A REPORT

ON

EFFECT OF PUPIL TEACHER RATIO ON ACADEMIC ACHIEVEMENT OF STUDENTS IN PRIMARY, ELEMENTARY, SECONDARY, AND HIGHER SECONDARY SCHOOL IN WEST BENGAL

STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

DEPARTMENT OF SCHOOL EDUCATION , GOVERNMENT OF WEST BENGAL

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FOREW0RD

The Department of School Education, Government of West Bengal, is endowed with the responsibility of enhancing Access, Equity and Quality in education across the State by bringing into practice the over-arching vision and mission of 21st century Education at the Primary, Upper- Primary, Secondary and Higher Secondary levels. The Department as the nodal body has several distinct Functionaries which look after various aspects of school education for the state. The Functionaries have well-defined assignments. SCERT (WB) act as a nodal body for research and training of School Education. The vision of the School Education Department is to ensure that students are imparted with the most supreme quality of education, physical environment to grow and curriculum that enables them to be responsible citizens of the country. The Department ascertains the universalization of education at Elementary level in schools as envisaged in The Right of Children to Free and Compulsory Education Act, 2009. The Department has also emphasized on The Secondary and Higher Secondary level in the same manner.

The Department of School Education , Govt of West Bengal has assigned various research works on emerging areas . SCERT(WB) took up the study titled "Effects of pupil teacher ratio on academic achievement of students " in Primary, Elementary , Secondary and Higher Secondary Level.

Dr. Chhanda Ray

Director, SCERT, West Bengal

ACKNOWLEDGEMENT

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CHAPTER – 1

INTRODUCTION

1.1   BACKGROUND :

Education is a means of achieving both individual and national development. It is the most vital investment any nation can make for sustainable development. It is possible that the provision of quality education at the School education might be the surest way of contributing to the achievement of a nation's development goals. In fact, School education in different level is the foundation level and a determinant of the degree of success of any education system. Universal education (UE) will remain a distant dream for millions of children living in countries without enough teachers in classrooms. This educational belief was supported by theorist, Lev Vygotsky. Vygotsky felt that people learn better when involved in social interaction. He thought that the learning process should take place between the teacher and the students together. When the student-teacher ratios are lowered there is allowance for teachers and students to work more closely together and build a stronger learning community between the students and teachers, in turn producing increased student cognition also felt that pupil, (students) learn when they are working with in their Zone of Proximal Development, (ZPD). The ZPD is what can be accomplished successfully with the assistance of an adult or help from a peer, surpassing what can be done alone.

1.2   STATEMENT OF THE PROBLEM :

As school population increases class sizes also increase, the performances of students become an issue. Class size has become a phenomenon often

mentioned in the educational literature as an influence on student's feelings and achievement, on administration, quality and school budgets. Class size is almost an administrative decision over which teachers have little or no control. Most researchers start from the assumption that size of the class would prove a significant determinant of the degree of success of students. In fact, with the exception of a few, many studies have reported that under ideal situation, class size itself appears to be an important factor. The first issue that calls for immediate clarification is what number of students should constitute a large group and what should be described as a small group? In describing a small group, the researcher observed that they have few teachers with small pools of talent; offer limited range of subjects and characteristically finding it hard to justify costly investment on libraries… their pupil's lack competition and interest with relatively few peers as they get stuck with same teacher for an entire school career. Large class size on the other hand is often impersonal, having broader curricula with teachers being given wider support, while students may suffer discipline problems as teachers cannot get to know their students very easily. They find it easy to stream students according to ability while commitment to work may stand a test of time. In terms of numerical strength, the National Policy on Education (1986 revised in 2020) specified that pupil-teacher ratio (PTR) of under 30:1 will be ensured at the level of each school; areas having large numbers of socio-economically disadvantaged students will aim for a PTR of under 25:1. Therefore, considering the vitality of the problem, this study investigates the effects of student- teacher ratio on academic achievement of students in West Bengal.

CHAPTER 2

OBJECTIVEs AND METHODOLOGY

2.1 OBJECTIVES :

The study has been taken to attain the following objectives:

(i)   To identify number of students in different classes (caste wise, gender wise, category wise).

(ii) To identify teachers of different areas who are taught in different level.

(iii) To propose suggestions for policy decisions for fill up the gap between ratio of student and teachers.

(iv) To determine the effects of pupil teacher ratio on academic achievement of Primary, Elementary, secondary ,and higher secondary school students in west Bengal.

2.2 METHODOLOGY :

The study adopted a descriptive survey design. The population of the study was Head teachers drawn from primary, Elementary, Secondary and Higher secondary schools in four district viz. Jhargram,Malda,Jalpaiguri and South 24 Parganas. There was no sampling due to the fact that the population was small. The instrument used for data collection was a questionnaire titled "pupil teacher ratio on academic achievement of students in primary, elementary, secondary, and higher secondary school". It is a 16 questions made up based on the purposes of the study.

