilitate diversified and quality education, strategies are to be adopted to speed up the process of de-linking of +2 from colleges. Public Private Partnership (PPP) which is

already in place in the Education sector will be suitably modified to make it more effective and win-win for all concerned.

8.5 Opening of University Education

8.5.1 The State has one Central University namely the North Eastern Hill University. The Government will encourage Private-Public Partnership by establishing a limited number of Private Universities to cater to the specific and felt needs for professional, legal and technical education as has been done in the case of the Private Universities which have been established by means of Acts passed by the State Legislature. It is expected that, apart from general education, the North Eastern Hill University will increasingly provide leadership in the field of professional technical and vocational education also.

8.5.2 While Government has the key responsibility to provide higher education, private aided and unaided institutions have also historically supported the expansion of quality higher education. Such private institutions were being managed without much intervention from the government; however, government intervention in matters of functioning of private aided or unaided professional institutions has gained much attention in the recent past, especially with increasing disputes regarding admission and other fees.

8.6 Regulation and determination of fee

8.6.1 The question of regulation and determination of fee in private aided or unaided institutions of higher education has become of vital significance. It is important to recognise that the State intervention in education is required for wider socio-political considerations, which is equally true within the context of Meghalaya. This needs to be balanced by the fact that individuals/organisations investing money in the opening of educational institutions also desire a certain degree of autonomy in matters of admission and determination of fee. State intervention, while protecting the autonomy of the institutions, is supported by the need to prohibit commercialisation of education and protect the interests of the student community.

8.5.2 The State government has been empowered by the Constitution (Ninety-third Amendment) Act, 2005, to make special provisions regarding admission to educational institutions including private educational institutions, whether aided or unaided by the State, other than minority educational institutions referred to in clause (1) of Article 29 of the Constitution of India, in favour of persons belonging to Scheduled Caste, Scheduled Tribes and other backward classes of citizens. The Ministry of Human Resources, Government of India, had also suggested that legislation should also be made for the regulation of and fixation of fee in such educational institutions.

8.6 Skill Development

8.6.1 Enhancement of individual employability and training of skilled manpower with flexible skill development courses and institutes to cover certain percentage of students at the school level should receive greater attention. Public Private Participation in skill development should also be encouraged.

8.6.2 State government should adopt comprehensive and synergetic approach to institutional capacity building and system reform for long-term training addressing a fundamental reorientation of ITI programs and apprenticeships

8.6.3 Besides, strengthening institutional capacities, and fostering reforms in the development of curricula and teaching and learning resources for long-term training and teachers training.

8.6.4 Institutionalized structure for sustainability: This could be in the form of a Special Purpose Vehicle (SPV) in State for community engagement, curriculum review etc. For example, the National Skills Development Corporation (NSDC) structure has played a crucial role in catalyzing the short-term skilling programs across sectors.

8.6.5 The seat utilization rates in ITIs needs to be analysed on a regular interval to anticipate future demand. The is to compare existing levels of utilization with the upper limit and determine whether the system is becoming more or less efficient as a result of planned interventions. Greater efficiency will reduce costs per trainees and should increase effectiveness and the rate of progress towards skills development targets.

8.7. Technical Education

8.7.1 Keeping in view the trend of industrial development of the State and the country as a whole, the requirement of technical and management manpower may be assessed while considering opening of Engineering Colleges and Polytechnics as well as introduction of new courses in the existing Polytechnics.

8.7.2 The development of entrepreneurial culture and skills among the local youth are considered important. Private initiative as well as Public Private Partnership wherever feasible shall be encouraged. Strategies for further development in the field of Technical Education shall include:

- Consolidation and expansion of facilities at the Diploma level.
- Assessment of Technical manpower needs.
- Creation of appropriate infrastructure.
- Quality enhancement such as modernising laboratories and workshop, development and revision of curriculum to meet labour market needs, improved staffing and staff training, increasing utilisation of learning resources & media, promoting interaction with industry/ Community and networking activities.
- To make efforts to improve quality increase effectiveness and continuously strive for excellence to manage competitive environment by establishing total quality management culture in the institutions.
- To establish new polytechnics in the other Districts of the State.
- To encourage private organisations to establish technical institutions.
- To promote Apprenticeship training under the Apprenticeship Act. The training would strengthen the skills of technical students by placing them in real work

situation in industries/firms and thereby establishing their worthiness in the area of training obtained

- Strengthening of Meghalaya State Council for Technical Education.
- To introduce new courses like Hotel Management and Catering Technology, Water Resource Management and Rural Technology, Agriculture Engineering , Construction Technology, Mining Technology, Printing Technology, Communication Engineering & Information Technology after Socio-economic diagnostic analysis in a phased manner.

