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Present Scenario of ICT and Problems of ICT School Coordinators to Implement ICT in Secondary Schools in Selected Block of Ramnagar-1, Purba Medinipur, West Bengal

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Abstract: **A major objective of the 21st century is the spread of digital technology. Information and Communication Technology (ICT) has been implemented in schools to improve overall education system in India. In this study, the researcher found out the current status of ICT and problems of its implementation in secondary and higher secondary schools belonging to Ramnagar-1 Dev. Block in Purba Medinipur district. This descriptive type research was conducted in 18th secondary schools through interview on students and subject teachers, questionnaires on ICT School Coordinators and surveys in ICT lab. The paper highlights various external and internal problems that are barriers the fulfillment of ICT's functional objectives. To ICT implementation in schools is the main responsibility of ICT School Coordinators but proper use of ICT is not happening due to their involvement in multitasking in schools, lack of regular training, inadequate remuneration and unwillingness of school's authorities. The researcher seeks to improve the ICT education system in the secondary schools located in this area through many effective recommendations. Proper implementation and development of ICT in schools is possible by overcoming the problems with effective cooperation of central and state governments, non-governmental agencies, local administrations and school administration.**

Keywords**: ICT, ICT School Coordinator, secondary school, scenario, problems.**

1. INTRODUCTION

The technical term' ICT' means Information and Communication Technology. The technical definition of ICT is 'ICT means the effective use of hardware and software for efficient management of information'. It refers to the technological tools that are used to transmit, store, create, disseminate, share or exchange particular task and manage information'. One of the world's most fascinating invention is technology. Technology is the main cause of revolutionary change in the field of education as in all fields of the world. Educational technology was first introduced in 1972 during the FOURTH FIVE YEAR PLAN to improve the education system in India. Subsequently, in 1984-85, the Government of India took up the Computer Literacy and Studies in Schools (CLASS) Project for promotion of computer education in schools, the main objective of which was to develop digital literacy through financial assistance to secondary and higher secondary government schools throughout India. In 2004, the Government of India adopted the ICT @ Schools scheme to technically empower all urban and rural schools in India. The scheme was subsequently revised in 2010 and 2011 to promote technology-rich quality education in schools (Source: MHRD, GOI), where it was decided to appoint ICT school Coordinators as skills technicians.

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Among the 29 states in India, West Bengal is known as one of the most progressive, prosperous and youth resource producing state. Most of the districts of West Bengal consists rural areas and most of the schools are located in rural settings. Due to which the process of teaching through ICT has started in secondary schools since 2014 with the aim of imparting quality education with advanced technology and increasing digital literacy among students (NPE-1986, POA-1992 and NEP-2020).

As per India Case Studies: West Bengal, in 2008–09, under the central scheme for universalizing secondary education, the Rastriya Madhyamik Shiksha Abhiyaan (RMSA), five states including West Bengal have been selected to implement ICTs in schools. 1,400 schools in West Bengal were each provided with 10 computers, 10 UPSs, 1 scanner, 1 web camera, 1 projector, and 1 printer at a cost of INR 0.9 billion (approximately USD 19 million).

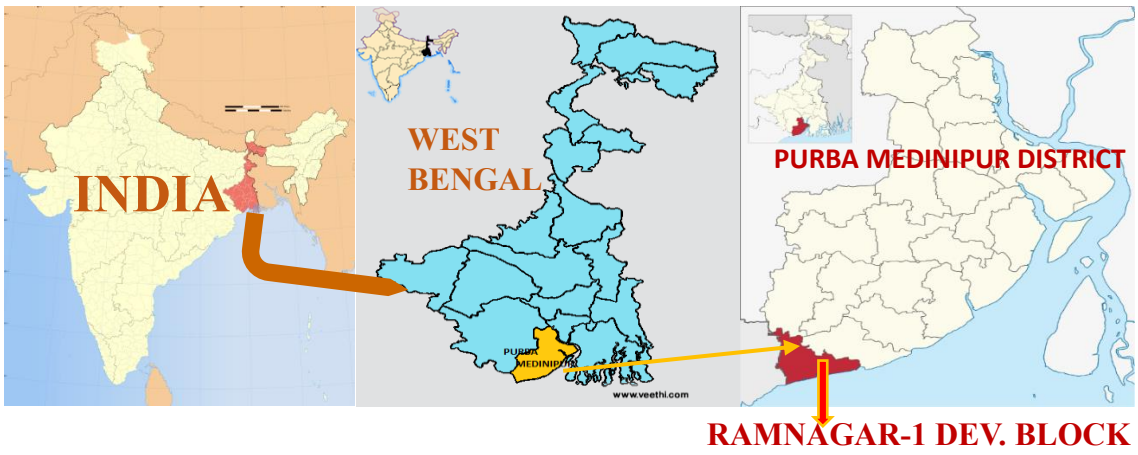
Purba Medinipur district of West Bengal consists of 25 development blocks and 4 Sub-Divisions. The researcher's selected Ramnagar-1 block in Purba Medinipur district, is known as a backward area, where only 14 secondary and 4 higher secondary schools have been developed in 137 villages.

