ICT@SCHOOL

Report of The Field Study in Mizoram for TATA-MIT Initiative

Selected Districts

Aizawl
Champhai
Lunglei

Submitted by

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CHAPTER – I

BACKGROUND OF THE PRESENT STUDY

The TATA-MIT Education initiative aims at using contemporary educational technology affordances for High School Education and Teacher Education in India – to address the learning needs of students to better prepare them for active participation in higher learning and economic opportunity, to improve teacher education and transform their practice and to provide a platform for ongoing research and innovation in education that will transform the field.

The initiative is timely and opportune in that it responds to the explosion in the need and demand for higher quality of education for a large student population entering into High School. It takes adantage of technological advances in devices, connectivity and innovation through a networked ecosystem which makes it possible to widen access to content and communities of learners leading to authentic and active learning opportunities at scale and to reach hitherto underserved communities through multiple Indian languages

The present initiative seeks to directly engage with and alter the current situation of high schools in India by providing alternativea that will swing the balance decisively towards quality. The aim is to provide valuable learning opportunitiea at scale, that are capable of changing what our students and teachers know and can do using technologies, not as pipelines for the delivery of content, but to provide pathways to authentic learning and communities.

The TATA-MIT team, before moving ahead to the implementation has selected Mizoram as one of the three states where it would like to understand the dynamics at the ground level through a field study, the finding of which woul enable the team to finalise the implementation of the project.

1.1 Objectives: The objectives of the field study in Mizoram are –

1. To select the districts for intervention and pilot in the State.
2. To estimate the type of infrastructural requirements that may be needed in addition to the infrastructure already present in the High Schools of Mizoram.
3. To understand the readiness of the State/District officials towards such initiative in Government High Schools.

1.2 Methodology: With the limited time frame and keeping in view the nature of this study the purposive sampling method was adopted. As per the TOR, three districts viz. Aizawl, Champhai and Lunglei were selected and from the list of the High Schools which had already received hardwares through ICT@Schools, 3 schools each were again selected for the present study.

1.3 Tools for data collection: For the purpose of collection of data, both primary and secondary sources were used. Primary sources of information were the Headmasters, Teachers and Students of the Schools taken as sample and the secondary sources were available secondary information collected from District and State offices.

CHAPTER - II

AN OVERVIEW OF ICT@SCHOOL IN MIZORAM

2.1 Background of ICT Scheme in Mizoram

Mizoram has the second highest literacy rate in the country and it is therefore believed that Mizoram can also be one of the most IT literate states in the country which can further lead to a global center of excellence in IT Education, IT training, and software development Center. Under the Information and Technology @ School Scheme; it is expected to provide Information Technology infrastructure to every school in Mizoram and to introduce IT subject from the level of class III to XII as a compulsory subject. As the government of Mizoram has encouraged utilization of Information Technology in High schools and Higher Secondary Schools, the Department of School Education has developed IT Curriculum to make IT as compulsory subject from the level of primary schools to higher secondary schools. In this connection, the following objectives are expected to be realized:-

1. To formulate Computer Education plan for integration of computer into the curriculum and to make IT a part of the schooling process.
2. To provide computer systems to every school and introduce IT subject as compulsory subject from the level of primary schools to Higher Secondary Schools.
3. To provide internet connectivity to every school in Mizoram through the Mizoram Education Networks (MEDNET).
4. To achieve total computer literacy among school students and build up the capacity of their knowledge.
5. To provide special teacher training programmes for faculty members of IT in schools so as to enable them to teach IT subject in schools efficiently.
6. To achieve total computer literacy among students at the different levels of school education.

Government of Mizoram had introduced Computer Education in seven Higher Secondary Schools under the revised CLASS Scheme of the Government of India, through a private firm known as Computer Enterprise, Zarkawt, Mizoram initially for a period of 2 years. The actual implementation of the scheme started from 1998-99. The total cost of the project had been Rs. 7,23,520/- for one year i.e. @Rs. 1, 03,360/- per school, per year. The release of the payment was @ Rs. 1, 03,360/- per year. The scheme covering almost 1609 students had been satisfactorily implemented during the year. The sources of fund had been made available from the Computer Literacy Scheme funded by the Government of India under the Revised CLASS Scheme and resources that had been made available by the State Government. Keeping in view the existing infrastructure available and lack of experience of the school authority in this field, it was felt necessary that the initial responsibility should be given to outside agency and that at later stage, State Government was expected to take up the programme departmentally i.e. once experience was gained and sufficient number of trained teacher trainers were found available.

