SAFETY MEASURES AND FACILITIES IN SCHOOLS OF DELHI

By

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DECLARATION

I hereby declare that the work presented in this thesis titled *"SAFETY MEASURES AND FACILITIES IN SCHOOLS OF DELHI"* submitted for admittance to the Post Graduate Diploma In Public Administration New Delhi, has been carried out under the guidance and supervision of Dr. Amit Kumar Singh. This work has not been submitted to any other university for the award of Degree, Diploma or Certificate, in part or full.

Place-

Date-

Air Commodore Sanyog Mehta

CERTIFICATE

This is to certify that the research work thesis titled "**SAFETY *MEASURES AND FACILITIES IN SCHOOLS OF DELHI***", being submitted by Air Commodore Sanyog Mehta for the Post Graduate Diploma in Public Administration in the Indian Institute of Public Administration, New Delhi has been duly completed.

The entire research work has been carried out under my guidance and supervision and is original.

The thesis embodies the work of the candidate himself and is up to date to the standard, both in respect of its content and literary preparation for being referred to the examiners.

DR. AMIT KUMAR SINGH

ACKNOWLEGDEMENT

No research work, which involves a complete range of field work like collection of data, interviewing, filling of questionnaire, interpreting, analyzing etc. can be accomplished single-handedly. As such I salute all those associates and helpmates who have come forward to extend their helping hands to me in any form or in any capacity.

The crowned celebrities before whom I bow in respect are **Dr. Amit Kumar Singh,** my **guide**, **course coordinator- Prof. Ashok Vishandass, Deputy Course Coordinator-Prof. Kusumlata and Associate Professor Dr. Roma Debnath** whose providential and gratuitous support, guidance and stimulation has enabled my thesis to see the light of the day.

My special thanks are due to Principals of Govt. Schools, Govt. Aided schools and Private schools of Delhi, who so readily and graciously gave me permission to conduct my survey in their institutions. I consider it my privilege to have had the opportunity of being associated with parents of a lot of students without whose cooperation and open-mindedness at every stage of preparation of this thesis, it would not have been possible for me to move ahead.

The man who deserves my humble gratitude for his invaluable guidance in handling, analyzing and interpreting statistical data is **Air Commodore Shashank Kulkarni**, a master of the trade, who knows the way, shows the way and goes the way.

I cherish the support and constant inspiration from my non-complaining wife, **Dr. Richa Mehta, Assistant Professor, Dept of Education, Lady Irwin College** who responded most generously and showed amazing patience to numerous

deprivations in order to prepare me for the battle by saying ***"Never go to the gun fight with a knife".***

I am highly indebted to my father **Shri G.S. Mehta,** Professor of Economics, who extended his invaluable support and guidance when I was confused, scrambling and struggling for advice and assistance. He used to embolden and instill self-confidence in me by repeating ***"Go for the moon, if you don't get it you will still be heading for a star"***

Last but not the least, I express my sincere gratitude to B.Ed. "Second Year" students of **Lady Irwin College** and **office staff of IIPA** for their untiring support in the preparation of this document.

(Sanyog Mehta)

Air Commodore

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ABSTRACT

The title of this research paper is **"*SAFETY MEASURES AND FACILITIES IN SCHOOLS OF DELHI*"**. In recent years, a number of accidents have occurred in various schools of Delhi pertaining to structure of the building, playground, stairs, fire, laboratory, water and transport. Thus, it is very crucial that children require an environment that is safe and protective and conducive to their growth and development. The aim of this study is to investigate the factors which involve risk regarding safety of children as well as their level of awareness along with Principals, Teachers & Parents. The scope of the study is limited to Govt. Schools, Govt. aided and Private schools of East, West, North, South and Central Delhi. It is noteworthy that in their formative years, children spend more time at schools and hence utmost priority has to be accorded to a secure, positive and comfortable environment to learn and grow. Methods adopted in the study are purposive sampling and data collection through interview and questionnaire. In conclusion, schools should own moral responsibility for safe housing of students. Yet, paucity of funds, as well as, complacency on the part of principals, teachers and parents make poor implementation of policies, guidelines, and directives circulated in this respect and leave the situation unchanged and perpetual.

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CHAPTER 1 - INTRODUCTION

Our children need to know they are loved and safe.

Everything else is adult business"

- Jeannine Lee

Education and learning are the most important components to make all that a child can be. According to **Nelson Mandela** there can be no keener revelation of a society's soul than the way in which it treats its children. Hence in the same spirit **Right to Education** has been incorporated as a fundamental right in our country.

Our country is one of the largest and most diverse education systems in the world. There are more than 1.7 million schools, nearly 10 million teachers and 260 million students in our country. Irrespective of the ownership of the schools (Government, Government Aided and Private) there is significant variance among schools regarding infrastructure, resources and availability of funds, emanating into lack of basic facilities and safety conditions thereby rendering them prone to hazards and disasters.

The following graphic vividly depicts the existing conditions of schools with respect to basic facilities and lack of basic safety conditions.

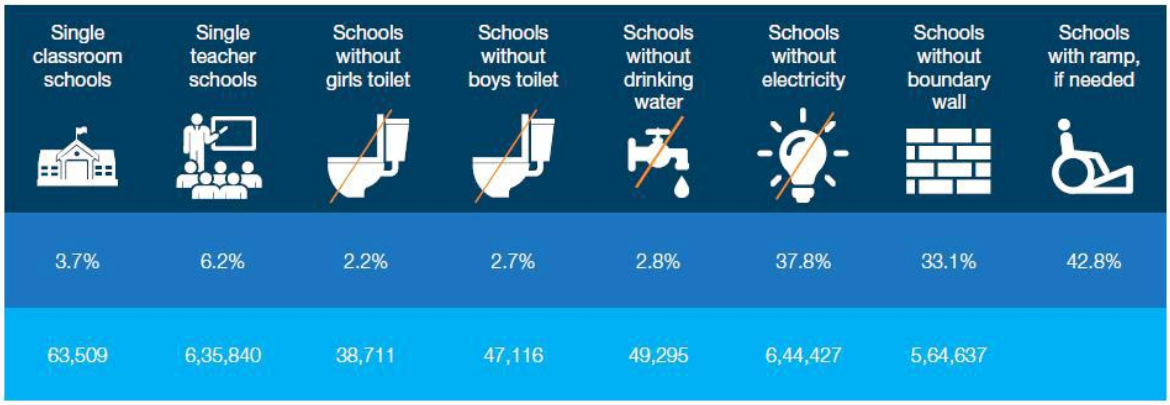

Figure-1.1 **Child safety and security** [1]

[1] Child Safety & Security in K-12 Schools, http://ficci.in/spdocument/22995/child-safety-&-security-report.pdf

This state of affairs is further aggravated by pitiable level of awareness even among trained teachers of high ranking schools in the national capital regarding disaster management. A single instance would suffice -

"In an earthquake prone belt like Delhi, it is expected at least from teachers of DPS, that they are acquainted with the basics of disaster management. Yet to my utter surprise and disappointment, when on 5th March 2012, while my daughter's CBSE class 12th Physics paper had started, highly detectable earthquake tremours were experienced in Vasant Kunj area. Instead of asking the examinees to rush into the open, the teaching staff asked them to take shelter under the desk and resume writing as soon as the tremours were over. As per NDMA norms in such a situation the class should have been evacuated within a minute and the school building within four minutes. Such instances prove that either the authorities and teachers of the top most ranked schools are nonplussed with respect to such catastrophic situations or continuing of class 12 examinations was more important to them than the lives of thousands of children including themselves."

In fact most of the schools did not react to this situation and both CBSE as well as the Government of Delhi took it for granted that the school buildings of Delhi are too safe to face 4.9 rector scale earthquake and the bigger one will never occur. They did not bother to give any reaction in public. Hence top most priority has to be given to promote a culture of Disaster Management in the schools and initiate policy level changes for ensuring safe school environment.

Training module for master trainers on school safety[2]- a publication of **National Institute of Disaster Management** categorizes Hazards into **Natural, Biological, Socio-natural, Technological and School Specific.** According to this Institute **School specific hazards** are those hazards which are prevalent in the school campus or in the vicinity of schools and pose a threat to the students, like a transformer at the entry of school or a high tension electrical wire running through the school campus or an open well, chemical explosion in the chemistry lab or burns in the home science class or fire due to short circuit, unfortunate incident during picnic etc. These specific hazards are definite threat to school but may not be direct threat to the community in

[2] TRAINING MODULE FOR MASTER TRAINERS ON SCHOOL SAFETY (National School Safety Programme) http://nidm.gov.in/PDF/modules/nssp.pdf

the area. The institute also draws a difference between **Hazard and Disaster**. While a hazard is a potentially damaging condition, physical event, phenomenon or human activity; a disaster is an actual event that disrupts the functioning of a community. Vulnerability may be defined as "the extent to which a community, structure, services or geographic area is likely to be damaged or disrupted by the impact of particular hazard, on account of their nature, construction and proximity to hazardous terrains or a disaster prone area. The injuries caused by such accidents, for example, result into -

"Electrical shock, fainting, drowning, fracture, bleeding, sprain, burn, crush, wound, cut, tear, dislocation, blast injury, eye injury, etc."

An **injury at school** may be either intentional or unintentional, or it may be due to environmental factor, a suspected environmental factor or a non - environmental factor. Consequently, children require a healthy and supportive environment devoid of hazards to grow and develop. Children of our country have been guaranteed fundamental rights by our constitution to live with dignity and to have access to education in an environment that is safe, protective and conducive to growth and development.

As teachers and children spend a substantial part of their day in school, it is essential to keep the school environment, including building, premises, entrance and surroundings that comprise 'Infrastructure' safe and secure. Yet a dismal picture of the state of affairs in various schools confirms that there have been increased incidence of accidents in various schools pertaining to structure of the building, play ground, stairs, fire, laboratory, water and transport including bullying, violence, social abuse, verbal and emotional abuse, substance and drug abuse, anti social behaviour and sexual misconduct.

Hence, it is important to see that school buildings are built to be more resilient to hazards and ensure "life safety". In similar way, school administration, staff, teachers as well as students need to be **better aware and prepared to respond** to any calamity, natural or man-made, so that any damage, injury or loss of life and property, can be reduced, if not completely avoided. Children require a healthy and supportive environment devoid of hazards to grow and develop, to live with dignity and to have access to education in an environment that is safe, protective and conducive to growth and development.

The United Nations Children's Fund (UNICEF)[3] defines child protection as the *"strengthening of country environments, capacities and responses to prevent and protect children from violence, exploitation, abuse, neglect and the effects of conflict."*

Thus it is essential that **Safety and learning should go hand-in-hand**[4]**.** Students who do not feel supported and safe at school, both physically and psychologically, cannot learn to their fullest potential. It should be ensured that they:

(a) Come to school feeling safe, welcomed, and respected;
(b) Have a trusting relationship with at least one adult in the building;
(c) Understand clear academic and behavioral expectations; and
(d) Have access to needed mental health supports.

Effective school safety programming, and positive discipline, is equally as important to school success as high quality instruction, and should be fully integrated into school **planning, attitudes, expectations, policies,** and **practices** through the use of a multi-tiered system of supports.

"Safety and security don't just happen; they are the result of collective consensus and public investment. We owe our children the most vulnerable citizen in our society, a life free of violence and fear". **Nelson Mandela**

It is a matter of grave concern that some miserable and calamitous accidents in recent years have made our schools falling short of safe heavens for children. In a developing country like India most of the schools are located in remote areas which are not only vulnerable but are also falling short of responding to emergency situations. Another area of high concern is the absence of accountability of the decision makers to children. There is a serious dearth of systems and complaint mechanism which are child friendly and can be pressed into action when required to address and prevent safety violations in schools.

[3] CHILDLINE India Foundation, http://childlineindia.org.in/Child-Protection-Policy-in-all-schools.htm
[4] Rethinking School Safety: Communities and Schools Working Together Rethinking_School_Safety_Key_Message.pdf

The following graphic of FICCI Arise[5] strikingly expresses the constellations of potential risk zones a school going child may face right from leaving home and back.

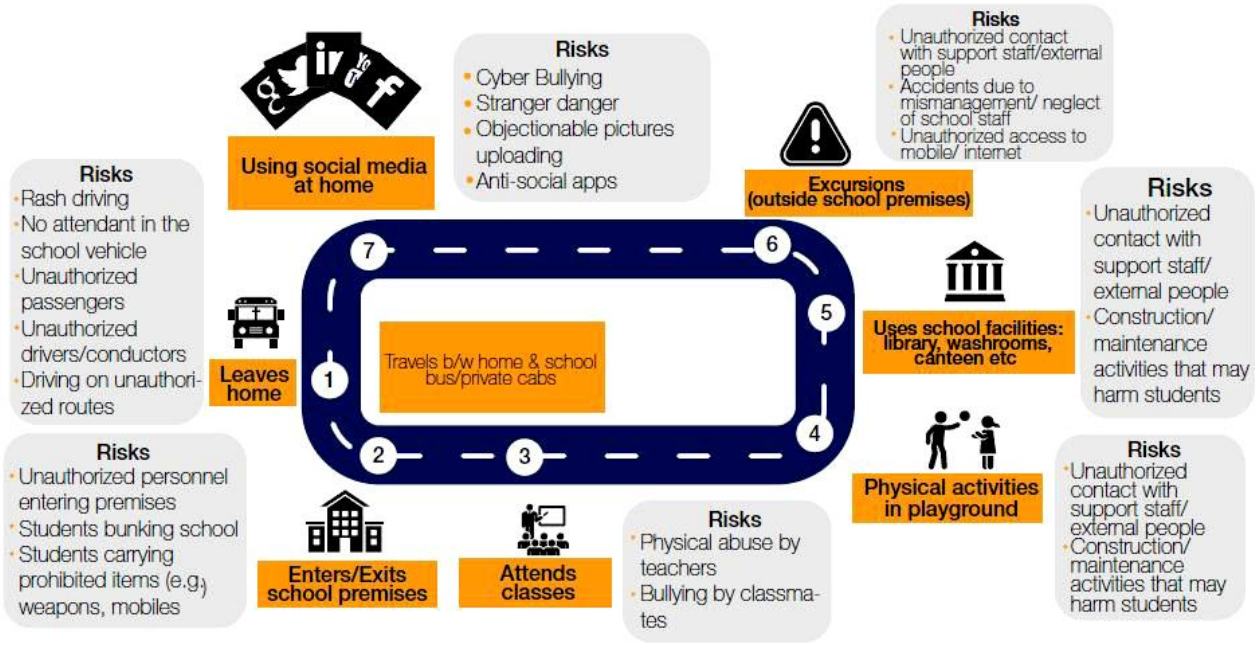

Figure1.2 **Child safety and security**

Some (only selective) life threatening incidents in various schools of the national capital, which have occurred in recent years invite fervent contemplative efforts and corrective measures at parental, Governmental and school level regarding safety and security.