This study mainly consists of two objects. Firstly, the current status of ICT@ Schools scheme in Secondary and Higher Secondary schools located in Ramnagar-1 developmental block. Secondly, what kind of problems the ICT school Coordinators has to face in terms of ICT scheme implementation.

2. LOCATION OF THE STUDY AREA

Located in Purba Medinipur district of West Bengal, Ramnagar-1 developmental block is known as coastal block. It is located at 21°40′18″N 87°33′01″E and has an area of 139.43 km^2. According to 2013-14 report, 137 villages have 14 Secondary and 4 Higher Secondary Schools. The study conducted with total 18 Secondary and Higher Secondary Schools and each school was selected as the sampling site.

Position of Ramnagar-1 Dev. Block in Map



3. AIMS AND OBJECTIVES OF THE STUDY

This study was approached with several broad objectives in mind. The main purposes highlighted here are:

1. To study the current status of ICT@ Schools scheme in Secondary and Higher Secondary schools located in Ramnagar-1 developmental block.

2. To analysis the actual problems in ICT lab in this schools.

3. To identify the range of practices of ICT lab to various fields in this schools.

4. To find out the interest and attitude of students towards the computer-based teaching.

5. To investigate the outcome of teaching learning process after using ICT lab in this schools.

6. To study the current status and job responsibility of ICT School Coordinators in Secondary and Higher Secondary schools located in Ramnagar-1 developmental block.

7. To study the effective role of school administrator and teachers in ICT lab.

8. To suggest for the development of digital literacy among students in this schools.

4. METHODOLOGY

Method of the study:

The nature of the present study is descriptive. The researcher completed the entire study using survey method. There are used different tools & techniques and method & strategies for data collection, Analysis and interpretation.

Population and Sample of the study:

The researcher selected as population and sampling in the present study all Secondary and Higher Secondary schools located in Ramnagar-1 Dev. Block of Purba Medinipur district under Government of West Bengal. All schools are divided between two clusters, namely Ramnagar cluster and Digha cluster.

Data collection technique:

The researcher is based on mixed method approach for the study. Both qualitative and quantitative data are collected by researcher. The study is based on survey, interview and questionnaire for primary data and websites, district hand books, journal, documentary and publication of education department of central and state government.

Data analysis technique:

For statistical analysis and interpretation, the researcher used tabular form to systematically collected all data and information. There are also used various types of statistical tools and graphical presentation.

5. RESULT AND DISCUSSION

Digital infrastructure in Secondary schools of Ramnagar-1 Dev. Block:

As per NEP-2020 recommendations, modern ICT labs and smart classrooms have been developed to complete the objectives of increasing the rate of digital literacy among students in rural secondary schools. In the year of 2007, the Government of India appointed IL&FS Education and Technology Services Limited (IETS) provide all educational technological infrastructure and education technology to support all Secondary schools in the country. All Secondary schools in West Bengal have been developed ICT infrastructure through the KYAN system. KYAN is an innovative technology management joint venture between IEDS and e Indian Institute of Technology (IIT), Mumbai. Every backward school in the state is benefiting from the use of ICT through KYAN. The device contains a computer with inbuilt projector, content, speakers, and has wireless keyboard and mouse. Others devices are included in ICT lab and smart classroom, these are Desktop or laptop computers, projectors, mobile phones, routers/dongles for internet connection, printers with or without scanners, sound systems and webcams.