Under these circumstances, a private implementing agency/body that had the expertise, capacity and ability, both technical and financial had been defined. With this end in view, a notice inviting proposals for running computer courses in the schools was published in the local newspapers. Thereafter, out of the reputed firms who responded, one firm was selected by the State Purchase Advisory Committee. The firm had implemented the Computer Literacy Programme in 7 schools during the year 1998-99 under the Revised Scheme. The State Government had provided the basic infrastructure in the schools with one adequate sized room with electricity connection. The firm had provided furniture, computer hardware and peripherals (colour monitors, printers, UPS etc.) licensed software, curriculum with course materials and learning resources, two instructors per schools, computer stationery etc. The client server set up (one server with nine clients per school) had been adopted.

2.2 ICT @ School Scheme

Under the ICT @ School Scheme, a Computer Education Plan based on the norms of the Scheme of Information and Communication Technology (ICT) @ Schools formulated by the Govt. Of India vide their letter no. F.27-1/2002- Sch.5 dated 27.7.2004 was submitted to Ministry of Human Resource Development, Department of Higher and Technical Education, Government of India. Based on the Computer Education Plan submitted by the State, the Ministry of Human Resource Development, Department of Higher and Technical Education, Government of India has sanctioned an amount of Rs 306.18 Lakh for imparting Computer Education in the State. Out of the sanctioned amount, Rs150 Lakh was released by the Government of India. From the Rs 150 Lakh released by the Government of India, ICT @ School Scheme was implemented in 30 numbers of school in the State. Detailed information on the implementation of the scheme along with expenditure and utilization certificate has been provided and attached in the format, forms and performa.

Table 2.1
Year-wise Detail of Schools covered under ICT in Mizoram

Type of School	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Total
Secondary School	30	-	-	99	18	171	**318**
Hr. Secondary School	-	-	-	1	19	10	**30**
Total	**30**	**-**	**-**	**100**	**37**	**181**	**348**

2.3. The Present Scenario

A look at Table-1 shows that the total number of High and Higher Secondary Schools covered till date (latest sanction in 2011-12) is 348

schools. As per the latest report received from SCERT, the scheme has been implemented through outright purchase basis. Up to 2011-2012, as many as 1348 teachers have already been given training and 15980 students have been covered under ICT scheme.

2.4. Teacher Training:

All teachers are expected to be covered during the implementation of ICT in school scheme. Induction Training Module for High and Higher Secondary Teachers (Self Instructional Package) have been developed. The kinds of teacher training being organized were:
a) Induction and Refresher training for in-service teachers.
b) Training in Computer Basic, Integration of IT Tools and IT based Learning Resources in Curriculum Transaction.
c) Orientation Programme for teachers as well as Heads of the schools.

2.5. Recruitment of Teachers:

After the Revised ICT@School Scheme, provision for recruitment of computer teachers had been made. Recurring cost of 10% state share had been provided by the State Government for recruitment of dedicated computer teachers during 2010 – 2011. However, matching share of recurring cost of 90% central share has not been released for recruitment of computer teacher till date.

2.6 Monitoring:

State Level Monitoring Committee is being headed by Director, SCERT. At the district level, District Monitoring Group is headed by Principal, DIETs/DRCs and Principals/Headmasters of selected schools at the subdivisional level. State Level Monitoring Team is expected to visit all the schools covered and to conduct physical verification as well as the infusion of ICT in the teaching learning process. Reports are to be submitted quarterly by the District and Sub-Division Monitoring Groups.

2.7. Content Development:

For developing content for ICT@School, two kinds of approaches were employed:

a) Outsourcing to Private Firms:
Hard-spots have been identified by teachers and teacher educators and private firms are preparing storyboards for each topic, and the same are being submitted to the Expert Committee on E-content for editing, scrutinizing and necessary modifications and suggestions before it is finalized.

b) Development by SCERT:
E-content development activities are also being undertaken by the SCERT to make it more interactive through the guidance of the Expert Committee. Identification of hard spots for content in English, Science, Mathematics and Social Science are being finalized for development. The Expert Committee on Content Development has been monitoring all these activities undertaken for development and finalization of e-content.