 The survey has been carried out through google form designed by the SCERT (WB) and school visit. A data entry format for the questionnaire using MS- Excel was developed by the Assistant Technicians of DIET.

2.3   POPULATION :

The target population includes 457 Schools in Primary, Elementary ,Secondary and Higher Secondary level of which 102 schools are in Jhargram Districts , 173 Schools in Malda Districts , 84 Schools in Jalpaiguri and 98 Schools in South 24 Parganas.

CHAPTER – 3

DATA DISTRIBUTION AND ANALYSIS

In this chapter we distribute data received from the filled in Questionnaire from the Sampled District.

3.1   District profile:

  The following table shows that the total number of school in the district of Jhargram ,Malda,, Jalpaiguri, & South 24 Pgs .

Table:3.1	Total no. of school in the district	Level				
District	Primary	Elementary	Secondary	Higher Secondary	Total	Percentage(%)
Jhargram	1292	202	11	148	1653	15.76
Malda	1943	226	49	216	2434	23.21
Jalpaiguri	1213	163	37	143	1556	14.84
South 24 Pgs	3791	278	246	528	4843	46.19
Total	8239	869	343	1035	10486	100.00

Graph:3.1 Total number of school in district of Jhargram, Malda, Jalpaiguri & South 24 Pgs
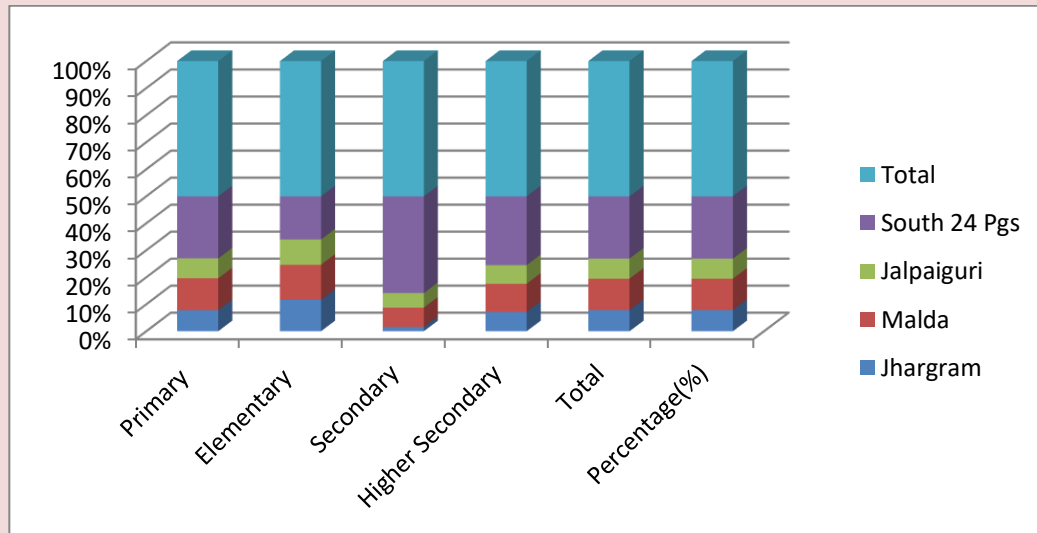
3.2 Distribution of Schools :

The following table shows that the total number of school located in Rural & Urban Area in the district of Jhargram , Malda , Jalpaiguri & South 24 Pgs .

Table:3.2	Total no. of school in the district located in Rural & Urban area									
	Primary		Elementary		Secondary		Higher Secondary			
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Total	Percentage (%)
Jhargram	1267	25	200	2	11	0	140	8	1653	15.76
Malda	1846	97	222	4	43	6	192	24	2434	23.21
Jalpaiguri	1097	116	153	10	32	5	111	32	1556	14.84
South 24 Pgs	3640	151	276	2	224	22	463	65	4843	46.19
Total	7850	389	851	18	310	33	906	129	10486	100.00