Table 1: the infrastructure of ICT lab in Secondary Schools in Ramnagar-1 Dev. Block

Name of Secondary and	Hardware and software devices	others facilities Higher Secondary schools
A. Ramnagar Cluster/Circle		
1.BodhraPantheswari High School	Desktop computer-10, Projector-1 Mobile phone- nil, Routers/dongles-1 printers with or without scanners-1 sound systems-10, webcams-1 Software- New generations of techn-ology/software (Linux OS).	1. Regular feedback
2.Ramnagar Balika Vidyalaya	Desktop computer-10, Projector-1 Mobile phone-nil, Routers/dongles-1 printers with or without scanners-1 sound systems-10, webcams-1 Software- New generations of techn-ology/software (Linux OS).	1. Regular feedback

3.Ramnagar Rao High School	Desktop computer-10, Projector-1 Mobile phone-nil, Routers/dongles-1 printers with or without scanners-1 sound systems-10, webcams-1 Software- New generations of techn-ology/software. (Linux OS) Windows 10.	1. Regular feedback
B. Digha clusters/Circle		
4. Aniruddha Jr High School	Desktop computer-10, Projector-1 Mobile phone- nil, Routers/dongles-1 printers with or without scanners-1 sound systems-10, webcams-1 Software- New generations of techn-ology/software. Windows 10	1. Regular feedback
5. Digha D J Sikha Sadan	Desktop computer-10, Projector-1 Mobile phone-nil, Routers/dongles-1 printers with or without scanners-1 sound systems-10, webcams-1 Software- New generations of techn-ology/software.	1. Regular feedback
6. Digha Vidyabhawan	Desktop computer-10, Projector-1 Mobile phone-nil, Routers/dongles-1 printers with or without scanners-1 sound systems-10, webcams-1 Software- New generations of techn-ology/software. Windows 10	1. Regular feedback
7.Gobra I N K M High School	Desktop computer-10, Projector-1 Mobile phone-nil, Routers/dongles-1 printers with or without scanners-1 sound systems-10, webcams-1 Software- New generations of techn-ology/software. Windows 10	1. Regular feedback
8. Haripur Dasagram High School	Desktop computer-10, Projector-1 Mobile phone-nil, Routers/dongles-1 printers with or without scanners-1 sound systems-10, webcams-1 Software- New generations of techn-ology/software. Windows 10	1. Regular feedback
9.Jasteghari S T B Vidyapith	Desktop computer-10, Projector-1 Mobile phone-nil, Routers/dongles-1 printers with or without scanners-1 sound systems-10, webcams-1 Software- New generations of techn-ology/software. Windows 10	1. Regular feedback
10. Kantabani High Madrasah	Desktop computer-10, Projector-1 Mobile phone-nil, Routers/dongles-1 printers with or without scanners-1 sound systems-10, webcams-1 Software- New generations of techn-ology/software. Windows 10	1. Regular feedback
11.Khadalgobra Jr High School	Desktop computer-10, Projector-1 Mobile phone-nil, Routers/dongles-1 printers with or without scanners-1	1. Regular feedback

	sound systems-10, webcams-1 Software- New generations of techn-ology/software. Windows 10	
12.Khayranda P K Vidyapith	Desktop computer-10, Projector-1 Mobile phone-nil, Routers/dongles-1 printers with or without scanners-1 sound systems-10, webcams-1 Software- New generations of techn-ology/software. Windows 10	1. Regular feedback
13.Mirgoda Kanya Vidyalaya	Desktop computer-10, Projector-1 Mobile phone-nil, Routers/dongles-1 printers with or without scanners-1 sound systems-10, webcams-1 Software- New generations of techn-ology/software. Windows 10	1. Regular feedback
14.MirgodaMriyunjoyBanipith	Desktop computer-10, Projector-1 Mobile phone-nil, Routers/dongles-1 printers with or without scanners-1 sound systems-10, webcams-1 Software- New generations of techn-ology/software. Windows 10	1. Regular feedback
15.Nimtala High School	Desktop computer-10, Projector-1 Mobile phone-nil, Routers/dongles-1 printers with or without scanners-1 sound systems-10, webcams-1 Software- New generations of technology/software. Windows 10	1. Regular feedback
16.RanisaiBanipith High School	Desktop computer-10, Projector-1 Mobile phone-nil, Routers/dongles-1 printers with or without scanners-1 sound systems-10, webcams-1 Software- New generations of techn-ology/software. Windows 10	1. Regular feedback
17. Sadi R N High School	Desktop computer-10, Projector-1 Mobile phone-nil, Routers/dongles-1 printers with or without scanners-1 sound systems-10, webcams-1 Software- New generations of techn-ology/software. Windows 10	1. Regular feedback
18. Santra K L High School	Desktop computer-10, Projector-1 Mobile phone-nil, Routers/dongles-1 printers with or without scanners-1 sound systems-10, webcams-1 Software- New generations of techn-ology/software. Windows 10	1. Regular feedback