2.8. Smart School:

Four Smart Schools are being established in the four districts of Mizoram by converting the existing State Government schools to serve as role models and to share the infrastructures and resources with the neighboring schools as soon as the Central share of fund for the purpose is revalidated during 2012-2013.

2.9. Evaluation:

Reconstruction as well as construction of new school buildings are underway throughout the State. As a result of this, a number of schools have not been able to install the computers received by them. Evaluation of the scheme is now being done by the Evaluation Team from Mizoram University.

2.10. Internet Connectivity

In internet connectivity, service providers have reached all the district capitals and nearby villages of the State capital, leaving schools in remote areas. The State Government ensured that the remote schools will be connected within five years after Power Grid Corporation of India connected the State of Mizoram.

CHAPTER – III

A QUANTITATIVE ASSESSMENT OF EXISTING FACILITIES

This chapter deals with the analysis of quantitative data collected from headmasters/principals, ICT teachers, subject teachers and students with the help of questionnaire/information schedules prepared for the purpose.

3.0. Quantitative Analysis:

In order to analyze and interpret the quantitative data, the statistical technique Percentage was used. The analysis of data has been presented in the following tables district wise on the various parameters:

3.1 Enrolment of Students in High School: To understand the situation of High Schools in Mizoram, the overall enrolment of students and enrolment by gender was collected from the Directorate of School Education Office. The following table represents the said data.

Table 3.1
Enrolment of Students in High Schools of Mizoram (Overall and by Gender

Total enrolment	311678	Gender Gap
Boys	160935 (51.64%)	3.28
Girls	150743 (48.36%)	

As on 30th Sept. 2012 Source: Statistical Cell, Directorate of School Education

The enrolment of students in High Schools show that the difference between boys and girls in terms of enrolment was negligible as the gender gap was only 3.28.

3.2 Enrolment of Students in Higher Secondary School: To understand the situation of Higher Secondary Schools in Mizoram, the enrolment of students by stream of study and enrolment by gender was collected from the Directorate of School Education Office. The following table represents the said data.

Table 3.2
Enrolment of Students in Higher Secondary Schools of Mizoram by Stream and Gender

Stream	Total	Boys	Girls	Gender Gap
Arts	14757	7247 (49.11%)	7510 (50.89%)	+1.78
Commerce	1218	679(55.75%)	539(44.25%)	11.5
Science	4688	2447(52.2%)	2241(47.8%)	4.4
Vocational	809	478(59.09%)	331(40.91%)	18.18

As on 30th Sept. 2012 Source: Statistical Cell, Directorate of School Education

The gender gap in enrolment of students in various stream of study was highest in Vocational Course with 18.18 and was + 1.78 in Arts, in favour of girls.

3.3 Availability of Human Resource: To find out the available people/human resources in the High and Higher Secondary Schools of Mizoram, data was collected from the Directorate of School Education whose latest publication was for the period of 2012-13 with the reference date on 30th September 2012. The following table represents the available human resource in these two levels of education.

Table 3.3
Number of Teachers in High and Higher Secondary Schools of Mizoram by Gender

Level	Total	Male	Female	Gender Gap
High School	1468	827 (56.34%)	641 (43.66%)	12.68
Higher Secondary School	3382	2199(65.02%)	1183(34.98%)	30.04

As on 30th Sept. 2012 Source: Statistical Cell, Directorate of School Education

According to the latest data published by Directorate of School Education, there were 1468 teachers in High Schools where 56.34% of the teachers were males resulting in a gender gap of 12.68. In the Higher Secondary Schools, there were 3382 teachers and the percentage of male teachers was 65.02 resulting in a gender gap as high as 30.04.

3.4 Performance of Class X students in Board Examination 2013-2014: The result of Class X students in the Board Examination was analysed in order to fully understand the performance of students on various subjects. This is presented in the following table – 3.4

Table 3.4
Performance of Class X students in Board Examination 2013-2014

Subject	No. of Students			Marks Range/Grade					
	Male	Female	Total	0-32	33-49	50-59	60-74	75-79	80-100
English	8980	9489	18469	2805 (15.19 %)	8817 (47.74 %)	2772 (15.01 %)	3066 (16.6 %)	222 (1.2%)	787 (4.26%)
M.I.L	8980	9489	18469	1082 (5.86 %)	6510 (35.25 %)	4769 (25.82 %)	5183 (28.06 %)	321 (1.74 %)	604 (3.27%)
Maths	8980	9489	18469	5026 (27.21 %)	9576 (51.85 %)	2073 (11.22 %)	1398 (7.57 %)	95 (%.51)	301 (1.63%)
Science	8980	9489	18469	3350 (18.14 %)	8791 (47.6 %)	3294 (17.84 %)	2255 (12.21 %)	162 (.88%)	617 (%3.34)
S.S	8980	9489	18469	3883 (21.02 %)	7202 (39%)	3064 (16.59 %)	3325 (18%)	248 (1.34 %)	747 (%4.04)