(a) Student Aryan, of class 8, Kendriya Vidyalaya Hindon, died after being hit by a cricket ball on his head[6]

(b) A class 2 student, Ghazal Yadav, DPS World School in Noida, Died after participating in a Karate competitions in the school[7]

(c) Six-year-old Devansh Kakrora, Ryan International, Vasant Kunj, Died after allegedly falling into a water Tank[8]

[5] Child Safety & Security in K-12 Schools, http://ficci.in/spdocument/22995/child-safety-&-security-report.pd

[6] https://www.pressreader.com/india/hindustan-times-delhi /20170425 /281874413293854

[7] https://www.hindustantimes.com/noida/ghazal-yadav-death-parents-launch-facebook-campaign-to-initiate- action-against-dps-world-school-in-greater-noida

[8] https://www.indiatoday.in/india/delhi/story/6-year-old-child-dies-after-falling-in-schools-water-tank-in- delhi-306288-2016-01-30

(d) Five-year-old Ankit of MCD school in Kapashera, south Delhi, Died after falling into an open septic tank[9]

(e) A Class 11 student of East Delhi's Gokalpuri, Died after allegedly falling from a Government school building[10]

(f) Mukul Sharma (14), Government school in East Delhi's Farsh Bazar, Drowned in the pool of Baburam Sarvodaya School in the presence of coaches.[11]

(g) Class 6th Fourteen-year-old Mohammed Nadir, DPS Mathura Road, Drowned in the school Swimming pool[12]

(h) 4 year old student of Golden Bells School in Ashok Vihar was run over by her own unregistered school cab[13]

It is noteworthy that over the past few years, as schools get more sophisticated, sizable amounts are often spent on infrastructure, staff training, and background checks. Despite all these measures, however, one in every three children in India feels their school is not safe "sometimes". A global survey **"Small Voices, Big Dreams"[14]** – conducted by international development group, **Child Fund Alliance** in 41 countries, including developing and developed nations revealed that in India only 10% schools have a **Child Protection Policy** and only 21% of Children feel being safe at school. Most schools have CCTV cameras but there is nobody to monitor them at all times. Budgets of private and government schools struggle to implement facility and security measures due to the lack of financial support. Thus the safety of children has become a crucial point of discussion across the country.

[9] https://www.tribuneindia.com/news/delhi/nursery-student-dies-after-falling-into-septic-tank/188583.html

[10] https://www.business-standard.com/article/news-ians/boy-falls-from-delhi-school-building-dies-115080800702_1.html

[11] https://www.hindustantimes.com/delhi-news/boy-drowns-in-school-swimming-pool-in-presence-of- coaches/story

[12] https://timesofindia.indiatimes.com/city/delhi/Class-VI-boy-found-dead-in-DPS-pool/articleshow

[13] https://timesofindia.indiatimes.com/city/delhi/Safety-norms-in-place-but-school-buses-still-unsafe/articleshow/2957858.cms

[14] Child fund alliance https://www.childfund.org/uploadedFiles/NewCF/Impact/Knowledge_Center/childfund_alliance_svbd_report_ta%20(2).pdf

Some key findings of a survey conducted by **Child Line India Foundation**[15] (Documents and Reports) reveal that –

(a) 28% schools did not have separate toilets for boys and girls.

(b) Only 4% of the schools provide filtered water to children. 77% schools provide non-filtered water to the school children. 19% of schools did not provide any water facility for the children.

(c) 86% of schools have a first-aid box available for emergencies; 14% of the schools surveyed had not even the most basic facility of a first-aid box to deal with a medical emergency.

(d) Only 12% of the respondents (the principal) have undergone any training in child rights and child protection.

(e) 64% schools said they take no measures to ensure safety of children outside school premises.

In a study conducted by the **United Nations International Children Emergency Fund** it was revealed that only 10% schools reported having a **Child Protection Policy.** This **Study on Child Protection Mechanisms** reverberates and pleads that it is the responsibility of the schools to have a written child protection policy as schools are considered one of the safest places for children,

"***Where the mind is without fear and the head is held high, where knowledge is free in that heaven of freedom into ever widening thought and action."***

Rabindranath Tagore

1.1 RATIONALE OF THE STUDY

Children are our most important resource and hence ensuring that they are safe and secure in schools across our country is most important. A safe school builds a culture of safety with awareness and vigilance along with sensitivity of issues involved. In their formative years, children spend more time at school than anywhere else other

[15] Child line India foundation, http://childlineindia.org.in/Child-Protection-Policy-in-all-schools.htm

than their own home. At school, children need a secure, positive, and comfortable environment to help them learn and grow. Thus utmost priority has to be given to create safe environment for children, starting from their homes to their schools and back. This includes safety from any kind of abuse, violence, psycho-social issue, disaster natural and man-made, fire, transport etc. At the same time we have to keep in mind that our schools must not resemble fortresses. We cannot barricade against all possible harm; trying to do so is counterproductive to maintaining a healthy learning environment and is an ineffective use of resources. Excessive building security (e.g., metal detectors, armed guards) can actually decrease students' sense of safety and does not necessarily guarantee protection. To truly improve school safety, reasonable physical security such as locked doors, lighted hallways, and visitor check-in systems must be combined with reasonable psychological safety efforts that promote a positive school climate. These efforts include establishing trust among staff, students, and families; and creating an environment where students feel empowered to report any safety concerns.

In order to examine whether the structural or non-structural aspect pertaining to safety measures are available in schools, the guideline issued by various Govt Departments and some of the studies carried out by renowned establishment like FICCI have been considered as a benchmark for comparison and drawing out the conclusion from data observed. These guidelines as well as their contents are discussed below.

National Disaster Management Guidelines, School Safety Policy (Feb. 2016)endorsed by none less than the Prime Minister of India and here to referred as **"Policy 1" for all future references.** This endorsement puts forward all the safety aspects comprehensively to be followed by the school for disaster risk reduction. Section 3 of the subject guideline covers guidelines on strengthening institutional commitment to safe learning environment, planning for safety, implementation of safety actions, capacity building and monitoring of risk and revision plan. Section 4 emphasizes the roles and responsibilities of various concerned including NDMA, SDMA, DDMA National level Education Authority (NEA), SEA, BEA, SCERT, DIETS, School Administration, Teachers, Children, Media, District administration etc. Section 5 discusses the action plans.

The national building code of India 2005, developed by the Bureau of Indian standard (BIS) provides guidelines for regulating building construction activities across the country and serves as a Model Code for adoption by all the agencies involved in school construction works.

A handbook on School safety for administrators, education officers, emergency officials, school Principals and Teachers,(First Addition 2004) issued by NDMA , to be referred as **"Policy 2" for all future references,** covers school safety programme and emergency preparedness and response plan.

The National Disaster Management act, 2005 mandates the SDMA to provide guidelines to integrate disaster prevention and mitigation measures in the Development Plan

A report generated by FICCI on child safety and security holds significant guidelines starting from Risk mapping, safety challenges, incident response rules and check list of safety aspects.

The sum total of all the above perceptions, cognizance and phraseology virtually remains the prime driving force to the investigator while lending a colour to spell out a thesis on safety and security of children in schools with admissible rationale and commensurate justification.

1.2 STATEMENT OF THE PROBLEM

Despite ample guidelines, there are serious deficiencies with respect to infrastructural as well as non-infrastructural facilities pertaining to safety measures available in schools. Majority of schools are not aware of these important guidelines and as such do not follow the correct procedure for evacuation of school going children in an emergency. Lack of knowledge, callousness and disinterest among all concerned poses a serious threat to the lives of students as well as the school community. The present study *"Safety measures available in schools of Delhi"* is an attempt to examine the existence of various facilities pertaining to safety measures in schools and to evaluate the level of awareness related to various structural and non structural

hazards. While proceeding on this research work the ensuing leading objectives have been kept in mind by the investigator.

1.3 OBJECTIVES

1 To Judge the **level of awareness** of Principals, School safety Focal point Teachers, Students and Parents on the safety measures existing in schools.

2 To examine whether the existing guidelines published by NDMA/other important organisation like FICCI on the Safety and Security of Children are available in the Schools.

3 To examine the appropriateness and sufficiency of existing facilities and safety measures in schools of Delhi pertaining to **structural and non- structural hazards**

4 To highlight the **roles and responsibilities** of teachers and other school staff of the school ensuring safety

1.4 HYPOTHESIS

1 Involvement/awareness of Principal, School Safety Focal Point Teacher, students and parents of all the schools whether Government, Government Aided or Private show equal level of Involvement/awareness with respect to facilities and safety measures pertaining to structural and non- structural hazards available at their schools.

2 All the schools, whether Government, Government Aided or Private are having similar level of facilities and safety measures pertaining to structural and non structural hazards.

1.5 OPERATIONAL DEFINITIONS

Safety: Safety is the state of being "safe", the condition of being protected against physical, social, emotional, occupational, psychological, educational and other situations. Safety includes a range of contexts appropriate to the age and developmental stage of the pupils.

School: School is a place of vital importance, where a student performs vibrant activity.

Structural safety: Building, Staircases, Playground, fire safety, laboratory.

Non Structural safety: Communicating the risk, creating awareness, and capacity building

1.6 LIMITATIONS OF THE STUDY

1 This study is confined to Government schools, Government Aided and Private Schools located in Delhi area. Total five zones, North, South, East, West and Central were taken into consideration of investigation.

2 Risk **related structural and non structural factors** e.g. School building, classroom, laboratory, kitchen, toilets, drinking water, electrical system, fire, playground, boundary wall, gates, security and monitoring role.

(a) The "Structural elements" of a building carry the weight of the building itself, the people and the things inside, and the forces of nature. These "load-bearing" elements include the frame (columns, beams) and in masonry or construction also the "shear walls".

(b) The "non -structural elements" of a building do not carry the weight of the building, and include windows, doors, stairs, partition walls, pipes and ducts. They include "building contents" that users bring with them such as furniture, appliances, coolers, water tanks, etc. In other words non-structural elements are those which are either attached to building or kept in building.

(c) There are other elements which are not actually part of the building but are - attached to it or placed in it. However, they are within the school campus and not part of load travel or bearing, such as open well, no fencing, no grab bar. These elements do not directly form part of seismic hazard but increase threat to students and staff and add certain degree of vulnerability.

3 Floods, weather related conditions, hostage/kidnapping, violence, act of terror, explosive bomb threat and other **social aspects** like abuse, bullying etc were **excluded** due to inadequacy of data and time constraint.

4 Parents and students not conversant well with English language were supplied translated questionnaire to make things easy for them and collect their responses authentically

5. This study is not gender specific

CHAPTER 2- REVIEW OF RELATED LITERATURE

2.1 INTRODUCTION

In any research work, review of literature needs availability of relevant and referable volumes on the subject. Intensively, the investigator has ventured to pick up a subject, on which, whatever literature of foreign authors is available, it is largely in the context of their own countries, and in addition, it casually discusses structural and non-structural issues which are crucial and paramount in the context of Indian conditions and environment. Hence investigator's major dependence, regarding review of literature, has remained on the works of Indian authors and other publications as mentioned below, which affirm desirable emphasis on structural and non-structural issues, that are weighty and consequential in the Indian background.

2.2 DETAILS OF STUDIES/REPORT/JOURNALS

2.2.1 March (2011) Prof. Joshi Sonorant Ganpatrao, Tilak MaharashtrVidyapeeth, Pune. For the degree of Ph.D in management. Source- - Shodhganga

"A study to developed and assess the effectiveness of training manual on disaster management in terms of knowledge and self expressed practices among the teachers of selected schools in Pune city during 2009-11".

Findings- Creating a safe environment for children in schools is the most important task as in the case of any emergency they are the most vulnerable. **The effectiveness of training manual** plays an important role in the formulation of school safety policy, capacity development of school teachers, development and circulation of information, education and communication material, thereby directly or indirectly enabling schools safer for children. As such, emphasis has to be given to enhance knowledge and skill of delivering

training in the most effective manner and participations. The study conducted by **Prof. Joshi Sonopant Ganpatrao** mainly focusses on determination of effectiveness of training manual on disaster management among secondary school teachers in Pune city.

Gaps Indentified

(a) The study covers the evaluation of efficacy of teacher training on disaster management.

(b) Physical evaluation of safety measures available in schools not been carried out.

(c) The study does not cover the training imparted to students by the - teachers.

2.2.2 Jun (2014) - Dr Adhisivam Bethou, Dr Chandrasekaran Venkatesh Department of Pediatrics (JIPMER) Puducherry India - www.ijamrjournal.org

"Safety and health concerns of school going children in India"

Findings- The main stress of this study is to highlight that safety of children in schools requires close monitoring, research, policy making and sustainable solutions. To promote safe and effective schooling, a child friendly school initiative has been proposed by **JIPMER** which includes -

(a) No corporal punishment
(b) No excess baggage
(c) Safe and proper transportation to school
(d) Provision of hygienic drinking water
(e) Provision of clean kitchen and clean place for eating
(f) Having a minimum of four games periods per week
(g) Properly ventilated and illuminated class rooms
(h) Facility for first-aid and emergency
(i) Health status
(j) Adequate number of toilets.