Graph :3.2 Total number of school located in Rural & Urban Area in district of Jhargram, Malda, Jalpaiguri & South 24 Pgs
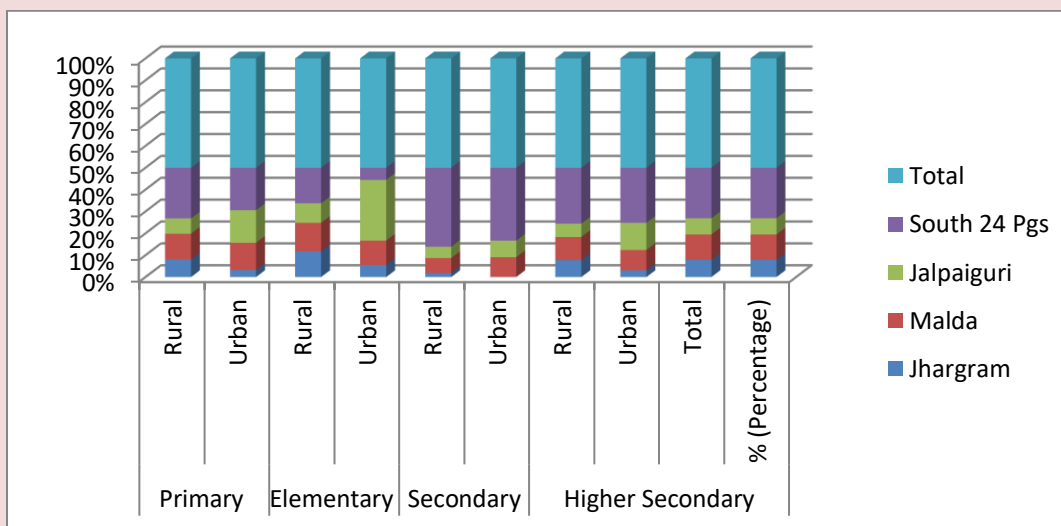
3.3 Respondent Profile :

              The following table shows the percentage of responded school through Google form & school visit in the district of Jhargram =22.32%, Malda=37.86%, Jalpaiguri=18.38% &
South 24 Pgs 21.44%.

Table:3.3	Sample district			
	Through Google Form	School Visit	Total	Percentage (%)
Jhargram	62	40	102	22.32
Malda	135	38	173	37.86
Jalpaiguri	44	40	84	18.38
South 24 Pgs	60	38	98	21.44
Total sample	301	156	457	100.00

Graph :3.3   Responded school through Google Form & School visit
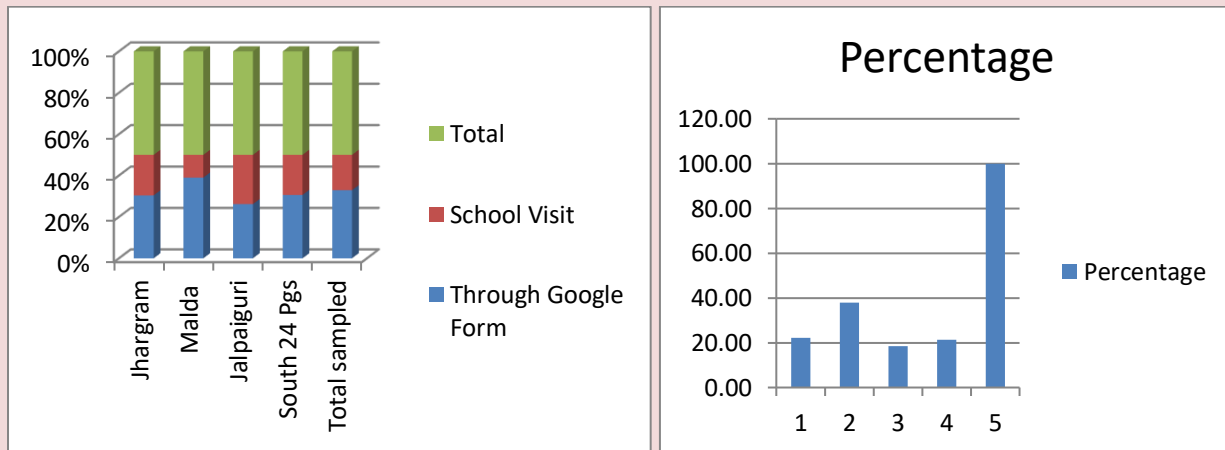
3.4 Distribution of Schools In Different Level :

The following table shows the different levels of schools responded from the districts. The distribution are as follows: Primary =44.03%, Upper Primary=11.95%, Secondary =13.27% & Higher Secondary 30.75%.

Table:3.4	RESPONDENT PROFILE (SCHOOL)	
Level	Frequency	Percentage
Primary	199	44.03
Elementary	54	11.95
Secondary	60	13.27
Higher Secondary	139	30.75
Total no. of school	452	100