8.7.3 In short, internal and external efficiency of the technical education system may be improved so that the students of the system shall be able to find employment in and outside the State in the public as well as private sector.

8. 8 Co-curricular and Extra Curricular Activities

8.8.1 The National Service Scheme jointly sponsored by the Govt. of India and the State Government may be extended to all Higher Secondary Schools and Colleges for the benefit of the students.

8.8.2 The Bharat Scouts and Guides is an active and vibrant organisation in the State and may continue to be encouraged by extending the movement to all the Schools in the State.

8.8.3 NCC activities channelise youthful energy, foster much needed discipline, helps integration of our youth with the mainstream and also improves their chances to enter the defense services, Police service, the Central Government departments like the Department of Telecom, the Railways, Public Sector Undertakings where reservations exist for those with NCC qualifications. Multi-national Companies also prefer NCC trained persons, as they are highly motivated and disciplined. Therefore, NCC activities which have already gained some momentum with NCC units in all Districts may be further strengthened and encouraged to cover all parts of the State. (Sports, games, football, archery, ecotourism, hikings, culinary, hotel management schemes,

8.8.4 Physical education trends have developed recently to incorporate a greater variety of activities. Introducing students to activities like bowling, walking/hiking, or Frisbee at an early age can help students develop good activity habits that will carry over into adulthood. Some teachers have even begun to incorporate stress-reduction techniques such as yoga and deep-breathing. Teaching non-traditional sports to students may also provide the necessary motivation for students to increase their activity, and can help students learn about different cultures. The four aspects of Physical Education are physical, mental, social, and emotional.

8.9 Meghalaya Education Park

The State Government will explore the possibility of setting up a Meghalaya Education Park which will borrow from the concept of Special Economic Zones (SEZ) in order to attract Foreign Direct Investment (FDI) in Education. A reasonably large but compact area of land may be purchased by the State Government and the same may be offered on a long term lease to private investors' in Education at a profit. Alternatively, the Government itself may provide office space for start -ups on a rental basis. The Park will provide low cost common

facilities such as playgrounds etc. and the MEP could be set up as a company with Government as one of its shareholders. Reputed education service providers would be invited.

Chapter 9

Information and Communication Technology (ICT) in Education

9.0 Introduction

9.1 Information and Communication Technology (ICT) in education can add significant value to the government's efforts in improving quality of education across sector. The State government has made significant investments in ICT facilities in education through various programmes and interventions, including supporting Human Capital Development Programme.

9.1.2 In recent past there has been thrust to develop ICT material as well. Use of ICT in schools and classrooms depend on a wide range of factors in which the teacher's role is indisputably decisive. Its use depends on teacher training, teachers' concepts about teaching and learning, ways to organise and to manage school activities, relations with students and colleagues and also with their capacity for innovation. Successful integration of ICT in the teaching learning process depends on the preparedness of teachers and school leaders.

9.1.3 The State Government will facilitate and play a pro-active role in creation of ICT infrastructure and learning material. Central Government schemes such as CLASS project, ICT @ Schools project etc. will be implemented more vigorously. There shall be no discrimination in providing the ICT infrastructure with respect to the rural or urban area. The focus shall be on providing fit-for-purpose ICT infrastructure and material.

9.1.4 The curriculum and syllabus for IT/ICT will be as per the Curriculum Guide and Syllabus as prescribed by NCERT. There shall be greater convergence between the State IT and Education Department. This includes adequate investment on quality training and education on IT/ICT, the use of IT/ICT in Distance Education through virtual/smart classrooms.