Source: Primary Data

Academic and Non-Academic uses of ICT:

Both Indian and State government have been focusing on digital literacy ICT mediated teaching and learning in the Secondary schools. Academic use of ICT within the school refers to daily basis ICT related theory and practical classes conducted by ICT School Coordinator teacher and subject teachers related to subject basis. In daily and regular basis, there

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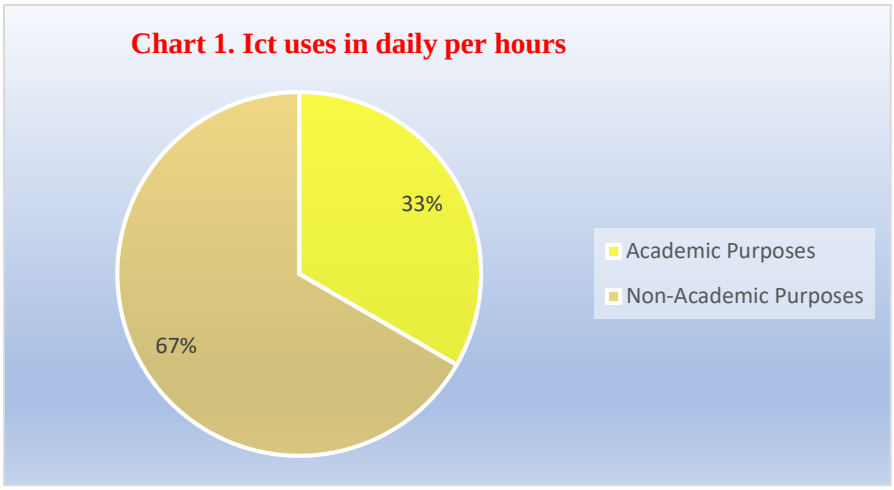
are different types of Non-Academic works, like- student database maintain, students' academic performance upload in portal, mid-day meal data entry, students' scholarship portals service and others school's activities are done by using ICT. ICT School Coordinator teachers play a key role in both tasks. Most of the year they are engaged in Non-Academic works as a result ICT Academic classes are particularly neglected. An investigation of all Secondary schools under Ramnagar-1 Dev. Block shows that the use of ICT is more for Non-Academic purposes than Academic. Every day the ICT School Coordinators in schools takes only 2-3 ICT related theory and practical classes but spends 3-4 hours in Non-Academic works.

Figure-1



Source: Primary data

Use of ICT by Students:

In Secondary schools under this area have a large number of students and one class is divided into 2 or 3 sections and more than 100 students are found in each section. Due to lack of adequate infrastructure of ICT lab, the students and ICT Coordinator teacher have to face many problems during theory and practical classes. Most of students do not have access to computers, as a result they lost motivation towards ICT classes. During practical class 40-45% students get opportunity to operate computer while remaining 55-60% students are deprived of this opportunity. In most of the schools, students are not able to use internet, the computers are not connected through Local Area Network (LAN) only few schools have internet facility through LAN so students can use internet.

Photo of ICT lab with Students and ICT School Coordinator

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Educational status and Job Satisfaction of ICT School Coordinator in these schools:

Through the survey of all secondary schools belonging to Ramnagar-1 Dev. Block, it isknown that since2014, the appointment of one ICT School Coordinator has been completed in each school as a contractual basis in collaboration with Webel and School Net. All ICT Teachers are performing their duties efficiently with care and responsibility. In addition, their role in other non-academic activities of the school is immense. In this study, the researcher conducts a questionnaire of 10 ICT school Coordinators and observes that they have high educational qualifications, good work experience and technical skills. But currently the rate of job satisfaction level among them is very low due to various reasons, viz- no periodically in-service training, low salary, no yearly increment facility, no DA/TA/MA facilities and others opportunity etc.