Graph :3.4 The different levels of schools responded from the districts

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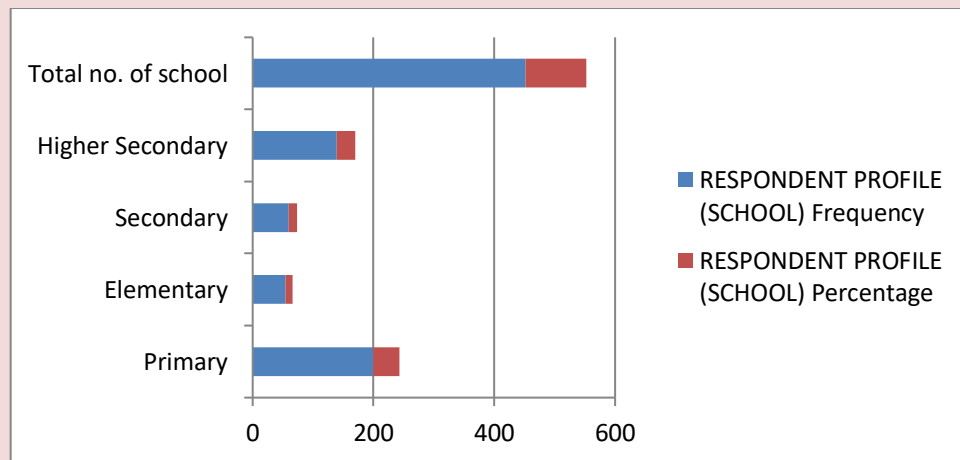
3.5 Location of Respondent Schools :

The following table shows the responded school in different level located in rural and urban area.

Table: 3.5	Location of the school				
Level	Primary	Elementary	Secondary	Higher Secondary	Total
Rural	167	36	37	101	341
Urban	32	18	24	38	112
Total	199	54	61	139	453
Percentage	43.93	11.92	13.47	30.68	100.00

Graph :3.5   The different levels of schools responded from the districts located in rural and urban
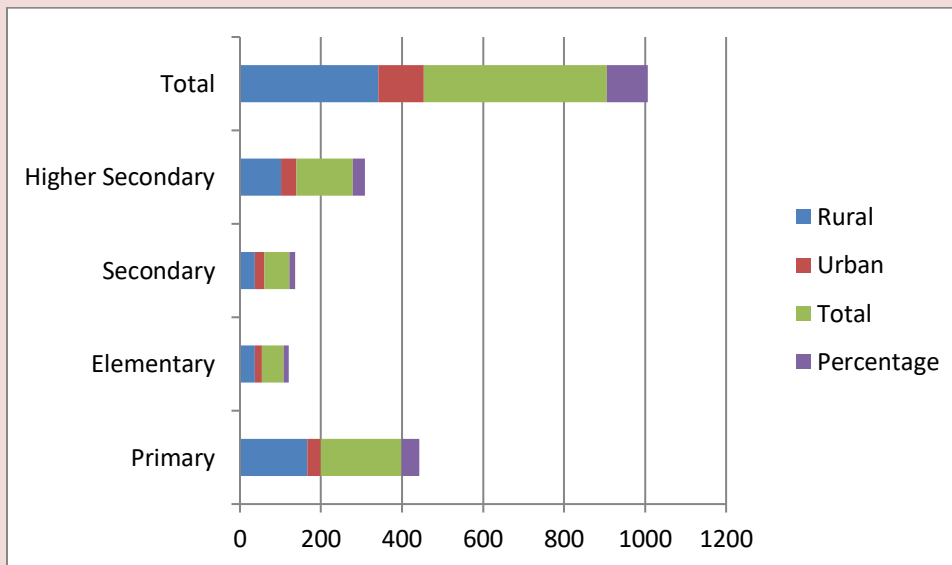
3.6 Distribution of Students in Sampled Schools :
                            The following table shows category, gender wise student
strength in the district of Jhargram Malda, Jalpaiguri, & South 24 Pgs.

Table:3.6	Category wise , gender wise student strength in the sampled schools											
	SC		ST		General		Minority		CWSN			
Level	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Total	%
Primary	767	693	107	99	832	1612	929	905	16	10	5970	25.56
Elementary	691	714	149	178	198	246	250	306	6	8	2746	11.76
Secondary	743	1492	453	574	317	634	223	433	17	11	4897	20.97
Higher Secondary	1546	2040	246	226	2231	2499	319	521	90	24	9742	41.71
Sub-Total	3747	4939	955	1077	3578	4991	1721	2165	129	53	23355	100.00
Total	8686		2032		8569		3886		182			