Corporal punishment leads to direct and indirect physical and mental harm, increased aggression, antisocial behaiviour and impaired cognition in children. The increasing road traffic accidents involving school children raises several issues, including the state of roads, driving skills, license of the drivers and condition of vehicles. Heavy school baggage leads to low backache and spinal deformities. Thus the study conducted by **Dr. Adhisivam Bethou, Dr. Chandrasekaran Venkatesh** concentrates on the above aspects of "Safety and health concerns of school going children in India". '

Gaps Identified A Qualitative study/research which does not bring out the Safety Measures available in schools on any locale of India.

2.2.3 November 16 (2015) Dr. Sweleha Sindhi, Eurasia review journal, ISSN 2330-717X https://www.eurasiareview.com/16112015-are-indian-schools-committed-to-creating-a- safe-school-environment-analysis/

"Are Indian schools committed to creating A safe school environment?
– Analysis"

Findings- With the implementation of Right to Education Act 2009 the population of school going children in India is increasing but most of the schools are barely able to provide basic infrastructure and are consequently compromising gravely with respect to safety norms. A whole school approach for managing safe school environment requires that all the members of the school community should work together and develop their own guidelines and policies. The author brings out guiding principles including the right to child covered by UN vide Article 19, National Policy of Education 1992, National Policy of Children 2013, UNICEF guidelines 2009, Supreme Court order for school safety norms, directives issued by State Government, school safety programme by National Disaster Management, authority and CBSE Guidelines.

Gaps Indentified - This article does not quantify the paper on the basis of facilities available in school.

2.2.4 Child Safety & Security in K-12 schools (A Report, tookit & primer)

file:///F:/DESERTATION/review%20literature/child-safety-&-security-report%20-%20FICCI-%20K12.pdf

Although schools are an important component of a child's echo-system, yet today's children are exposed to multiple kinds of threats ranging from physical, emotional to digital. Recent unfortunate incidents in schools have brought to focus the important issues of child safety in schools. Unfortunately these events have also led to knee-jerk reactions from various authorities and a public test by the media. We need to look at the entire issue holistically. The FICCI ARISE-MLP Report seeks to build a common platform of safety standards across the following areas –

(a) Safety Measures: minimum standards of safety that all schools should have;

(b) Implementation Approach: right methods to implement safety measures;

(c) Objectives & Expected Outcomes: What is in the best interest of the child?

(d) Roles and Responsibilities of Stakeholders: Legal rights and responsibilities of core stakeholders - the student, the school (including teachers and support staff), and parents.

2.2.5 Apr 25, 2018 Mita Mukherjee and Jhinuk Mazumdar

https://www.telegraphindia.com/states/west-bengal/school-safety-manual-yells-to-be-heard/cid/1415523

These authors have made reference to a 65 page **school safety manual** published by the **Council for the Indian School Certificate Examinations**. This manual underlines **"What campuses should do"** like -

(a) Constitute a safety committee comprising students, parents and teachers

(b) Constitute a reporting cell for students to complain against violations without fear

(c) Allow construction and repairs only after school hours

(d) Arrange a helpline for students

(e) Make children aware of each potential threat to their safety and teach them exactly what to do in that scenario.

2.2.6 National School Safety Programme

file:///F:/DESERTATION/review%20literature/BOOK%204-%20SCHOOL%20DM%20PLAN%20-NSSP.pdf

This is a centrally sponsored demonstration project covering 8600 schools to be implemented by National Disaster Management Authority in partnership with Ministry of Human Resource Development. According to the assessment report of this project non-structural mitigation measures should be taken up in these schools. The key activities under non-structural measures would be -

(a) Preparation of a standard Checklist to assess the existing non-structural risks in the school buildings.

(b) Training of at least 2 engineers from each targeted Districts (43 Districts in all) who are technically qualified to carry out assessment of the safety of the existing structures.

(c) Carrying out of rapid visual screening of 200 selected school buildings in each of the targeted districts.

(d) Implementation of various non-structural disaster risk mitigation measures in the selected schools.

2.2.7 Review of Related Literature – Articles/Reports/journals

(a) August 08 (2013) Midday Meal Tragedy Jolts Bihar by Manisha Priyam.http://www. freepressjournal.in/midday-meal-tragedy-jolts-bihar/.

(b) September 11 (2017) Why are children not safe in India's schools? (Hint: the problem is not lack of laws) by Shreya Roy Chowdhury.

(c) The murder of a Class 2 student in Gurugram's Ryan International School raises uncomfortable questions. https//scroll.in/article/850255

(d) In (2012) NDMA Project, National School Safety Programme Safe School Safe Children. https://ndma.gov.in/images/.../school_safety/Final_NSSP_brochure.pdf

(e) In (2016) Child Protection Policy A Must In All School.childlineindia.org.in/Child-Protection-Policy-in-all-schools.htm

(f) School Safety – vikaspedia.in/education/childrens-corner/school-safety?content=smal

2.3 CONCLUSION

De Quincey has aptly said "There is first the literature of *knowledge* and secondly the literature of *power*. The function of the first is to *teach*, the function of the second is to *move."* The investigator rarely had access to books relevant, allied and compatible to refer pertaining to the subject of research due to above constraints and therefore in De Quincey's sense the investigator could not enjoy the opportunity to be *taught* (*teach*) and head to *move alone (ekla chalo re)* with reports, guidelines, articles, case studies and my own primary data.

CHAPTER 3 - METHODOLOGY

3.1 INTRODUCTION

Research implies discovery, development and verification of facts. It signifies and endeavors to discover intellectual and practical solutions to a problem to the application of scientific methods and involves defining and redefining problems hypotheses, formulation, organizing and evaluating data, deriving deductions, inference and conclusions after careful testing.

The present study titled "Safety Measures and Facilities in Schools of Delhi" was conducted in schools of Delhi. The research was Exploratory, Descriptive, Quantitative as well as Qualitative in nature. The research aimed at finding out the awareness of Principals, SSFPTs, Students and Parents with respect to safety measures available in schools, physically verify all the schools to observe various aspects of structural and non structural aspects related with safety measures and facilities available and to examine availability of existing guidelines published by NDMA, NCPCR and important literature available in the form of guidelines. The research includes descriptive statistics (consisting of graphs, charts, percentages etc.) mean where ever applicable, and test of independence of responses of different categories of schools, categories of respondent's etc using ANOVA and Chi Sq test.

3.2 DESIGN OF THE STUDY

This sequence of captions elaborates the overall plan of the study and delineates the steps taken during the process of the study.

(a) Locale of the Study
(b) Sample selection
(c) Sampling techniques
(d) Tools for Data collection and scoring
(e) Statistical Analysis and interpretation of Data
(f) Suggestions and Conclusions

3.3 LOCALE OF THE STUDY

To study the awareness of safety measures and facilities available in schools, the data was collected from the five zones of Delhi city within the municipal limits. The sample was constituted of students age groups/class (they are studying in), school safety focal point teacher, principal and parents. To maintain homogeneity, the sample was selected from the Government sector, Government- Aided and Private Sector of schools. To collect the authentic data, the city map of Delhi was divided into five zones i.e. North, East, West, South and Central. Details of the schools are as follows:-

Government schools

GBSSS, Roop Nagar
GGSSS, Patel Nagar
GGSSS, Tagore Garden
GGSSS, Pitampura

Govt Aided Schools

Salwan Public School, Rajendra place
RM Arya Girls Senior Secondary School, Cannaught Place
Sardarni Sada Kaur Senior Secondary School, Darya Ganj
Lady Irwin Senior Seconday School, Central Delhi

Private Schools

DAV senior Secondary School, Vasan Kunj
Mahaveer senior Model School, Kamala Nagar
Dr Radha krishnan international school, Defense Colony
ITL Public School, Dwarka
Army Public School, Shankar Vihar
Air Force Golden Jubilee Institute ,Subroto park

3.4 SAMPLE OF THE STUDY

The total sample constituted 463 subjects as graphically depicted below

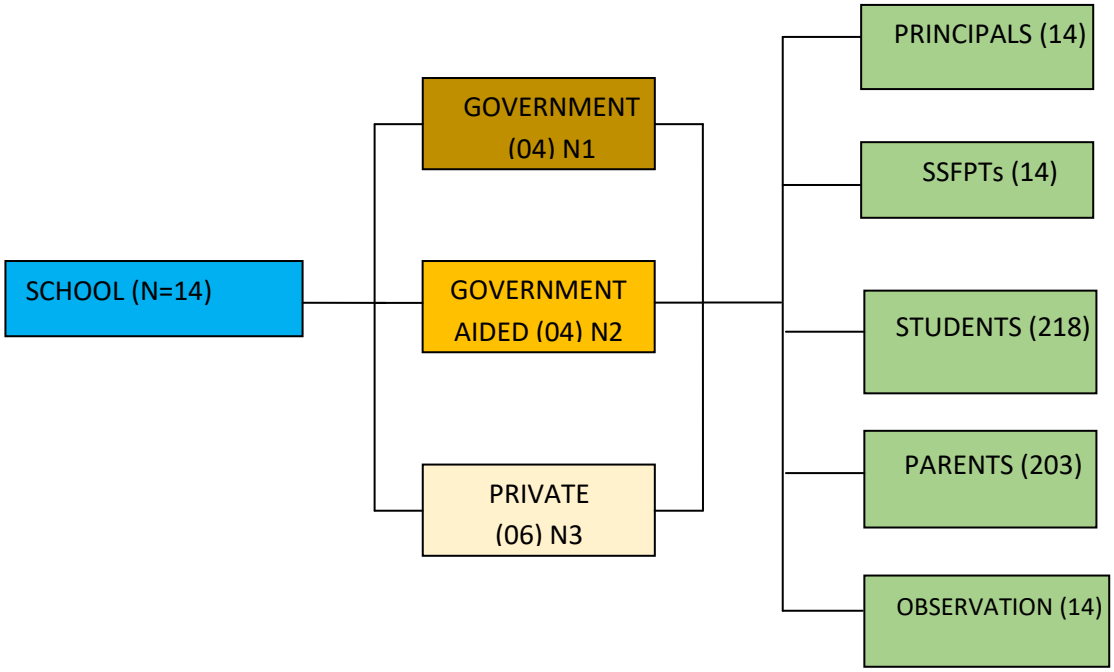

Figure 3.1 Sample of the study.

3.4.1 SAMPLING TECHNIQUE

In the present study, a stratified purposive random sampling technique was used for the selection of sample. The subjects undertaken for the research study were principals, SSFPTs ,students and parents from all the three types of schools i.e. Government ,Government-Aided and private . All the schools were physically observed (Observation) to examine the structural and non-structural facilities available related to safety measures.

3.5 DESCRIPTION OF TOOLS AND SCORING

To study the awareness of safety measures and facilities available in schools the questionnaire and interview schedule were prepared on the basis of objectives of the study. These are placed in **Appendix "A to E".**

3.6 PROCEDURE OF DATA COLLECTION

Once tools and procedures were decided and developed, the pilot study was carried out. It helped in judging the efficiency of the tools and procedure of data collection. It was also instrumental in working out a feasible time schedule for data collection. The pilot study was conducted on the students of Salwan Public School, Govt Aided School, Rajender Nagar. A total of 5 students were taken for pilot testing. After the pilot test, changes and modifications were made in tools as needed.

The data was collected on the basis of questionnaire and interview schedule. All concerned were assured about the confidentiality of results. The procedures of filling the questionnaire were explained to them and the queries, doubts etc. was solved accordingly. When an individual completed the questionnaire the experimenter collected the booklet and allowed the subject to retire.

To begin the data gathering process, a written permission was sent to each of the Principal of the selected schools requesting their schools to be used as the population of the study. After the Principals consented to the request, they communicated the purpose and aim of the study to the teachers of these schools who voluntarily agreed to cooperate in the study. The teachers then informed the students about the study and those who consented to be involved in it were randomly selected to participate. The data with respect to parents was collected through the questionnaire distributed to the students randomly selected.

The view point of Principals and SSFPTs was personally taken through an interview schedule on the basis of structured questionnaire by an Asst Professor of Dept of Education, Lady Irwin College.

The physical verification to examine the appropriateness and sufficiency of existing facilities and safety measures in schools pertaining to **structural and non- structural hazards** was undertaken by the Second Year students of B Ed Stream of Lady Irwin College under the supervision of the Asst Professor as mentioned above.

3.7 STATISTICAL ANALYSIS AND INTERPRETATION

Data collected from the Principals, SSFPTs, and Observation Schedule were cleaned and prepared for analysis. Apart from descriptive statistics, one way ANOVA (single Factor) and Chi Sq were taken into consideration for verification of hypotheses.

CHAPTER 4 - DATA ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

This chapter deals with analysis of the collected data. The data has been analysed keeping in view the Hypotheses as well as the Objectives and has been divided into two major categories, that is the "level of awareness with respect to the safety measures existing in schools" and "sufficiency of existing facilities and safety measures pertaining to Structural and Non- structural hazards" . In order to judge the level of awareness the Questionnaire was formulated in the form of interview schedule for Principals and School Safety Focal Point Teachers and in the form of written feedback for students and parents of a total 14 schools divided into three categories i.e. Govt Schools (4 schools), Govt Aided (4 schools) and Private (6 schools) of Delhi area. A total of 218 students and 203 parents from Govt, Govt Aided and Private schools participated in the study .The facilities with respect to infrastructure were verified by physical observations of the schools.

The data was collected from total fourteen schools comprising four each Government and Government Aided Schools and six Private Schools of Delhi Area. A total number of 218 students and 203 Parents from Govt schools, Govt Aided schools and private schools participated in the study. Graph Fig 4 and Fig 5 shown below give the distribution of students and parents in % form.