Table 2: Briefly Status of ICT School Coordinators in Secondary Schools under study area

Sl.No	Name of ICT School Coordinators	Academic and Professional Qualification	Joining and Experience years	Salary received per month	Job Satisfaction level (Strongly agree/Agree/Dis agree)
1.	Soumen Kamila	MCA, B.Ed. (Special)	Joining-10/04/2014 Experience- above 9 years	Rs.10190.00	Disagree
2.	Kanika Sar	M.A, B.Ed. Diploma in Computer.	10/04/2014 Above 9 years	Rs.10190.00	Disagree
3.	Sudip Kamila	B.Com., BSIM (ANIIT, 2 years)	25/08/2014 9 Years	Rs.10190.00	Agree
4.	Barnali Manna	MCA, MA, D.El.Ed.	10/04/2014 Above 9 years	Rs.10190.00	Disagree
5.	Susmit Manna	MA, Diploma in Computer, D.El.Ed	10/04/2014 Above 9 years	Rs.10190.00	Agree
6.	Suprabha Mishra	MA, D.El.Ed. Diploma in Computer	21/01/2021 6 years	Rs.10190.00	Disagree
7.	Mithun Sahoo	MA, D.El.Ed. Diploma in Computer	21/09/2017 6 years	Rs. 10190.00	Disagree
8.	Eureka Das	B.Sc., DSA	21/09/2017 6 years	Rs. 10190.00	Disagree
9.	Saikat Pati	B.Tech.	06/01/2020	Rs. 10190.00	Disagree
10.	Swapna Patra Maity	MA, Diploma in Computer	04/01/2022 2 years	Rs. 7531.00	Agree

Effective role of ICT and ICT School Coordinator in Administrative works:

A well-organized school administration is a very import of running a school. The head of school is called school administration in all the activities of the school, especially in making school rules and regulations, making decisions, appointing teachers and non-teachers and managing the school. School administration always works through struggles and challenges in various areas of school like- annual budget, students database management, teachers and non-teachers service records, management of different Government and non-government scholarship schemes, school infrastructure maintain, academic examination, annual report, daily Mid-day meal data entry and others school activities. After integration of ICT in the schools, it has become easier to manage all the administrative tasks by the ICT School Coordinators.

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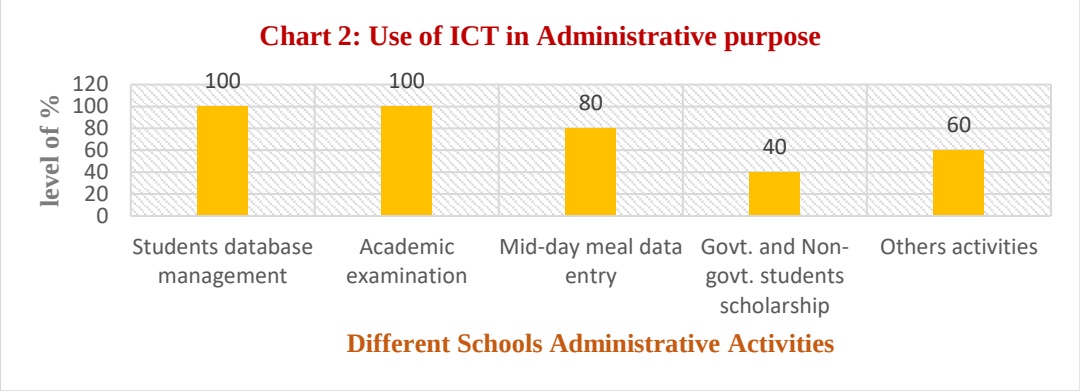
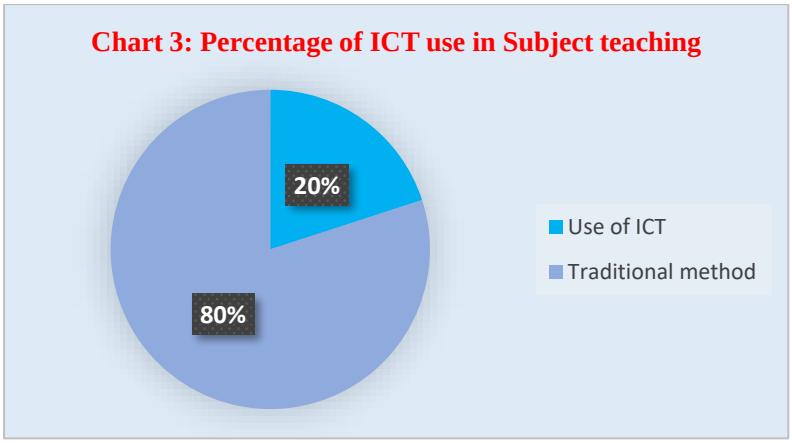