Graph :3.6 Category, Gender wise student strength

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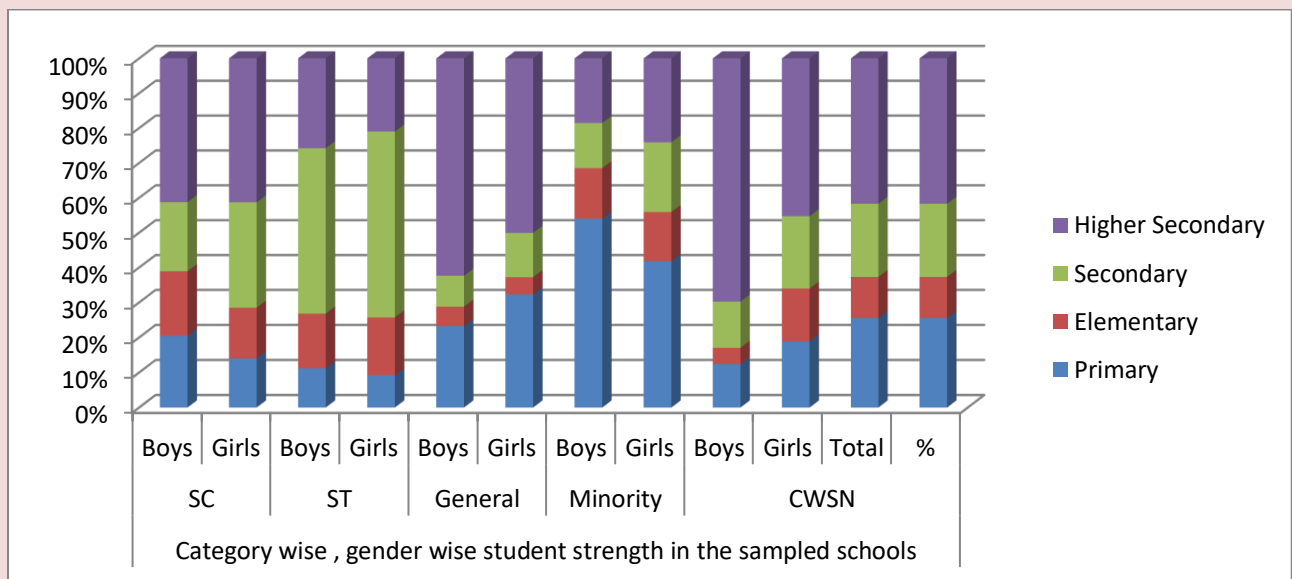
3.7 Class wise Student Distribution :

The following table shows classwise student distribution in different level in the district of Jhargram Malda, Jalpaiguri, & South 24 Pgs

Table:3.7													
Class	1	2	3	4	5	6	7	8	9	10	11	12	Total
Jhargram	172	147	141	145	107	210	201	181	591	1061	1069	944	4969
Malda	881	701	262	691	185	204	224	232	531	571	1233	1123	6838
Jalpaiguri	236	270	232	257	171	238	229	236	875	1165	2397	1862	8168
South 24 Pgs	169	207	212	222	180	188	178	173	218	395	961	909	4012
Sub-Total	1458	1325	847	1315	643	840	832	822	2215	3192	5660	4838	23987
Total	4945				3137				5407		10498		
(In %)	6.08	5.52	3.53	5.48	2.68	3.50	3.47	3.43	9.23	13.31	23.60	20.17	100.00

Graph :3.7 The different levels of schools class wise student distribution
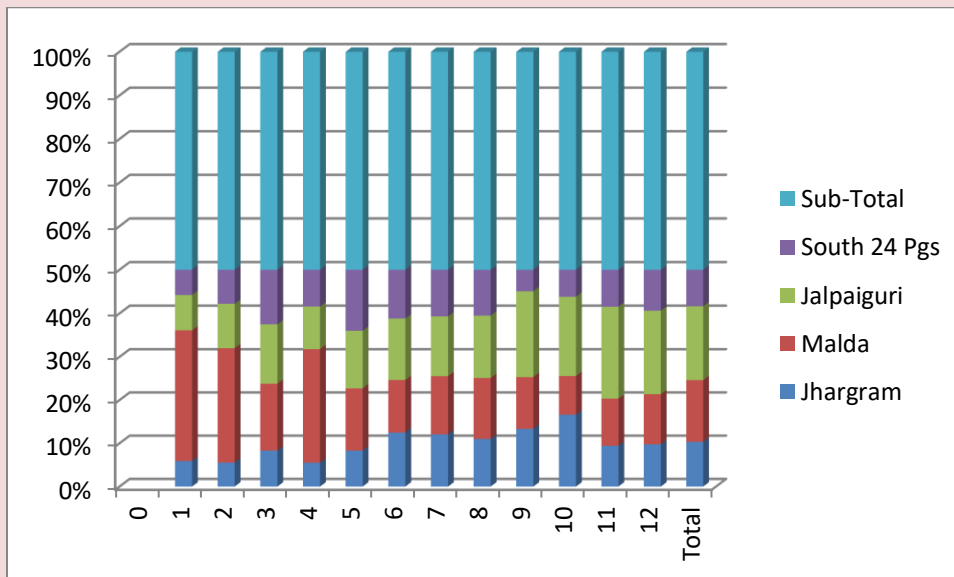
3.8. Class wise Teacher Strength :

The following table shows classwise teacher strength in different level of different districts . The distribution are as follows:

Table:3.8													
Class	1	2	3	4	5	6	7	8	9	10	11	12	Total
Jhargram	34	38	30	42	13	18	13	17	25	11	17	10	268
Malda	20	21	23	20	1	6	10	10	11	14	54	59	249
Jalpaiguri	57	63	59	61	21	4	28	12	14	15	12	9	355
South 24 Pgs	53	40	42	45	7	31	21	24	27	40	34	36	400
Sub-Total	164	162	154	168	42	59	72	52	88	80	73	158	1272
	648				225				168		231		
(In %)	12.89	12.73	12.10	13.07	3.30	4.64	5.66	4.09	6.92	6.29	5.74	12.42	

Graph :3.8 Classwise teacher distribution in different level
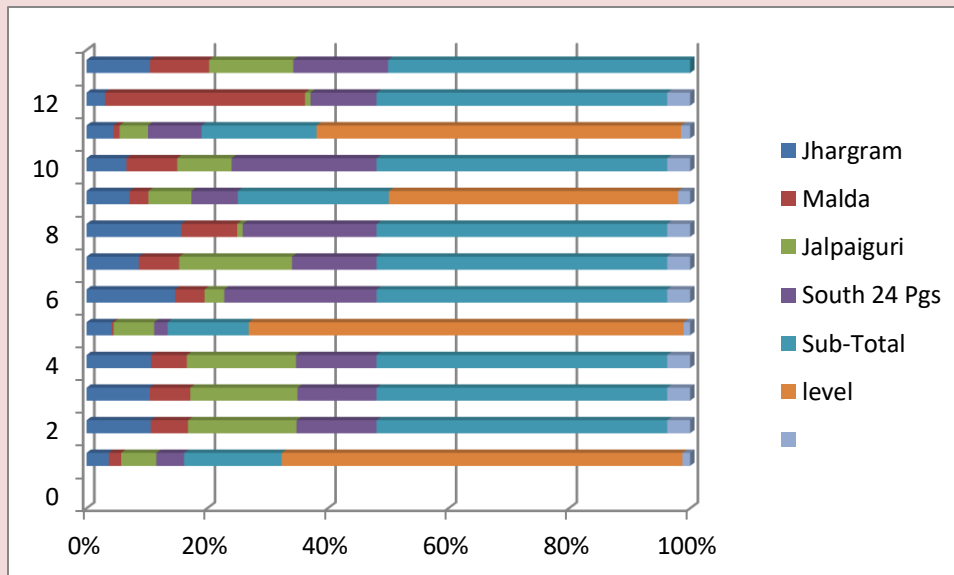
3.9 Class wise PTR:

The following table shows classwise PTR(Pupil Teacher Ratio) in different level in the district of Jhargram Malda, Jalpaiguri, & South 24 Pgs.

Table:3.9	Class wise PTR											
Class	0	1	2	3	4	5	6	7	8	9	10	11	12
Jhargram		5:1	4:1	4:1	4:1	8:1	12:1	15:1	11:1	24:1	96:1	63:1	94:1
Malda		44:1	33:1	11:1	35:1	37:1	34:1	22:1	23:1	48:1	41:1	45:1	10:1
Jalpaiguri		4:1	4:1	4:1	4:1	8:1	60:1	8:1	20:1	35:1	78:1	81:1	91:1
South 24 Pgs		4:1	5:1	5:1	5:1	26:1	6:1	8:1	7:1	8:1	10:1	28:1	25:1

3. 10. Level wise PTR :

(i) The following table shows student strength in Primary, Upper Primary , Secondary and Higher Secondary Level

Level	Student Stength
Primary (1 to 5)	5588
Upper Primary (6 to 8)	2494
Secondary (9 & 10)	5407
Higher Secondary (11 & 12)	10498

(ii) The following table shows Teacher strength in Primary, Upper Primary , Secondary and Higher Secondary

Level	Teacher Strength
Primary (1 to 5)	690
Upper Primary (6 to 8)	183
Secondary (9 & 10)	168
Higher Secondary (11 & 12)	231

(iii)   The following table shows Level wise PTR

Level	PTR
Primary (1 to 5)	8 :1
Upper Primary (6 to 8)	14 : 1
Secondary (9 & 10)	32 : 1
Higher Secondary (11 & 12)	46 : 1

3.11. District wise Student Achievement :

The following table shows student achievement in the district of Jhargram Malda, Jalpaiguri, & South 24 Pgs.