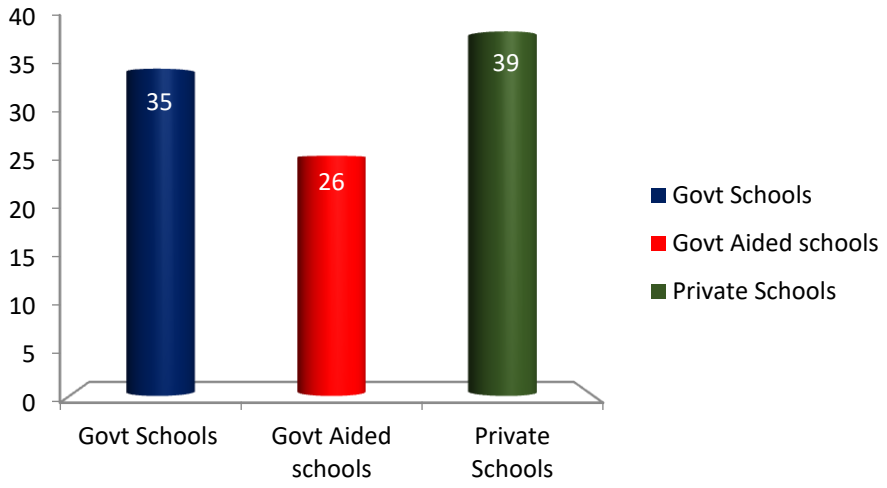

Figure 4.1- Distribution of Students (%)

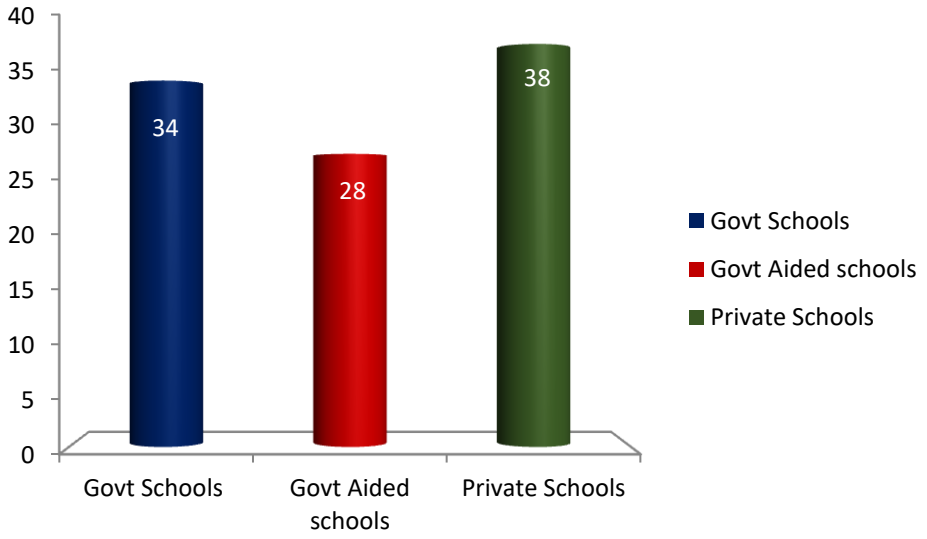

Figure 4.2- Distribution of parents

The data was analysed with the help of Graphical presentation taking into consideration the outcome of each observation in percentage form. The data available is on the nominal or ordinal scale. There are three groups of schools, so it was advisable to form a contingency table and apply a test like **ANOVA or Chi Sq**, which are ideally suited for treating ordinal or nominal scale data to test Independence or homogeneity. Accordingly, non parametric test, Chi Sq, was used for analysis of data in respect of feedback/ responses from Students and Parents as the numbers were sufficiently high. Since the number of respondents in respect of Principal, SSFPT and observation of facilities and safety measures (pertaining to Structural and Non-structural hazards) was less (total 14), it was decided to use parametric test like ANOVA to analyse the data. A summarised outcome of both ANOVA and Chi Sq test is also placed in **"Appendix H**" for ready reference .

4.2 LEVEL OF AWARENESS WITH RESPECT TO THE SAFETY MEASURES EXISTING IN SCHOOLS

Awareness generation/sensitization is a part of preparedness measures aiming at sensitizing and educating all the stakeholders including students, teachers, officials, and parents on issues relating to safety. The aim of this analysis is to judge the **level of awareness** of Principals, School safety Focal point Teachers, Students and Parents

on the safety measures existing in schools and to examine whether the existing guidelines published by NDMA on the Safety and Security of Children are available in the Schools. It has been assumed that involvement/awareness of Principal, School Safety Focal Point Teacher (SSFPT), students and parents of all the schools whether Government, Government Aided or Private, show equal level of Involvement/awareness with respect to facilities and safety measures available at their respective schools. In order to examine the level of involvement /awareness, the Principals and SSFPT were interviewed by an "Assistant Professor" on the basis of a Questionnaire placed in **Appendix "A &B**" and the response outcome has accordingly been converted to as **"Were found aware/Knows = "Yes" and "Not found Aware/does not know = No"**. The noted outcome has been depicted by individual Column graph and stacked column graph in terms of percentage (%). In the stacked column graph only the percentage outcome of "Yes" only has been taken into consideration.

4.3 RESPONSE FROM PRINCIPALS

4.3.1 An attempt was made to know whether the Principals are conversant with the terminologies/abbreviations used in NDMA guidelines viz SSFPT: School Safety Focal Point Teacher.

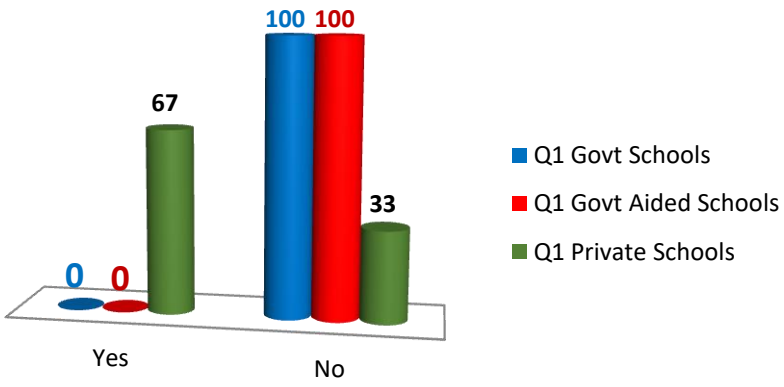

Figure 4.3 - School safety focal point teacher (%)

At the school level a SSFPT is nominated to operationally anchor safety related aspects. It can be seen that none of the Principles of Govt or Govt Aided schools were aware of SSFT while 67% Principals of private schools were aware of SSFPT.

ANOVA test (F cal /F crit, 6.28/3.98, $p<0.05$) indicates that the means of three groups are different and the difference is statistically significant. Therefore the null hypothesis cannot be accepted. It can be inferred that the factor affecting this observed difference could be the type of school involved.

4.3.2 Whether the Principals were conducting School Disaster Management Committee (SDMC) meeting in their schools and if there was any record available to this effect.

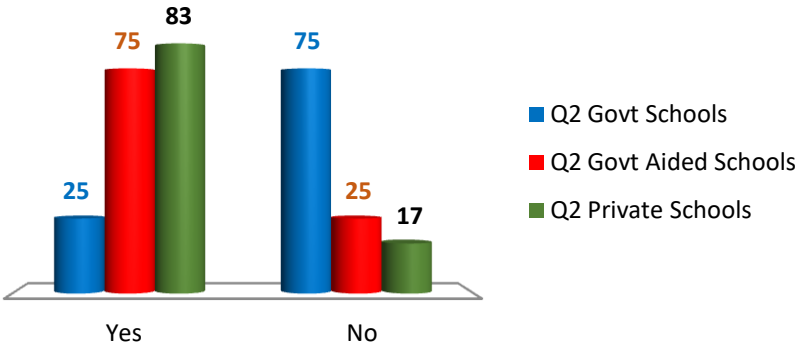

Figure 4.4 - Conducting SDMC meeting (%)

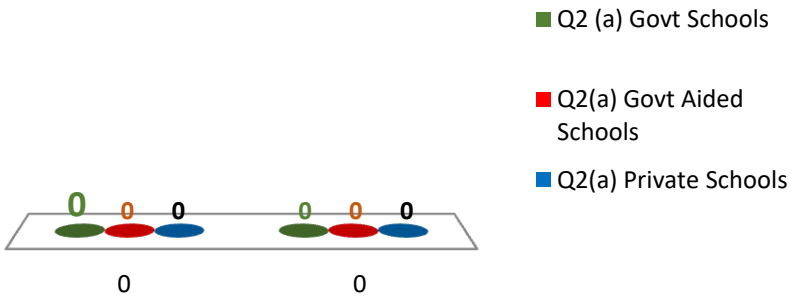

Figure 4.5 - Availability of records (%)

Every school is required to form this disaster management committee and conduct regular meetings to evaluate the adequacy of the facilities and the recent development. Fig 8 brings out that 83% Principals of Private Schools and 75% of Govt Aided schools had been conducting SDMC meeting. While all 83 % of private schools were maintaining the record to this effect, only 50% of Govt Aided schools out of 75%

conducting the subject meetings were found maintaining the record. Only 25 % of Govt Schools were conducting subject meeting and none of them are maintaining any records. ANOVA test (F cal / Fcrit, 2.07/3.98 and $p>0.05$) indicates that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors. However, the difference is statistically significant w.r.t. maintaining of records (F cal /F crit, 6.28/3.98, $p<0.05$). Therefore the null hypothesis cannot be accepted. It can be inferred that the factor affecting this observed difference could be the type of school involved.

4.3.3 Knowledge with respect to District Disaster Management Authority and their contact Number

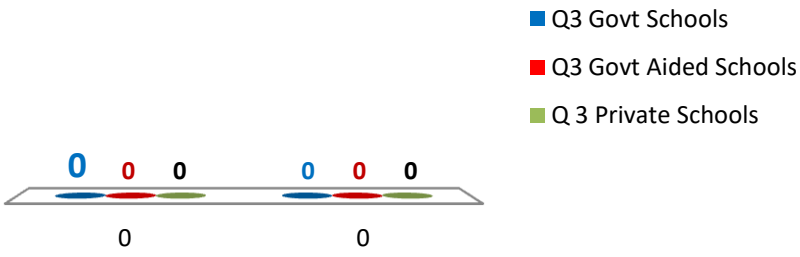

Figure 4.6 - Knowledge level: DDMA(%)

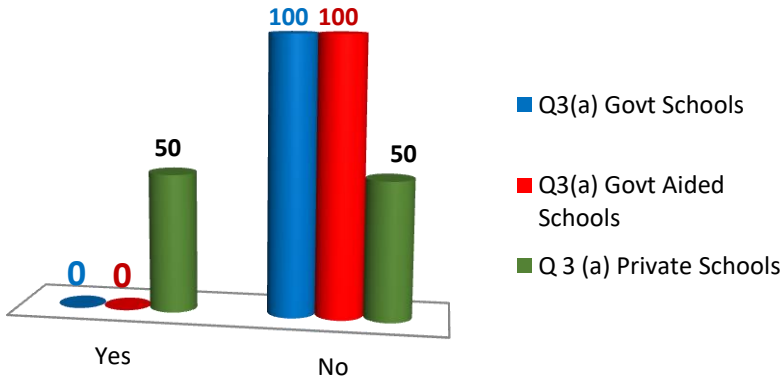

Figure 4.7- Contact No. DDMA (%)

As per the response of the Principals, none of them were aware of DDMA while only 50 % principals of private schools were aware of details of DDMA including their contact Number. The outcome clearly brings out lack of instructions from Directorate of Education as well as lack of effort by DDMA/NDMA to ensure the level of awareness. ANOVA test (F cal / Fcrit, 1.48/3.98 /p>0.05 and F cal / Fcrit, 3.14 /3.98 / p>0.05 respectively) indicates that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors.

4.3.4 Knowledge with respect to Master Trainer responsible for Training

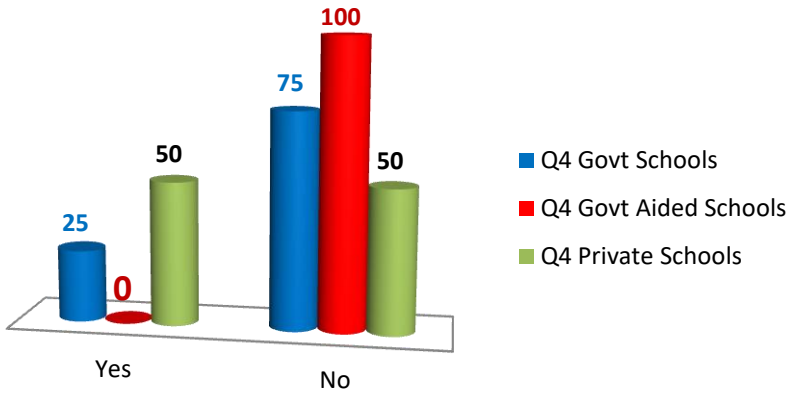

Figure4.8- Master Trainer (%)

4.3.5 Whether undergone training conducted by DDMA or Block Education Officer

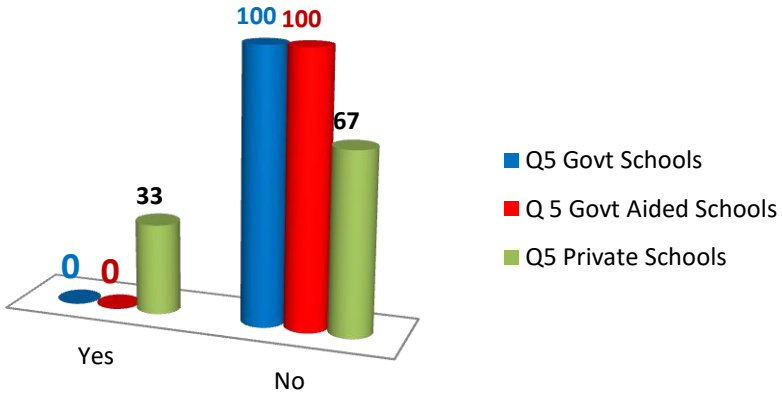

Figure 4.9- Training by DDMA/BEO (%)