From a perusal of the above table, it can be seen that the highest percentage of failure was found in Mathematics subject and the highest percentage of students were concentrated between the range of 33 – 49 which was graded as 3rd Division. Among those who secured more than 80% in different subjects also, the lowest percentage was again in Mathematics.

3.5 Performance of Class XII students in Board Examination 2013-14: The result of Class XII students in the Board Examination was analysed in order to fully understand the performance of students on various subjects. This is presented in the following table –

Table 3.5
Performance of Class XII students in Board Examination 2013-2014:

Subject	No. of Students			Marks Range/Grade					
	Male	Female	Total	0-32	33-49	50-59	60-74	75-79	80-100
English	5624	5763	11387	1898 (16.67 %)	6178 (54.25 %)	1694 (14.88 %)	1449 (12.73 %)	85 (.75%)	83 (.73%)
M.I.L	5148	5522	10670	264 (2.47 %)	2901 (27.19 %)	2913 (27.3 %)	4026 (37.73 %)	279 (2.61 %)	287 (2.69%)
Maths	777	304	1081	265 (24.51 %)	563 (52.08 %)	144 (13.32 %)	86 (7.96 %)	5 (.46%)	18 (1.67%)
Physics	1250	1121	2371	175 (7.38 %)	790 (33.32 %)	760 (32.05 %)	487 (20.54 %)	56 (2.36 %)	103 (4.34%)
Chemistry	1250	1121	2371	194 (8.18 %)	805 (33.95 %)	742 (31.29 %)	540 (22.78 %)	29 (1.22 %)	61 (2.57%)
Biology	632	972	1604	87 (5.42 %)	428 (26.68 %)	480 (29.93 %)	452 (28.18 %)	44 (2.74 %)	113 (7.04%)

3.6 Availability of Infrastructure: The observations are made on the following provisions related to infrastructure i.e. availability of Computer laboratory; E- library; UPS Working; Availability of Furniture in Computer Lab; Internet connectivity; Availability of Printers; Electricity Supply ; Availability of Power Generators; Operating Software; availability of EDUSAT; SIT / ROT installed; EDUSAT (ROT)Room Furniture.

Table 3.6
Availability of Infrastructure

Infrastructure	Aizawl	Champhai	Lunglei
Computer laboratory	100%	66.67%	66.67%
E- library	Nil	Nil	Nil
UPS	100%	100%	100%
Furniture in Computer Lab	100%	100%	100%

Internet connectivity	100%	66.67%	66.67%
Printers	100%	100%	100%
Electricity	100%	100%	100%
Power Generators	66.67%	66.67%	66.67%
Operating Software	Microsoft	Microsoft	Microsoft
EDUSAT	Nil	Nil	Nil
SIT/ROT	Nil	Nil	Nil
Furniture for EDUSAT	NA	NA	NA

3.7 Use of ICT facilities & Integration of Technology in Teaching and Learning: The observations and responses of teachers and students are made on the following provisions related to use of ICT facilities and integration of technology in teaching and learning i.e. Duration to use computer for Students in Time table; Positive Perceptions of Students regarding ICT programs; Positive Perceptions of Students regarding EDUSAT programs; Students having E- mail account; Computer fee charged from students@-----; Teachers using computers actively; Teachers Using Technology in teaching; Teachers have Email account; Any ICT enabled material prepared by teachers; Capacity building of teachers for ICT; Positive Perceptions of Teachers regarding ICT programs; Positive Perceptions of Teachers regarding EDUSAT programs; IT infrastructure sufficient in school- Students Reponses; IT infrastructure sufficient in school- Teachers Reponses; and Students get sufficient time to practice on computers- Student responses are presented in Table 3.7