9.2 Development and sharing of e-Content

9.2.1 Use of interactive ICT tools for teaching and learning, e.g. Smart/virtual classrooms are already being provided through various schemes. The development of digital learning resources in the form of e-books, animations, lessons, exercises, interactive games, models and simulations, videos, presentation slides, plain text materials, and graphics, or any combinations of the above, will be encouraged.

9.2.2 Use of digital resources should be harmonised with the requirements of the curriculum and supplement it. The teaching-learning material will be developed keeping in view the local context. *Inter-alia* following steps will be taken to strengthen the implementation of ICT in the State:

- The State shall also develop a repository, in line with NCERT's National Repository of Open Educational Resources (NROER) to store the e-content so that the teachers and students can access the same as needed.

- The proposed web based digital repositories will host a variety of digital content, appropriate to the needs of diverse groups of students (including children with special needs) and teachers.
- Teachers and students will be encouraged to develop digital learning resources collaboratively and contribute to the proposed digital repositories by collectively owning it.
- Educational standards and instructional designs for a variety of digital content and resources will be widely disseminated to enable development of quality digital content, including interactive multimedia materials and learning objects.
- The State shall endeavor to provide universal, equitable, open and free access to ICT and ICT-enabled tools and resources to all students and teachers. All digital learning resources and software resources will conform to the National Policy on Open Standards of the Government of India (<http://egovstandards.gov.in>).
- There will be no duplication of work towards development of ICT material. The Departments will ensure greater sharing and convergence of various programmes.

9.2.3 The challenge remains to integrate ICT in education seamlessly and strengthen institutional and individual capacities. The State shall work towards identification of fit-for-purpose ICT infrastructure, implementation framework and rigorous training. The strategic integration of ICT is expected to improve access, equity, quality and relevance of basic education. In order to make it sustainable, the State also needs to invest in curating e-content by its own teachers, trainers and academia.

9.3 Capacity building of in-service teachers:

9.3.1 Successful implementation of ICT in education requires a comprehensive readiness of the stakeholders involved. The full integration of ICT in schools is not confined to a technical process. Teachers must feel the need and desire to use them; and we must know how to integrate them according to their needs. In fact, teachers can and will integrate this kind of technology into their curriculum depending upon the critical success factor.

9.3.2 It is pertinent to include teachers in the design, development and evaluation of ICT infrastructure and material. Hence, embedding ICT in teacher training programmes assumes paramount importance and needs to be handled with care and artistically. In order to make the ICT implementation successful through teachers, the State will *inter-alia* take the following steps:

- Capacity building of teachers will be the key to the widespread infusion of ICT-enabled practices in the school system. A multi-phased programme of capacity building will be planned. Select teachers will also be provided with advanced ICT skills and ICT certification.
- In-service training of teachers will comprise of Induction Training as well as Refresher Courses. The refresher trainings will be carried out every year to enable teachers to share, learn and keep abreast of the latest trends in ICT-based teaching-

learning processes. The induction training will be followed by teachers' evaluation to ensure that the minimum competency is achieved.

- Training in ICT will be integrated with general training programmes organised for teachers and school leaders at all levels in order to popularise its use and to demonstrate effective practices in ICT.
- Beginning with an initial sensitisation through ICT operational skills and ICT-enabled subject teaching skills, teachers will become part of online professional groups to continue their education, pool in their resources and actively contribute to the strengthening of domain-specific knowledge within the State. The forums will also facilitate continuous development of ICT skills, introducing them to the tools and resources in different subjects/specialisations, as well as to create and share learning resources in those subjects.

9.4 m-Learning:

9.4.1 In this 'digital-age' it is imperative to use the technology around us. One of the most penetrated and rapidly increasing technologies is Mobile/Smart Phones. In order to leverage the technology available in every-hand, the State will also work towards m-Learning and m-Governance. The State will *inter-alia* utilise the mobile technology for the following:

- beneficially leverage to disseminate information about and catalyse adaption, adoption, translation and distribution of sparse educational resources
- Promote widespread availability and extensive use
- Development of Apps for disseminating books, documents, handouts, charts and posters in the form of e-books/e-documents through digital libraries
- Establish Mobile App-based model for sustainable exchange of ideas among teachers for peer learning
- Mobile Apps for monitoring, feedback and assessment related activities
- Identification of ICT Champions from the existing lot of teachers and use their services for peer learning