4.3.6 Teacher's training by Master Trainer and record to this effect

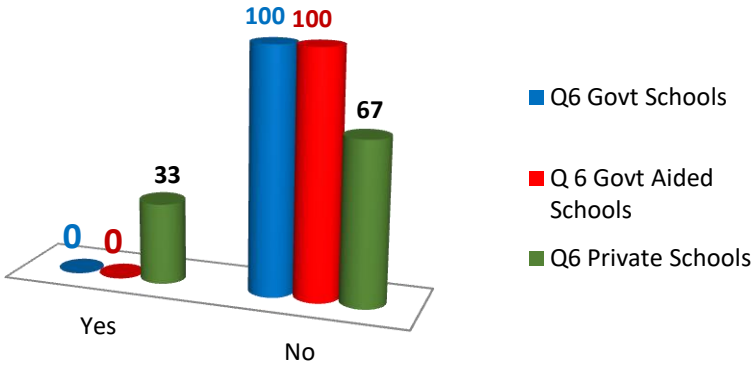

Figure 4.10 -Training by Master Trainer(%)

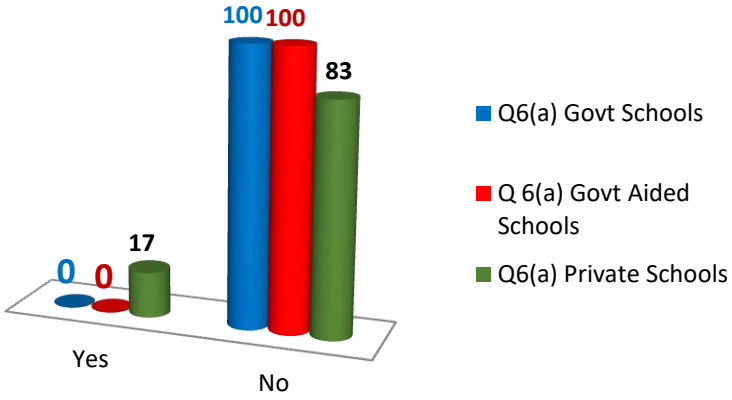

Figure 4.11- Record available (%)

NDMA has published detailed Guidelines in the form of National School Safety Programme in order to impart training to school teachers and children and accordingly has appointed Master Trainers[16] in each state. A Training Module has also been devised. The list of these Master Trainers is placed as **Appendix "F"**. Despite these

[16] https://ndma.gov.in/images/pdf/school_safety/particpnats.pdf

guidelines, majority of schools were neither aware of the Master Trainer nor have undergone any formal training. Only 50 % of Private schools had shown awareness and only 33% of them had undergone the training. Out of this only 17 % schools had record to this effect ANOVA test (F cal / Fcrit- 1.48/3.98 and p>0.05, 1.48/3.98 and p>0.05, 1.57/3.98 /p>0.05 and 0.62 /3.98 / p>0.05 respectively) indicates that the null hypothesis (there is no difference between averages of group) with respect to all above is accepted. The observed differences of averages are by chance and not due to other factors.

4.3.7 Whether existing building is as per National Building Code 2005

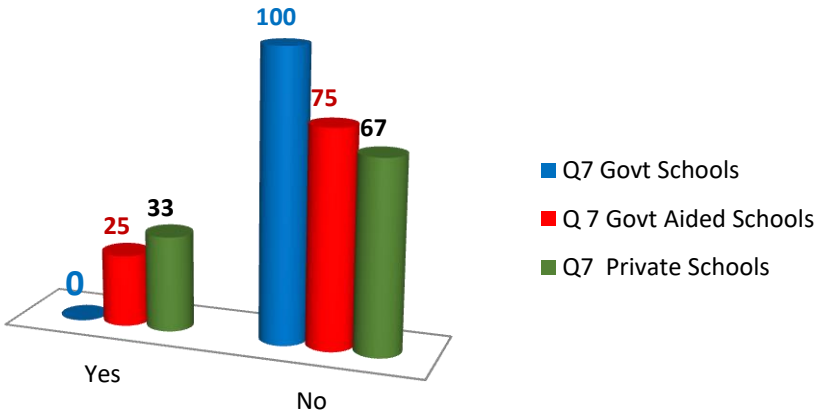

Figure 4.12- National Building Code 2005 (%)

Fig 15 above indicates that only 33 % buildings of Private Schools and 25 % of Govt Aided Schools are as per National Building Code 2005. ANOVA test (F cal / Fcrit,0.72/3.98 and p>0.05) indicates that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors.

4.3.8 Awareness/Availability of Emergency Equipment Kit

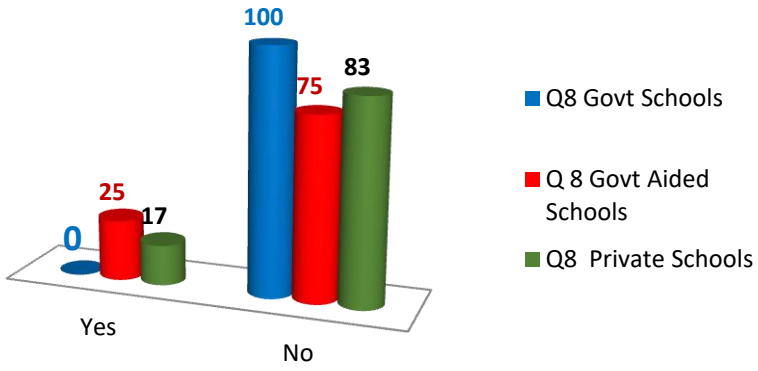

Figure4.13 - Availability of emergency equipment kit(%)

A meager 25 % of Govt Aided and 17% of private Schools are maintaining Emergency Equipment Kit. ANOVA test (F cal / Fcrit,0.45/3.98 and p>0.05) indicates that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors.

4.3.9 Awareness with respect to Electrical Safety

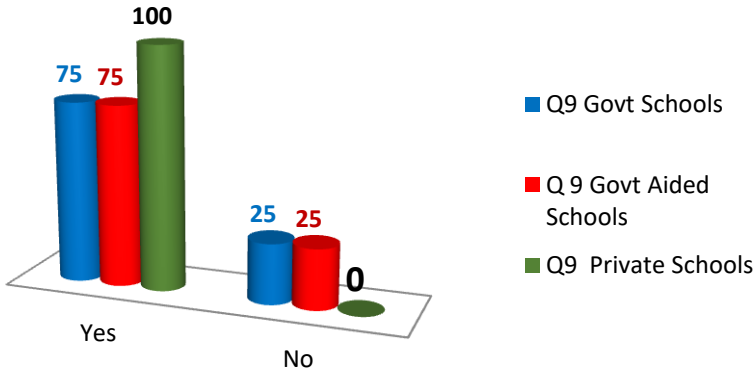

Figure 4.14 - Awareness regarding electrical safety(%)

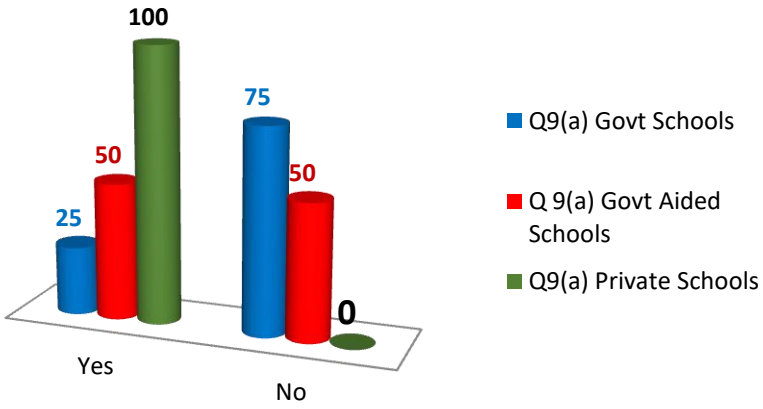

Figure 4.15 - Record available(%)

The responses to these questions are depicted graphically in Fig 18 above. It can be seen that 100 % private schools had carried out electrical safety inspection and are maintaining records to this effect as against only 25 % of Govt Schools. 75 % Govt Aided schools had carried out electrical safety inspection; however 25% out of them are not maintaining any record. ANOVA test w.r.t. electrical safety inspection, (F cal / Fcrit, .78/3.98 and $p>0.05$) indicates that the null hypothesis, (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors. However, the difference is statistically significant w.r.t. maintaining record (F cal /F crit, 4.6/3.98, $p<0.05$). Therefore the null hypothesis cannot be accepted. It can be inferred that the factor affecting this observed difference could be the type of school involved.

4.3.10 Awareness regarding structural inspection

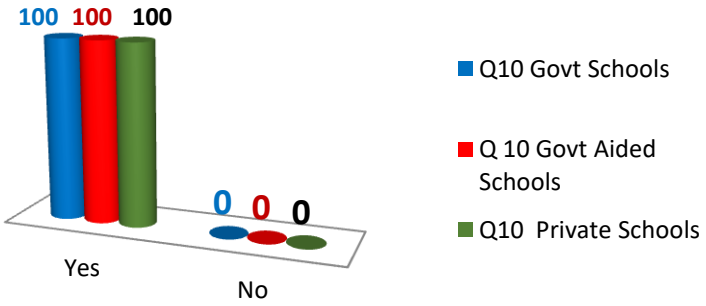

Figure 4.16 -Awareness regarding structural inspection(%)

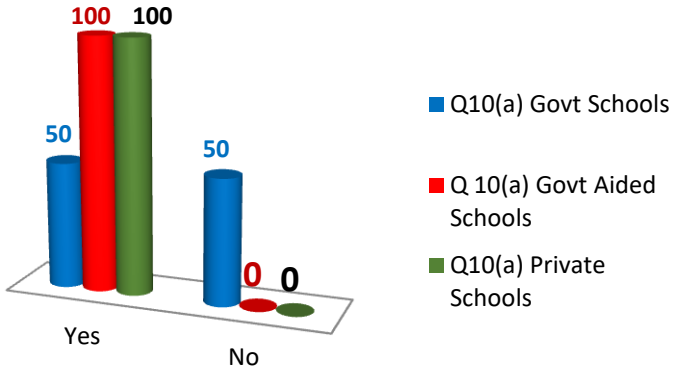

Figure 4.17 - Record available(%)

Periodical structural inspection is an important activity as discussed vides Para VII above keeping in view the norms of NBC. It can be seen that 100% Govt., Govt. Aided and Private schools were aware and carried out structural inspection in their schools. However 100% Govt Aided and Private schools were maintaining their records as against only 50% of Govt Schools. ANOVA test (F cal / Fcrit, 3.92/3.98 / p>0.05 and 65535/3.98/ p>0.05) indicates that the null hypothesis (there is no difference between averages of group is accepted). The observed differences of averages are by chance and not due to other factors.

4.3.11 Location of Fire Station near the school

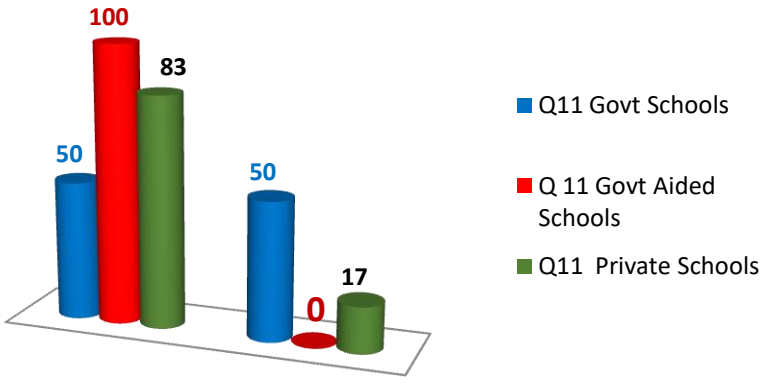

Figure 4.18- Fire station location(%)

4.3.12 Conducting Fire Fighting Mock Drills

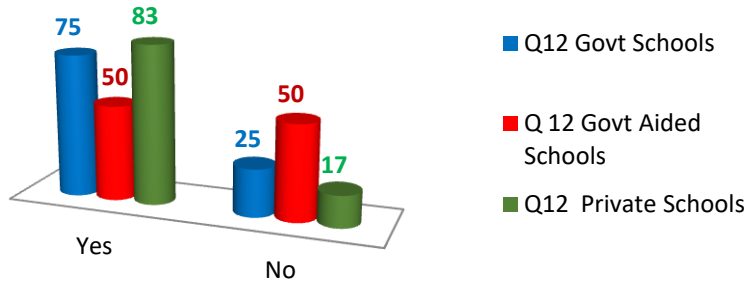

Figure 4.19 -Conducting fire fighting mock drills(%)

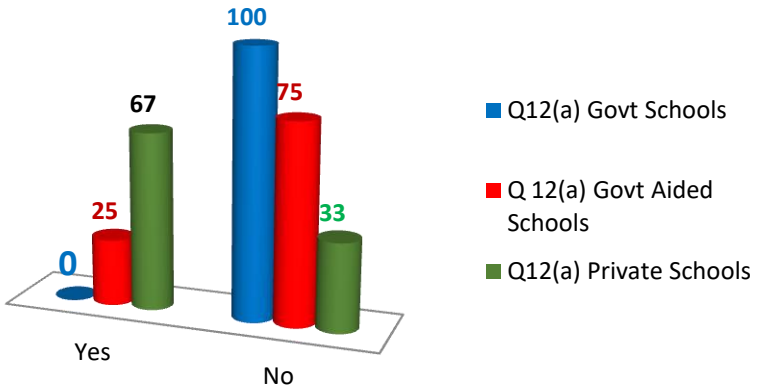

Figure 4.20- Record available(%)

Despite being an important safety aspect only 50% Govt School Principals were found aware of their nearest fire station as against 100% Govt. Aided School and 83% private school. 83% Private school, 75% Govt. School and 50% Govt. Aided were conducting fire fighting mock drills in their schools. However, only 67% of Private Schools and 25% Govt Aided schools were maintaining records to this effect. None of the Govt Schools were maintaining records to this effect. ANOVA test in all the three cases (F cal / Fcrit, 1.57/3.98 and p>0.05, F cal / Fcrit 0.58/3.98 /p>0.05 , F cal / Fcrit, 2.98 /3.98 / p>0. respectively) indicate that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors.