Table 3.7

Use of ICT facilities & Integration of Technology in Teaching and Learning

Particulars	Aizawl	Champhai	Lunglei
Positive Perceptions of Students regarding ICT programs	100%	100%	100%
Positive Perceptions of Students regarding EDUSAT programs	N.a.	N.a.	N.a
Students having E- mail account	45%	24%	42%
Computer fee charged from students	Nil	Nil	Nil
Teachers using computers actively	60%	45%	50%
Teachers Using Technology in teaching (Not EDUSAT)	10%	5%	5%
Teachers have active Email account	60%	45%	50%
Any ICT enabled material prepared by teachers	Nil	Nil	Nil
Capacity building of teachers for ICT	28%	40%	35%
Satisfied with ICT training programmes (trained teachers)	50%	45%	45%
Positive Perceptions of Teachers regarding ICT programs	100%	100%	100%
Positive Perceptions of Teachers regarding EDUSAT programs	NA	NA	NA
IT infrastructure sufficient in school- Students Reponses	10%	5%	5%
IT infrastructure sufficient in school- Teachers Reponses	Nil	Nil	Nil
Students get sufficient time to practice on computers- Student responses	10%	5%	5%

3.8 ICT usage in Administrative Work: The observations and responses of Headmasters are made on the following provisions related to ICT usage in administrative work i.e. Use of Email Facility for Administrative work; IT applications for administrative functions; MIS Report generation; and Information on Internet through State are presented in Table 3.8

Table 3.8
ICT Usage in Administrative Work

ICT usage	Aizawl	Champhai	Lunglei
Use of Email Facility for Administrative work	66.67%	33.33%	33.33%
IT applications for administrative functions	100%	100%	100%
MIS Report generation	Nil	Nil	Nil
Information on Internet through State	Nil	Nil	Nil

3.9 Curriculum of ICT and Computer books: The observations and responses of teachers are made on the following provisions related to Curriculum of ICT and Computer books i.e. Computer Education Curriculum framed; Need of revision of Computer Education Curriculum; Computer Education books provided to all students; and Need of revision of computer education books are presented in Table 3.9

Table – 3.9
Curriculum of ICT & Computer Books

Curriculum of ICT & Computer Books (ICT Teachers Response)	Aizawl	Champhai	Lunglei
Computer Education Curriculum framed	Nil	Nil	Nil
Need of revision of Computer Education Curriculum	100%	100%	100%
Computer Education books provided to all students	Nil	Nil	Nil
Need of revision of computer education books	100%	100%	100%

3.10 Maintenance of ICT facilities in Schools: The observations and responses of Headmasters were made on the following provisions related to maintenance of ICT facilities in schools i.e. Computer maintenance; Funds provided to schools; External support in

Schools for repair of computers; Hardware problem got solved in 5-10 days; and Software problem got solved in 5-7days. The findings are presented in Table 3.10

Table 3.10
Monitoring and Maintenance of ICT facilities in Schools

Monitoring and Maintenance of ICT facilities in Schools	Aizawl	Champhai	Lunglei
Monitoring done by District Officials once in three months	Nil	Nil	Nil
Computer maintenance Funds provided to schools	Nil	Nil	Nil
External support in Schools for repair of computers	Nil	Nil	Nil
Hardware problem got solved in 5-10 days	33.33 %	Nil	Nil
Software problem got solved in 5-7days	Nil	Nil	Nil

CHAPTER – IV

MAJOR FINDINGS, CONCLUSIONS AND SUGGESTIONS

4.0. Major Findings and Suggestions

The major conclusions and suggestions regarding the ICT @ School Scheme in the three selected districts of Mizoram are summarized as follows:

4.1. Findings and Suggestions Related to Physical Infrastructure for ICT Education:

a) Findings

1. The Computer laboratories are not available in 35% of sample schools.
2. Inadequate number of computers in many schools.
3. E- Libraries were not available in any of the sample schools.
4. EDUSAT-ROT/SIT facility was not available in any of the sample schools.
5. Generators, for back up supply, were not available in 62% of the sample schools.
6. Internet connection was not available in many of the schools.
7. Printer/ UPS were available in all schools.
8. Computers were purchased on Outright Purchase model.
9. There was no provision for maintenance of Computers and related technologies.

b) Suggestions:

1. Separate Computer labs must be provided in all government schools.
2. Generators, for back up of power supply, should be provided to all schools.
3. All possible measures should be taken so that Internet connection is available to all the schools.