Tabe : 3.11.1

Secondary	Student achievement		
Jhargram	Appeared	Passed	Pass percentage
2021	738	738	100
2020	743	622	83.83
2019	703	611	86.91
2018	642	552	85.98
2017	608	558	91.78

Table : 3.11.2

Higher Secondary	Student achievement		
Jhargram	Appeared	Passed	Pass percentage
2021	949	949	100
2020	952	734	77.10
2019	793	557	70.24
2018	889	797	89.65
2017	814	731	89.80

Table : 3.11.3

Secondary	Student achievement		
Malda	Appeared	Passed	Pass percentage
2021	427	386	90.40
2020	418	371	88.75
2019	474	402	84.81
2018	535	451	84.30
2017	466	405	86.91

Table : 3.11.4

Higher Secondary	Student achievement		
Malda	Appeared	Passed	Pass percentage
2021	73	73	100
2020	94	82	87.23
2019	97	90	92.78
2018	105	90	85.71
2017	105	90	85.71

Table : 3.11.5

Secondary	Student achievement		
Jalpaiguri	Appeared	Passed	Pass percentage
2021	881	846	96.03
2020	854	639	74.82
2019	840	515	61.31
2018	922	576	62.47
2017	813	500	61.50

Table : 3.11.6

Higher Secondary	Student achievement		
Jalpaiguri	Appeared	Passed	Pass percentage
2021	1992	1786	89.66
2020	1733	1522	87.82
2019	1813	1600	88.25
2018	1917	1654	86.28
2017	2034	1806	88.79

Table : 3.11.7

Secondary	Student achievement		
South 24 Pargana	Appeared	Passed	Pass percentage
2021	347	346	99.71
2020	331	306	92.45
2019	359	315	87.74
2018	396	337	85.10
2017	432	379	87.73

Table : 3.11.8

Higher Secondary	Student achievement		
South 24 Parganas	Appeared	Passed	Pass percentage
2021	955	841	88.06
2020	925	789	85.30
2019	876	821	93.72
2018	1068	915	85.67
2017	1086	892	82.14

CHAPTER - 4

FINDINGS OF THE STUDY

From the Data distribution and Analysis of the study the findings of the study are as follows :

(i)   In all four districts 475 Head Teacher were respondents of which 102 schools are in Jhargram Districts , 173 Schools in Malda Districts , 84 Schools in Jalpaiguri and 98 Schools in South 24 Parganas.

(ii)   Majority of the Schools (75.23%) were located in Rural area of our Study

(iii)   In the Study 44.03% primary Schools , 11.95 % Upper primary Schools, 13.27 Secondary Schools and 30.75 % Higher Secondary Schols were Participated .

(iv)   In the sampled schools Majority (37.20 %) students were admitted in SC category .

(v)   In all categories of Students , Girls students has significantly much more than Boys Students except CWSN category .

(vi)   In the sampled Schools the students strength decreases up to Class 8 and increases from Class 9 onwards.

(vii)   Majority number of teachers teach in Primary Schools of our sampled Schools but large number of students were admitted in Higher Secondary and Secondary Schools. So PTR in the Secondary and Higher Secondary Level have higher than the extant Guideline of the PTR as per RTE(2009) and NEP (2020).

(viii) In Jhargram Districts the Student achievement In Secondary gradually decreases from 2017 to 2020 .But in 2021 100 % students passed in Secondary Board Exam.

(ix)   The Pass percentage of students in Higher Secondary Exam in Jhargram Districts decreases from 2017 to 2019 and increases from 2020 to 2021.

(x)   The same trend (point vii & viii) were found in the Districts of Malda

(xi)   In the Jalpaiguri and South 24 Pargana Districts achievement of Students (Pass percentage) in Secondary and Higher secondary Exam some time increases and some time decreases.

CHAPTER – 5

SUGGESTIONS AND CONCLUTIONS

5. 1 SUGGESTIONS:

From the study findings the researchers suggest that :

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(i) Rational deployment of teachers by ensuring that the specified pupil Teacher Ratio is maintained for each school as per RTE Act 2009 and NEP 2020

(ii) Due to lack of students in Primary and Upper Primary level Pupil Teacher Ratio has come 8:1 in Primary and 14:1 in Upper Primary. Hence Government may merge few schools and excess teacher may be transferred to another school for uniform distribution and to maintained PTR as per Guideline.

(iii) On the basis of study results and findings we suggest that the Government may take some specific planning and management policies which can help the infrastructural facilities , Teacher Recruitment etc. of all primary ,Elementary, Secondary and Higher secondary schools in the State

5.2 LIMITATIONS :

The limitations of the study are as follows :

(i) Some of the responses supplied by the respondents in reference to certain items may not be objectives may be lack of understanding.

(ii)   There may be a gap in perception of respondents and the actual intent of the items sets in the questionnaire.

(iii)   Due to Pandemic situation our investigators could not visited large number of Schools so we depend on the responses through online .

(iv)   Due to paucity of time detail analysis could not be done.

5.3   CONCLUSIONS :

The study conclude that The Pupil Teacher Ratio in the sampled districts are not maintained 30:1 and most of post of teachers are vacant . Due to crisis of subject wise teacher most of the teacher teach more than two subjects. So Government may take some changes in the sanctioned post from group to subject wise . This report is not the whole scenario of the State so have scope of further study by taking large number of sample from all districts.