4.3.13 Children Evacuation Plan -

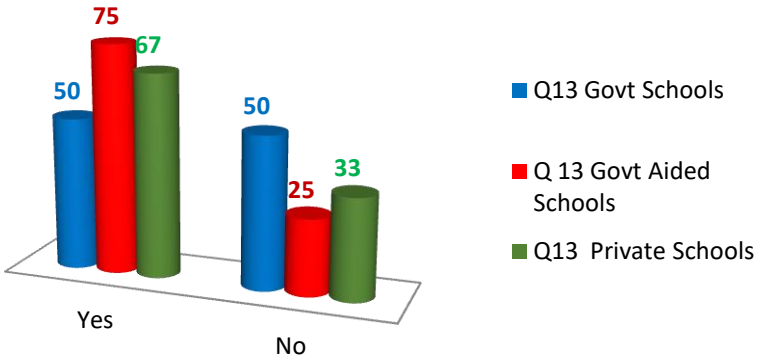

Figure 4.21- Children evacuation plan(%)

Display of a prominent and well maintained Children Evacuation Plan is a mandatory requirement for all the schools. Principals of only 75% Govt Aided schools, 67% Private schools and 50% Govt. schools were found aware of laying out /displaying children evacuation plan in their schools. ANOVA test (F cal / Fcrit, 0.23/3.98 and $p>0.05$) indicates that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors.

4.3.14 Awareness with respect to Anti Mosquito Spray-

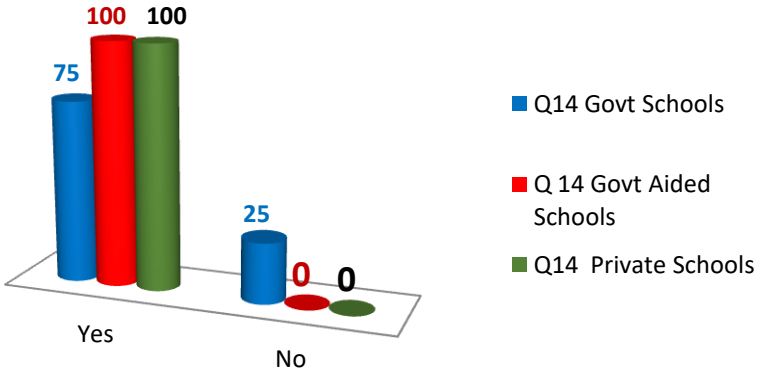

Figure 4.22 - Anti mosquito spray(%)

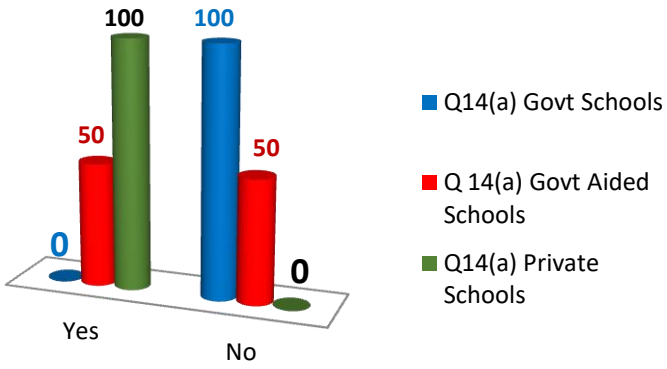

Figure 4.23- Record available(%)

The responses to these questions are depicted graphically in Fig 4.23 above. 100 Private school and Govt. Aided were carrying out anti mosquito spray against 75% of Govt schools. However, only 50% of Govt Aided schools were maintaining records against 100% of private schools. None of the Govt Schools had any record to this effect. ANOVA test w.r.t. Anti Mosquito Spray (F cal / Fcrit, 1.30/3.98 and $p>0.05$) indicates that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors. However, the difference is statistically significant w.r.t. maintaining record (F cal /F crit, 13.35/3.98, $p<0.05$). Therefore the null hypothesis cannot be accepted. It can be inferred that the factor affecting this observed difference could be the type of school involved.

4.3.15 Awareness with respect to Snake Repellent

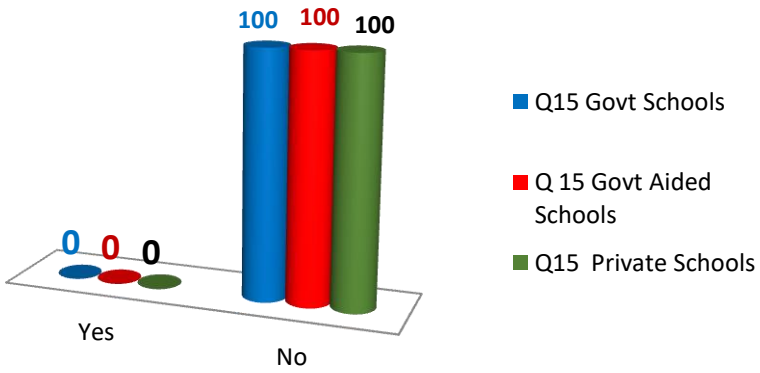

Figure 4.24- Snake repellent(%)

None of the Govt., Govt Aided or Private school principals were found aware of using snake repellent in their schools. ANOVA test indicates that there is no significant difference and the null hypothesis is sustained.

4.3.16 Review of School Development Plan

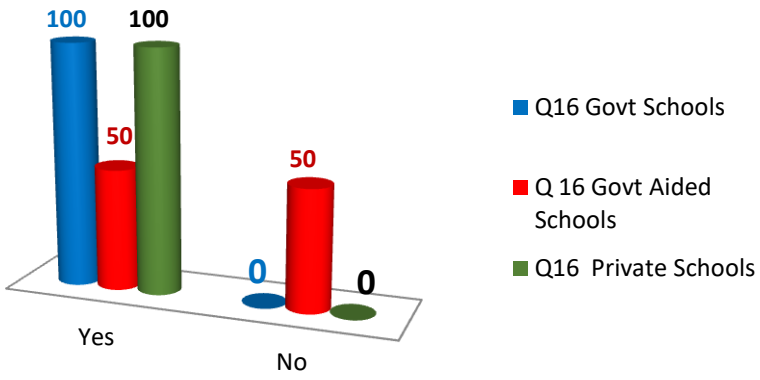

Figure 4.25- School Development Plan (%)

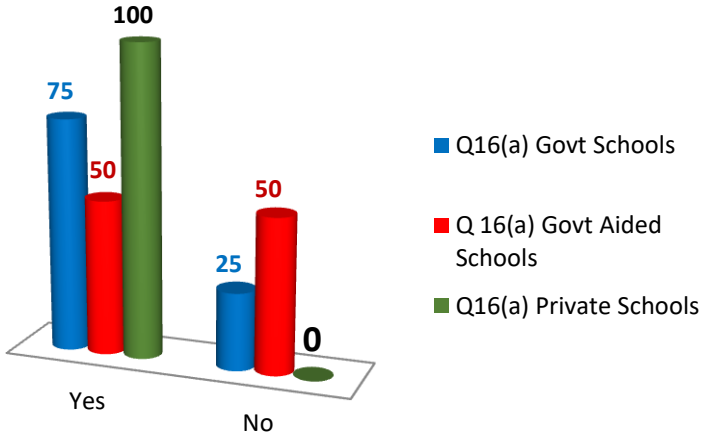

Figure4.26- Participation of children (%)

Participation of Children in SDP is an important aspect and needs to be ensured. It can be seen that School Development Plan of 100% Govt and Private School were being reviewed against 50% of Govt. Aided Schools. Participation of Children was observed in 100% Private School, 75% Govt School and 50% Govt Aided Schools. ANOVA test in both the cases (F cal / Fcrit, 3.92/3.98 /p>0.05 and F cal / Fcrit, 1.90 /3.98 / p>0.05 respectively) indicates that the null hypothesis (there is no difference

between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors.

4.3.17 NCC/Scouts & Guide

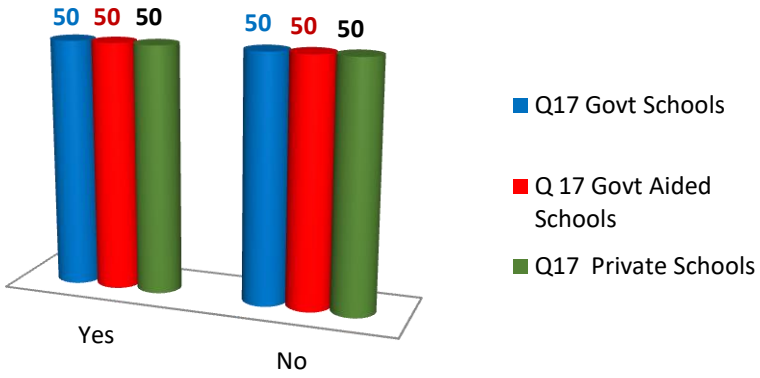

Figure 4.27- NCC/ Scouts & Guide(%)

4.3.18 Training of NCC/Scout &Guide

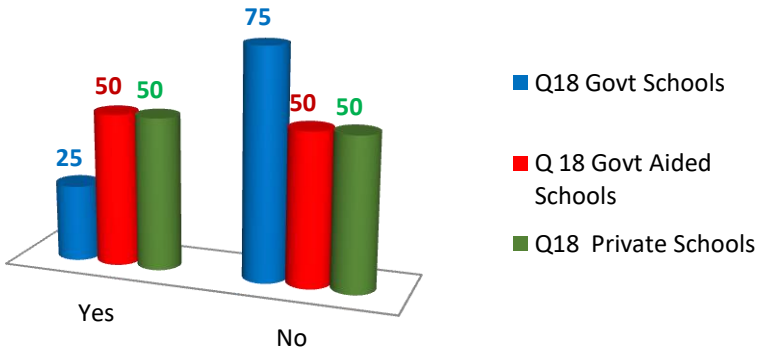

Figure 4.28 - Training of NCC/ Scouts & Guide(%)

50% Govt, Govt Aided and Private Schools were offering NCC/Scouts & Guide in their schools. Out of these, only half of (25%) of Govt. schools and all of Govt Aided and private schools were conducting training by SSFPT/Master Trainer for their NCC / SCOUT children. Using ANOVA test (F cal / Fcrit, .30/3.98 and p>0.05) indicates that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors.

4.3.19 Aid by MPLAD (Members of Parliament Local Area Development) /MLALAD

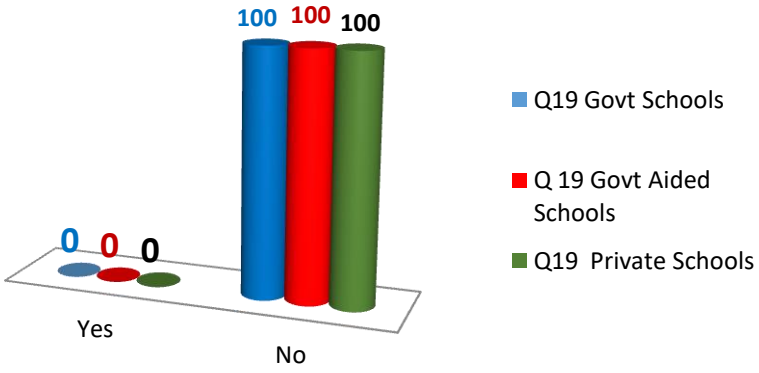

Figure 4.29- Aid by MPLAD/MLALAD (%)

The response to this question is depicted graphically in **Fig 32** above. It can be seen none of the schools received any aid/grant from MPLAD/MLALAD.

4.3.20 Conclusion- Summarised Average response of Principals: A comparative analysis

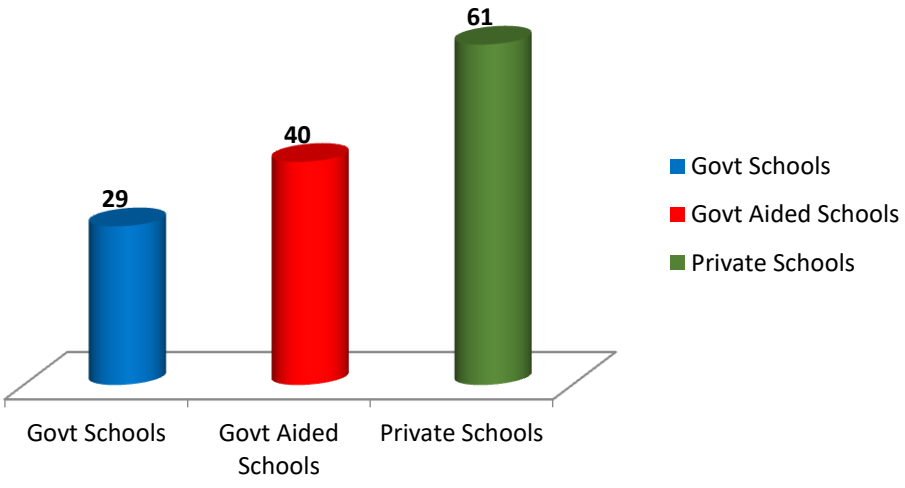

Figure4.30 Average response of Principals (% Yes)

Question wise examination of level of awareness of Principals brings out that except for awareness with respect to "maintenance of emergency kit (Govt- 0%, Private-17%

Govt Aided -25%) location of nearest fire station(Govt - 50%, Private- 83%, Govt Aided -100%) and laying down the children evacuation plan (Govt- 50%, Private- 67%, Govt Aided-75%), the level of awareness of principals of private schools was found better than Govt Aided and Govt Schools including maintenance of records. This was substantiated further by evaluation of a consolidated average response as depicted by the figure 33 above.

Accordingly, it can be concluded that the hypothesis "Involvement/awareness of Principal of all the schools whether Government, Government Aided or Private Show equal level of Involvement/awareness with respect to facilities and safety measures pertaining to structural and non- structural hazards available at their schools." fails to be accepted.