4. Reliable and dependable provision need to be made for maintenance of hardware and software.
5. ROT/SIT facility under EDUSAT needs to be provided in all schools and a special EDUSAT rooms need to be constructed in schools.
6. Schools with the track record of larger enrolment may be provided with more computers.
7. Non-functional computers should either be repaired or replaced by new computers.

4.2. Findings and Suggestions Related to Teaching of ICT

a) Findings

1. There was no syllabus for Computer education in High Schools.
2. Slot for computer education, as such, was not reflected in time table of the sample schools.
3. Separate and full time computer teachers were not appointed in any school.
4. Computer education book was not given to students.
5. In service teachers' capacity building was not adequate.
6. Teachers were using computers only for typing of school reports, question papers and other routine activities.

b) Suggestions:

1. Computer education curriculum needs to be developed.
2. All schools must be advised to create separate period for ICT education.
3. Computer education should also be revised as per new operating systems.
4. More time for practice on computers should be given to students.
5. More rigorous in service training for computer education is required to equip teachers to teach their students through ICT.
6. Teachers' capacity building for developing digital teaching aids and to use technology based pedagogy need to be taken up.
7. Teachers need to be motivated to use ICT resources for professional development in academics also.

4.3. Findings and Suggestions Related to ROT/SIT Facility under EDUSAT

a) Findings

1. ROT/SIT facility under EDUSAT is not available in any school.

b) Suggestions:

1. EDUSAT-ROT/SIT facility need to be provided to all schools covered under ICT@ School Scheme.
2. Before creation EDUSAT facility in schools the following activities need to be taken up:
a) EDUSAT rooms need to established with proper space and sitting facilities
b) Headmasters/ICT teachers and subject teachers need to be trained to use EDUSAT based pedagogy.
c) Panels of experienced and innovative teachers be prepared for delivering EDUSAT based lessons.
d) Identified resource persons be provided orientation for use of EDUSAT facility in delivery of their lectures.

4.4. Findings and Suggestions Relating to the Appointment and Training of ICT Teachers and Use of ICT by Subject Teachers:

a) Findings:

1. No separate computer teacher has been appointed in any school covered under ICT@School Scheme.
2. A teacher from within the school has been given the additional charge of ICT lab.
3. Only 53% of sample ICT teachers' in-charge of ICT have received training under SCERT.
4. The quality and duration of ICT training given to teachers is not adequate to integrate ICT in classroom teaching.
5. Only 20% of subject teachers have been provided training on ICT.

6. Around 80% of sample teacher do not have access to internet facility in schools
7. Around 40% of sample teachers do not have their own Email ID.

b) Suggestions:

1. Separate Computer/ICT teachers need to be appointed in every school.
2. Computer teachers should be given the responsibility of ICT training to both students and their own colleagues within the school.
3. The practice of giving additional charge of ICT to subject teachers needs to stopped.
4. All teachers, who are holding additional charge of ICT education, need to be provided comprehensive training till the full time ICT teachers are appointed.
5. Quality, duration and frequency training given to ICT teachers need to be improved.
6. Computer teachers need to be motivated to develop E- content.

4.5. Finding Related to Use of ICT Facilities by Schools

a) Findings

1. ICT facility is minimally used for testing, evaluation, communication, lesson planning, exploration of information by teachers.
2. Teachers use computer only for routine matters No clear provision of ICT in school time table.
3. No log register maintained by any school for the use of ICT labs.

4.6. Issues that Need Immediate Attention

1. Non availability of separate ICT teachers in schools covered under ICT@School Scheme.
2. Non availability of computers in many schools as per the norms of ICT @School Scheme.
3. Non availability of internet connection in large majority of schools.

4. Absence of ICT curriculum for secondary and higher secondary classes.
5. No slot for ICT education in majority of schools.
6. Large percentage of teachers subject teachers without any training in ICT.
7. Provision for quick repair and maintenance of computers and related technologies.
8. Non availability of computer labs, and generators for back up in a considerable percentage of schools.
9. Non availability of ROT/SIT facility under EDUSAT in all schools.