ANNEXTURE

DEPARTMENT OF SCHOOL EDUCATION, GOVT OF WEST BENGAL

STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING (WB)

25/3 BALLYGAUNGE CIRCULAR ROAD, KOLKATA – 700 019

Email: director@scertwb.org, website: www.scertwb.org

QUESTIONNAIRE FOR HEAD TEACHER

(PTR-1)

[Please put a tick " " mark in appropriate box and provide relevant information in terms of your school. Kindly attach separate sheets , where necessary]

CODE NO._____ (SCERT will provide)   DATE OF SURVEY _____

1. Name of the School _____
2. a) UDISE Code _____
   b) Year of Establishment _____
3. Name of the Head Teacher/ Teacher In Charge, Phone Number
   _____
4. Address of the School _____
   _____
   _____
5. Website and Email of the School _____
6. Type of School
   GOVT.   1   GOVT. SPONSORD   2

   GOVT.AIDED   3   RUN BY LOCAL BODY   4

7. Location of School   Rural   1   Urban   2
8. Total Number of Students in the School _____

Classes	General		SC		ST		OBC-A		OBC-B		Minority		CWSN		Total	
	B	G	B	G	B	G	B	G	B	G	B	G	B	G		
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																

9. Total Number of teacher in the school

    Male _____ Female _____ Total _____

10   Please give subject wise ,Class wise distribution of teachers in your school including vacant post

Classes	Language		Mathematics	Science			Social Science		others
	Bengali	English		Physical	Chemistry	Biology	History	Geo	
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

11 Total number of teaching learning days in school _____

12 a) Do Students of your school gets scope for his/her questions during classroom transactions? Y/N

    b) If yes please indicate the approximate percentage of students

 < 25%   _____ 25% - 50 % _____ 50% - 80 % _____ > 80% _____

13. Indicate the reason for which students not gets scope of asking questions during class room teaching

_____
_____

_____

14. Please mention the subjects on which students take Private tuition.

    _____

_____

15. a) Result of Class X examination for the last 5 years academic sessions

Year	Category	Number of regular students appeared in class X			Number of regular students passed in class X		
		BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL
2021	SC						
	ST						
	OBC						
	OTHERS						
2020	SC						
	ST						
	OBC						
	OTHERS						
2019	SC						
	ST						
	OBC						
	OTHERS						
2018	ST						
	ST						
	OBC						
	OTHERS						
2017	SC						
	ST						
	OBC						
	OTHERS						

b) Distribution of the total number of students who passed out the secondary board examination by range of marks secured and also social category in the last 5 years academic sessions

Year	Range of Marks	Total Pass outs	SC		ST		OBC		OTHERS	
			Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
2021	Upto 30%									
	30- 40%									
	40- 50%									
	50 -60%									
	60 – 80%									
	80 – 90%									
	Above 90%									
2020	Upto 30%									
	30- 40%									
	40- 50%									
	50 -60%									
	60 – 80%									
	80 – 90%									

	Above 90%										
2019	Upto 30%										
	30- 40%										
	40- 50%										
	50 -60%										
	60 – 80%										
	80 – 90%										
	Above 90%										
2018	Upto 30%										
	30- 40%										
	40- 50%										
	50 -60%										
	60 – 80%										
	80 – 90%										
	Above 90%										
2017	Upto 30%										
	30- 40%										
	40- 50%										
	50 -60%										
	60 – 80%										
	80 – 90%										
	Above 90%										

16. a) Result of Class XII examination for the last 5 years academic sessions

Year	Category	Number of regular students appeared in class X			Number of regular students passed in class X		
		BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL
2021	Science						
	Arts						
	Commerce						
2020	Science						
	Arts						
	Commerce						
2019	Science						
	Arts						
	Commerce						
2018	Science						
	Arts						
	Commerce						
2017	Science						
	Arts						
	Commerce						

b) Distribution of the total number of students who passed out the Higher secondary board examination by range of marks secured and also social category in the last 5 years academic sessions

Year	Range of Marks	Total Pass outs	Science		Arts		Commerce	
			Boys	Girls	Boys	Girls	Boys	Girls
2021	Upto 30%							
	30- 40%							
	40- 50%							
	50 -60%							
	60 – 80%							
	80 – 90%							
	Above 90%							
2020	Upto 30%							
	30- 40%							
	40- 50%							
	50 -60%							
	60 – 80%							
	80 – 90%							
	Above 90%							
2019	Upto 30%							
	30- 40%							
	40- 50%							
	50 -60%							
	60 – 80%							
	80 – 90%							
	Above 90%							
2018	Upto 30%							
	30- 40%							
	40- 50%							
	50 -60%							
	60 – 80%							
	80 – 90%							
	Above 90%							
2017	Upto 30%							
	30- 40%							
	40- 50%							
	50 -60%							
	60 – 80%							
	80 – 90%							
	Above 90%							

Date :   Signature of the Head of the Institution