4.4 RESPONSE FROM SCHOOL SAFETY FOCAL POINT TEACHERS (SSFPTs)

4.4.1 Awareness with respect to notifying an Emergent Situation

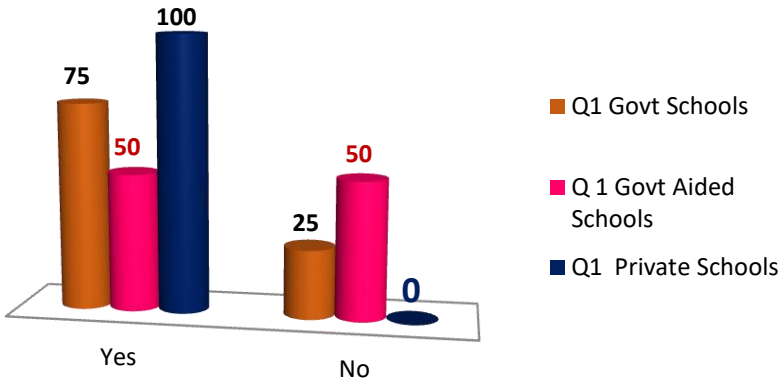

Figure4.31- Notifying emergent situation (%)

Notification and Activation communications both external and internal is one of the most important aspects and is the first step of handling the disaster situation. It can be seen that 100 % SSFPTs of Private schools were aware with respect to notifying an emergent situation as against 75 % of Govt and 50% of Govt Aided schools. ANOVA test (F cal / F crit, 1.90/3.98 / p>0.05) indicates that the null hypothesis, (there is no

difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors.

4.4.2 Review of School development plan

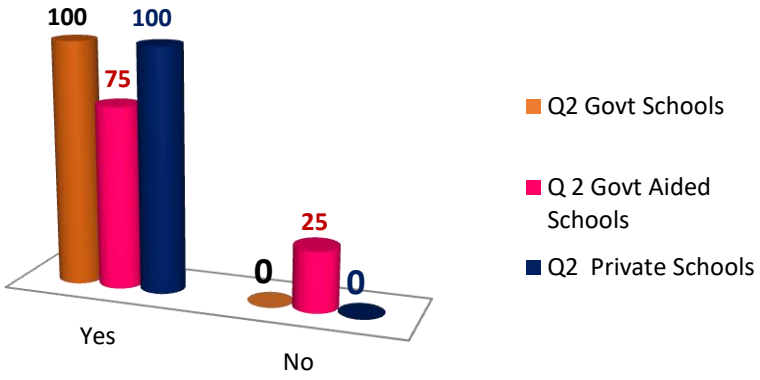

Figure 4.32- Review of School Development Plan (%)

Periodical review of SDP is essential. It can be seen that 100% Govt and Private Schools were found reviewing the SDP as against 75 % of Govt. Aided School. ANOVA test (F cal / F crit, 1.30/3.98 / p>0.05) indicates that the null hypothesis, (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors.

4.4.3 Awareness with respect to SSAC

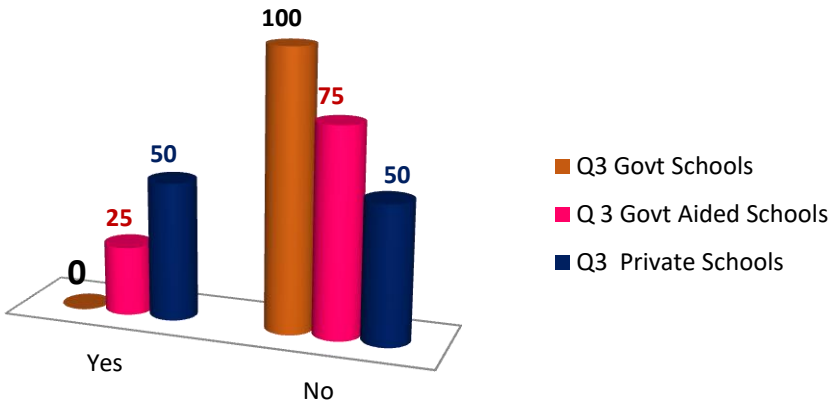

Figure 4.33- SSAC meeting (%)

4.4.4 Whether the Schools were conducting School Safety advisory Committee (SSAC) meeting.

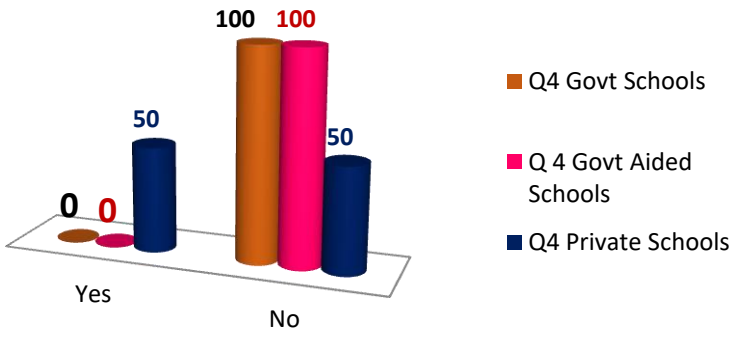

Figure 4.34 -SSAC meeting (%)

Formation of SSAC is essential to advise the education department and other various authorities /Departments on various safety measures/aspects. It can be seen that 50 % SSFPTs of Private schools were aware with respect to SSAC and have been attending the meeting as against 25 % of Govt Aided Schools who never attended any meeting. None of the SSFPTs of Govt Schools were conversant with this term. ANOVA test (F cal / Fcrit,3.14/3.98 and p>0.05 and F cal / F crit, 1.48/3.98 / p>0.05 respectively) indicates that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors.

4.4.5 Observing the Preparedness Month with respect to Disaster Management

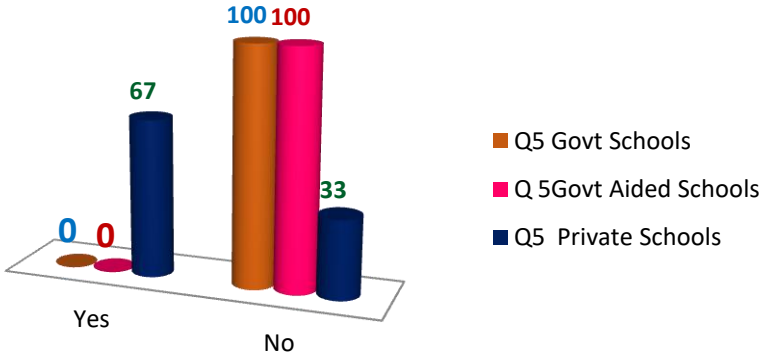

Figure 4.35 -Preparedness Month (%)

One suggested activity to generate large scale awareness is to observe a month of safety called as Preparedness Month. It can be seen that only 67 % of Schools/SSFPTs of Private Schools had been observing Preparedness Month with respect to Disaster Management, however none of the Govt Aided/Govt schools had conducted this activity. ANOVA test (F cal / Fcrit, 6.28/3.98 and p>0.015) indicates that the difference is statistically significant w.r.t. observing the preparedness month. Therefore the null hypothesis cannot be accepted. It can be inferred that the factor affecting this observed difference could be the type of school involved.

4.4.6 Whether the schools have School Safety Committee/School Management Committee (SMC) involving children and parents and record to this effect and conduct of SSC meeting

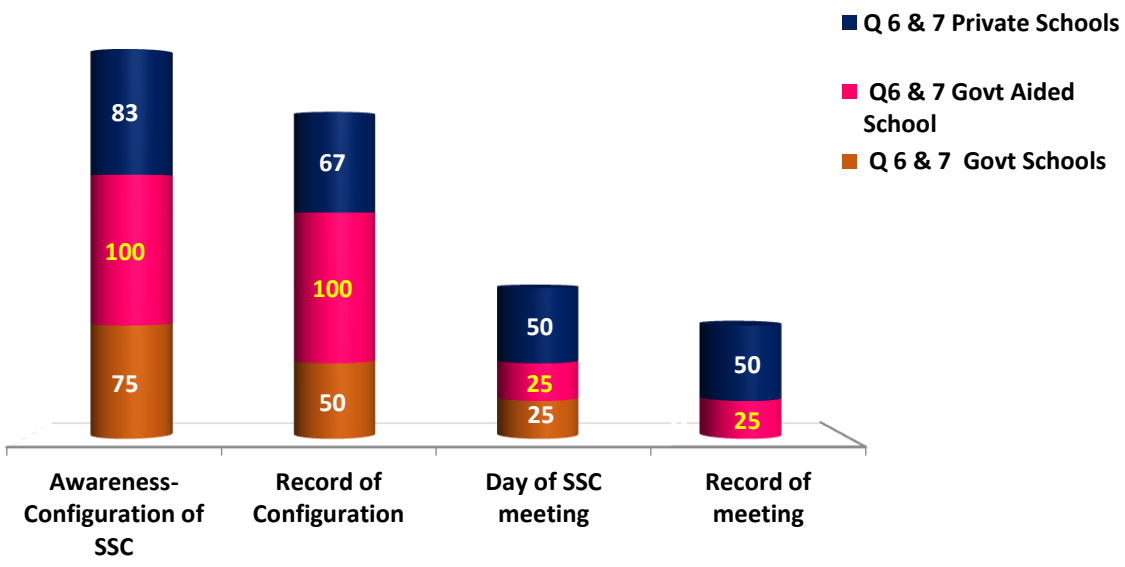

Figure 4.36 School Safety Committee

SSC/SMC comprises of Chairperson/Principal, Child safety protection officer, other teaching/non teaching members, two parents, two students and two other external members as desired by school. It can be seen that 100% Govt. Aided, 83 % Private and 75% Govt schools had formed the SSC. All the Govt Aided Schools had maintained record to this effect as against 67% of Private schools and 50 % of Govt schools.

Further, only 50 % Private and 25 % Govt Aided schools had claimed conducting SSC meeting and were also found maintaining record to this effect.25 % of Govt School claimed to have conducted such meeting, however not maintaining any record and hence the authenticity is considered doubtful.

ANOVA test with respect to all the four responses above (F cal / Fcrit- 0.45/3.98 / p>0.05, F cal / Fcrit- 1.23/3.98/ p>0.05, F cal / Fcrit- 0.39/3.98 / p>0.05, and F cal / Fcrit- 1.48/3.98/ p>0.05 respectively) indicates that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors.

4.4.7 Training of SSFPTs by DDMA , details of Master Trainer imparted training and knowledge with respect to safety Manuals published by NDMA

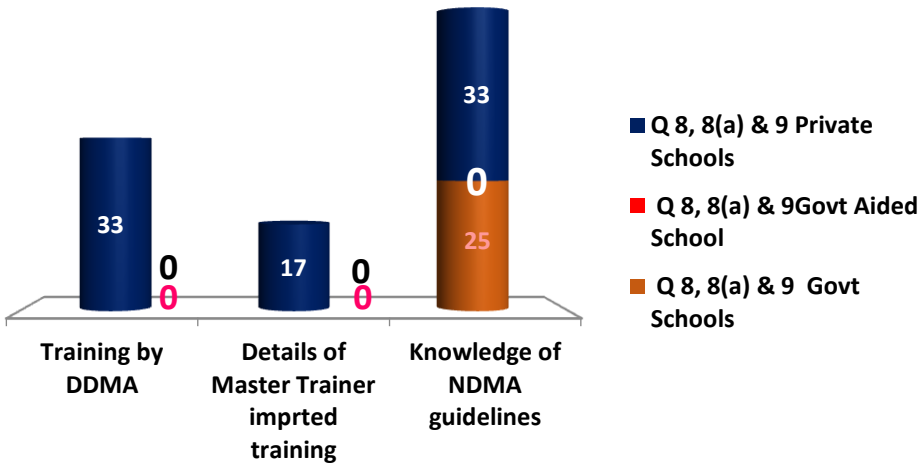

Figure 4.37 Training –SSFPTs

Formal training of SSFPTs is considered essential as they are responsible to ensure all the safety related activities and in order to be conversant with the prevailing guidelines on safety measures and disaster management. The responses to these questions are depicted graphically in Fig –39 above. It can be seen that only 33 % SSFTs of Private schools had claimed training by DDMA and only 17% out of them knew about the master trainer who had trained them. SSFPTs of both Govt Aided and Govt schools neither received any training nor had known about Master Trainer. Only

33 % SSFPTs of Private schools were aware with respect to safety manual issued by NDMA, as against 25 % of Govt Schools. None of the SSFPTs of Govt Aided Schools were conversant with these manuals. ANOVA test (F cal / F crit,- 0.62/3.98 / p>0.05 , 0.72/3.98/ p>0.05 and 0.72/3.98 / p>0.05 respectively) indicates that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors.

4.4.8 Awareness with respect to availability of Lightning Conductor and its serviceability

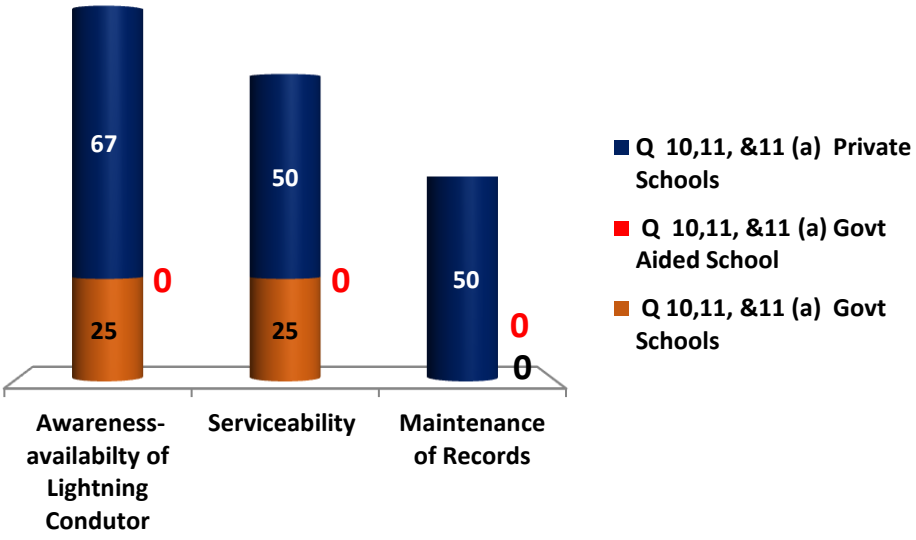

Figure 4.38- Lightning Conductor

Training module for Master Trainer on School Safety brings out aspects related to availability and maintenance of Lightning conductor. It can be seen that only 67 % SSFTs of Private schools and 25 % of Govt Schools knew about availability of lightning conductor in their school. Out of these 50 % of SSFPTs of private schools and 25 % of Govt schools knew about the maintenance status. However record of maintenance was maintained by only 50 % of teachers of private schools. ANOVA test (F cal / F crit, 2.98/3.98/ p.0.05, 1.48/3.98 / p>0.05 and 3.14/3.98/ p>0.05 respectively) indicates that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors.