Source: Primary Data **Figure-2**

Use of ICT in Subject Teaching:

Based on the collected primary data, students and teachers interviews and questionnaires from ICT School Coordinators, it can be said that the use of ICT in subject teaching in the survey schools is minimal. In these schools, the subject teachers are neglecting the use of ICT during class teaching because lack of computer training certificates and skills to operate the technology. In today's age of modern technology, they still teach in the traditional methods in the classroom. In some schools belonging to this block, 1-2 teachers use ICT during their teaching and most of the subject teachers in other schools do not use ICT at all.



Source: Primary Data **Figure-3**

Current Problems of ICT @ School Scheme in Secondary Schools in Ramnagar-1 Dev. Block:

The researcher analysed the results of the collected data and found that there are various problems in the effective use and application of ICT. The main problems of ICT implementation in secondary schools in this area are given below-

- Lack of sufficient infrastructure in ICT labs compared to student's ratio.
- Only one ICT School Coordinator is employed in this schools. As a result, one finds it difficult to manage both academic and non-academic workloads.
- The technology used in education field is constantly being updated, but in the absence of periodic in-Service training, the ICT School Coordinators replace old subjects with methods every day. Lack of quality contents makes both students and teachers lose interest in class teaching.
- The selected schools are located in remote village areas, lack of uninterrupted electric supply is a major issue in these areas. As a result, ICT classes are closed most of the days of the week due to lack of electricity.
- There is another major problem are engagement of ICT School Coordinator in different schools Activities.
- Another importance problems are found in this study, these are low interest of subject teachers, school administration, ICT School Coordinators.

6. RECOMMENDATIONS

Through the present study, the investigator not only highlighted the current status and problems of ICT and ICT School Coordinators but also provided the following recommendations to solve the problems.

1. It is necessary to increase infrastructure including computers in ICT labs in proportion to student's ratio.

2. Increasing the number of ICT School Coordinators in Secondary schools and reducing their workload.

3. The advanced technology-based quality education requires for every student. It is possible to improving the professional quality of the teachers along with the improvement of the education system.

4. Appropriate use of ICT in these backward schools requires full engagement of all teachers and school administration.

5. To increase the interest and attitude towards ICT among the subject teachers, it is necessary to arrange different types of training in ICT base.

6. ICT School Coordinators need to be engaged more in academic activity than others non-academic work.

7. The government needs to focus on increasing the job satisfaction level of ICT School Coordinators.

7. LIMITATION OF THE STUDY

This present study is based on only Ramnagar-1 Dev. Block belonging in Purba Medinipur district; hence the study results are not represented the whole district. The whole study is done mostly on primary and secondary data, there are not used good statistical tools for interpretation.

8. CONCLUTION

ICT has been integrated in secondary schools since 2004 to promote technology education and quality education in India. In joint initiative by the central and state government, ICT has been implemented in all secondary schools located in Ramnagar-1Dev. Block under Purba Medinipur district. The present study focus on current status and effective use of ICT in these schools and role of ICT School Coordinators and their challenges. There are many external and internal problems that create obstacles to proper implementation of ICT in these schools. It will be possible to overcome all these barriers with the initiative of government, non-government and school authorities. Regular computer training, increasing extra infrastructure in schools, increase recruitment of ICT School Coordinators, handsome salary structure etc, can be steps to increase initiative among teachers and make full use of ICT.

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