4.7. Major Observations

1. Outright Purchase was employed by the Nodal Department (SCERT).
2. Non availability of ICT teacher in the schools is one significant problem which hinders the successful implementation of the scheme.
3. Non availability of funds for maintenance of the hardware provided to the schools made the scheme as a liability rather than an asset to majority of the schools.
4. ICT which was no longer included in the High School syllabus hinders its successful implementation.
5. Training given to teachers was not enough to equip them with ICT knowledge that can be passed on to their students.
6. The number of computer sets supplied to the schools is not sufficient to meet their requirement as most of the schools have more than 30 students in each class.
7. Due to erratic power supply, majority of the schools that did not receive generators as back up could not optimally use their computer labs.
8. Internet connection using Broadband is not possible in some schools in some districts due to non-availability of the Broadband connection itself.
9. Non-availability of relevant subject based software made it difficult for the teacher to use ICT for teaching-learning as they are not equipped with the knowledge of developing it.

4.9. Conclusion:

From the findings of this field study, it can be concluded that the health of this scheme in Mizoram is not good, as large percentage of schools covered under this scheme do not have adequate number of computers, internet connection, computer labs, and generators for back up supply. Besides, no school has been provided with a separate and duly qualified ICT teacher, and ROT/SIT facility under EDUSAT. Further, schools were hurriedly identified for supply of computers without even getting inputs from the concerned schools, whether they have the required space in for establishment of computers/ICT labs. The quality and duration of training provided to ICT and subject teachers is not adequate to integrate ICT with teaching learning processes. No ICT syllabus for high and higher secondary schools has yet been developed, and no time slot for computer/ICT class has been given by majority of schools in their time table**.** There is no mechanism in the state for monitoring and supervision of this scheme. The provisions created under the scheme are minimally used. A large majority of teachers and headmasters were found to be ignorant about the scheme, and were surprised to know from the members of field team of Evaluating Institute that all these computers are being provided by the Govt. of India under its ICT@School Scheme. In view of this sorry state of affairs in the implementation of ICT@School Scheme, it is strongly recommended that the state government should take initiatives for the rectification of the situation.

ANNEXURE

ADDITIONAL INFORMATION

In response to the queries received from the Team for the actual implementation of the initiatives, the following additional information is being presented here as annexture:-

1. **Availability of Computer Teacher in the Schools:** No Computer Teacher was appointed in any of the schools visited for the present study by the department. As the scheme was operated with outright purchase mode, there was no question of Computer Teacher appointed by the vendor. However, existing teachers efficient in technology were given the additional responsibility of looking after the scheme.
2. **Time Allocated for Computer Learning:** No separate time was allotted for Computer learning in the time table. The time slot given for CCA on Friday afternoon was used for computer teaching/learning for students on rotation basis.
3. **Ratio of Computers to Children:** The ratio of computers to students ranged from 1:26.13 to 1:3.52. (Details of enrolment of students of selected schools is given in a separate table).
4. **Districts selected for the pilot in the State:** Three districts, viz. Aizawl, Lunglei and Champhai has been identified for the pilot in the State.
5. **Readiness of the State/District officials towards such initiative:** As per the interaction and face – to – face discussion with the State and District officials, the Consultant for Mizoram found positive response from these officials. However, it may be mentioned here that the State officials were slightly apprehensive about the nature of the intervention and could not make any commitment which may have financial involvement as the State is having very tight budget.

Estimate of Additional Infrastructural Requirements

Name of the districts	Name of the schools	Number of Students	Number of Teachers	Number of Computer Sets	Additional Infrastructure required		
					Computer Set	Laptops	Power Generator
AIZAWL	Mizo H/S	**784**	**30**	**30**	**40**	**15**	**1**
	Mamawii H/S	**198**	**14**	**10**	**30**	**7**	**1**
	Zemabawk H/S	**271**	**11**	**10**	**20**	**5**	**1**
LUNGLEI	Govt. Lunglei H/S	**350**	**20**	**20**	**20**	**10**	**1**
	Lungsen H/S	**60**	**8**	**17**	**-**	**5**	**-**
	Leitlang H/S	**142**	**9**	**10**	**10**	**5**	**1**
CHAMPHAI	Govt. Champhai	**120**	**11**	**10**	**10**	**5**	**1**
	Ruantlang H/S	**91**	**7**	**10**	**10**	**4**	**-**
	Hnahlan H/S	**73**	**7**	**13**	**5**	**4**	**1**
TOTAL		**2089**	**117**	**130**	**145**	**60**	**7**

It may also be added here that no school is equipped with a SMART class and that the Headmasters of the schools visited for this project all showed their willingness to start a smart class if infrastructure is made available to them.