4.4.9 Awareness with respect to maintenance of electrical lines/fitting, details of electrician, Electrical Earthling (EE) and record of maintenance

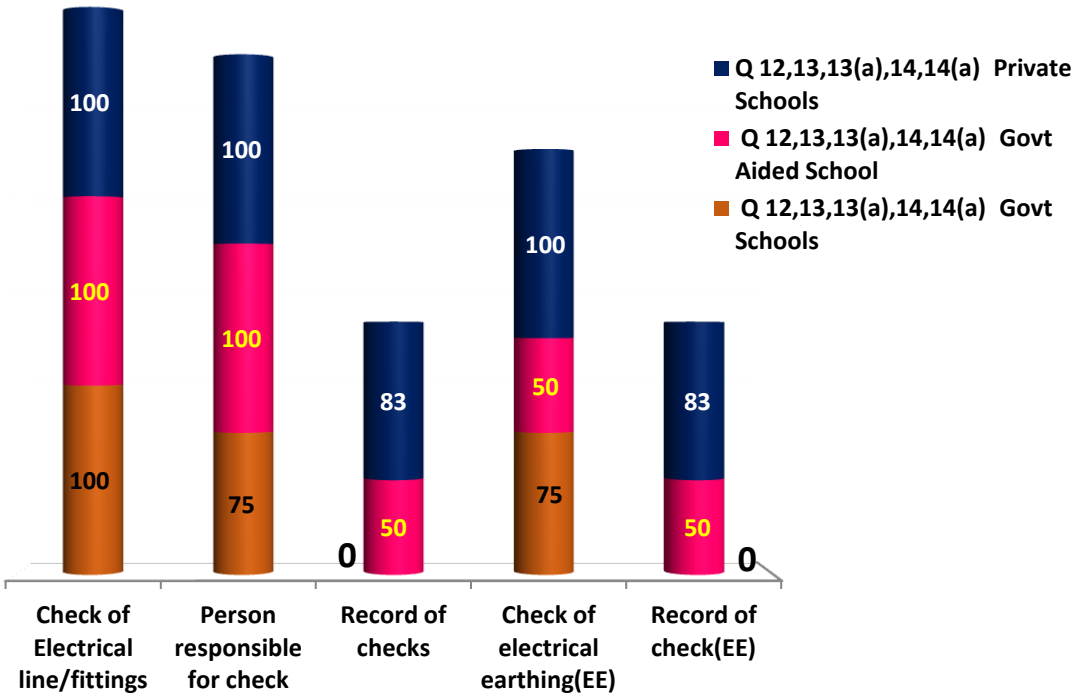

Figure 4.39- Awareness with respect to electrical lines earthling (%)

The responses to these questions are depicted graphically in Fig -41 above. It can be seen that percentage of awareness of SSFPTs of private schools is better than Govt Aided and Govt schools including about maintenance of records. However record of maintenance was maintained by only 50 % of teachers of private schools. ANOVA test; F cal , F crit, and p Value are brought below :-

Response	F Calculated	F Critical	P
Check of electric line/fitting		3.98	
Person responsible for check	1.30	3.98	0.30
Record of checks	5	3.98	0.02
Check of electrical earthling	1.90	3.98	0.19
Record of check(EE)	5	3.98	0.19

Table 4.1- Awareness with respect to electrical lines earthing

ANOVA test with respect to Q 12,13and 14 indicates that the null hypothesis, (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors. However with respect to both the questions which are related to maintenance of records i.e. Q No 13(a) and 14 (a), the means of three groups are different and the difference is statistically significant. Therefore the null hypothesis cannot be accepted. It can be inferred that the factor affecting this observed difference could be the type of school involved.

4.4.10 Awareness with respect to Fire and Fire fighting

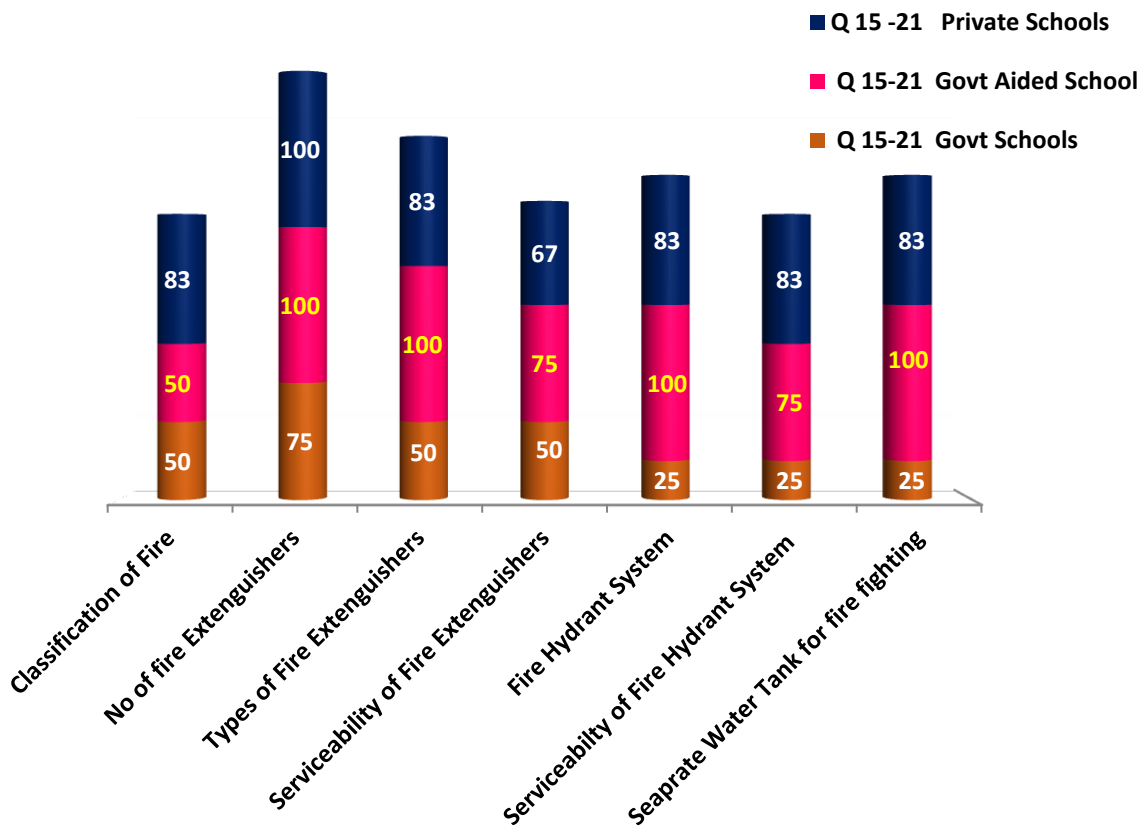

Figure 4.40 - Awareness with respect to Fire and Fire fighting (%)

The responses to these questions are depicted graphically in Fig - 42 above. It can be seen that percentage of awareness of SSFPTs of Govt Aided schools with respect to all the aspects of fire and fire fighting equipments is better than private schools and Govt schools except in case of knowledge about classification of fire and

serviceability of fire hydrant system. The awareness level of SSFPTs of Govt schools with respect to all the aspects was found lowest.

Response	F Calculated	F Critical	P
Classification of fire	0.73	3.98	0.49
No of fire extinguisher	1.30	3.98	0.30
Types of fire extinguisher	1.57	3.98	0.25
Serviceability of fire extinguisher	0.23	3.98	0.79
Fire hydrant system	4.42	3.98	0.03
Serviceability- Fire hydrant system	2.07	3,98	0.17
Separate water tank for fire fighting	4.42	3.98	0.03

Table 4. 2 -Awareness with respect to Fire and Fire Fighting

ANOVA test with respect to Q 12,13and 14 indicates that the null hypothesis, (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors. However with respect to both the questions which are related to maintenance of records i.e. Q No 13(a) and 14 (a) , the means of three groups are different and the difference is statistically significant. Therefore the null hypothesis cannot be accepted. It can be inferred that the factor affecting this observed difference could be the type of school involved.

4.4.11 Awareness with respect to Floor wise evacuation plan

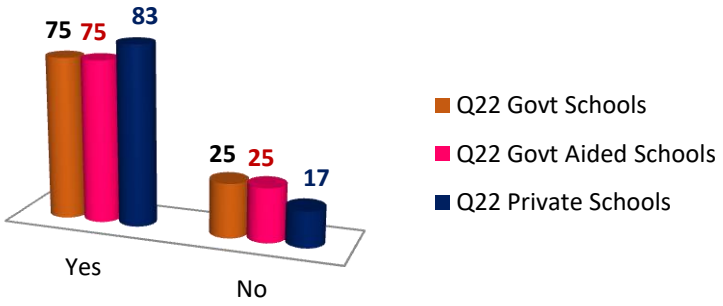

Figure 4.41- Floor wise evacuation plan (%)

The response to this question is depicted graphically in Fig -43 above. It can be seen that only 83 % SSFPTs of Private schools were aware with respect to safety manual issued by NDMA, as against 75 % of Govt Aided and Govt schools. ANOVA test (F cal / F crit, 0.72/3.98 / p>0.05) indicates that the null hypothesis, (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors

4.4.12 With respect to awareness of (a) Seismic level of Delhi, (b) total number these fault lines and (c) names of these fault lines. Only 83% and 75% of SSFPTs of Private and Govt Aided schools respectively knew about (a) seismic level of Delhi. None of the teachers were found aware of remaining questions i.e. (b),(c),(d). The observed difference between the means is absolutely zero; hence ANOVA values can't be calculated. As such it is inferred that there is no significant difference between the means.

4.4.13 None of the SSFPTS were found aware of full form of HVCR, CPR, SFMC, and EHS. They were also not aware of first aid procedures and abbreviated terms like "ABC". All these abbreviation have been frequently used in the manuals published by NDMA. None of the teachers were found aware of remaining questions i.e. (b),(c),(d). The observed difference between the means is absolutely zero, hence ANOVA values can't be calculated. As such it is inferred that there is no significant difference between the means.

4.4.14 Conduct of mock drill

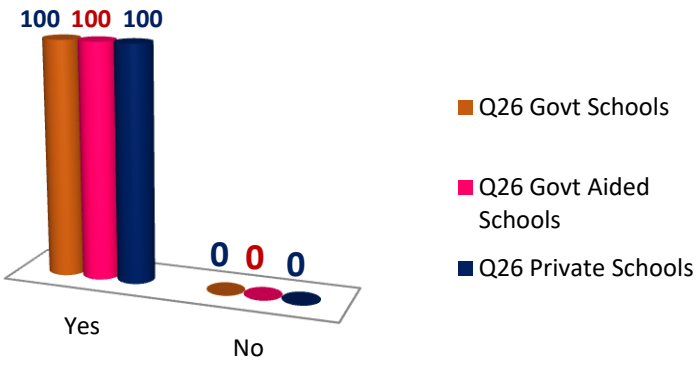

Figure 4.42- Conduct of Mock Drills (%)

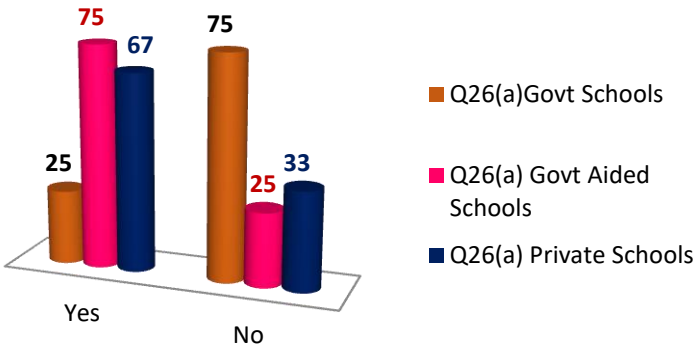

Figure 4.43- Record of Mock Drills (%)

The responses to these questions are depicted graphically in Fig- 44 & 45 above. It can be seen that 100 % SSFTs had conducted Mock drills however only 75 % of Govt Aided and 67 % of private School only were maintaining records to this effect as against only 25 5 of Govt schools. ANOVA test (F cal / F crit, 3.14/3.98 / p>0.05 and 0.3.14/3.98/ p>0.05 respectively) indicates that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors.

4.4.15 Awareness with respect last model step of Fire and evacuation drill as per NIDM

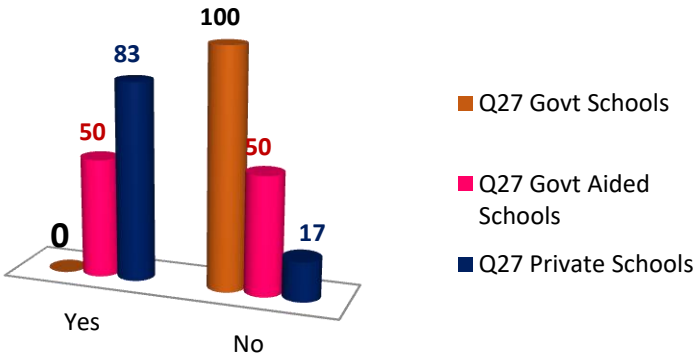

Figure 4.44 Fire and Evacuation Drills (%)

The response to this question is depicted graphically in Fig -46 above. It can be seen that 83 % SSFPTs of Private schools and 50 % of Govt Aided Schools were aware with respect to last model step of fire and evacuation drill. ANOVA test (F cal / Fcrit,

5/3.98 and p=.02) indicates that the difference is statistically significant w.r.t. observing the preparedness month. Therefore the null hypothesis cannot be accepted. It can be inferred that the factor affecting this observed difference could be the type of school involved.

4.4.16 Awareness with respect to alarm/communication system during emergency

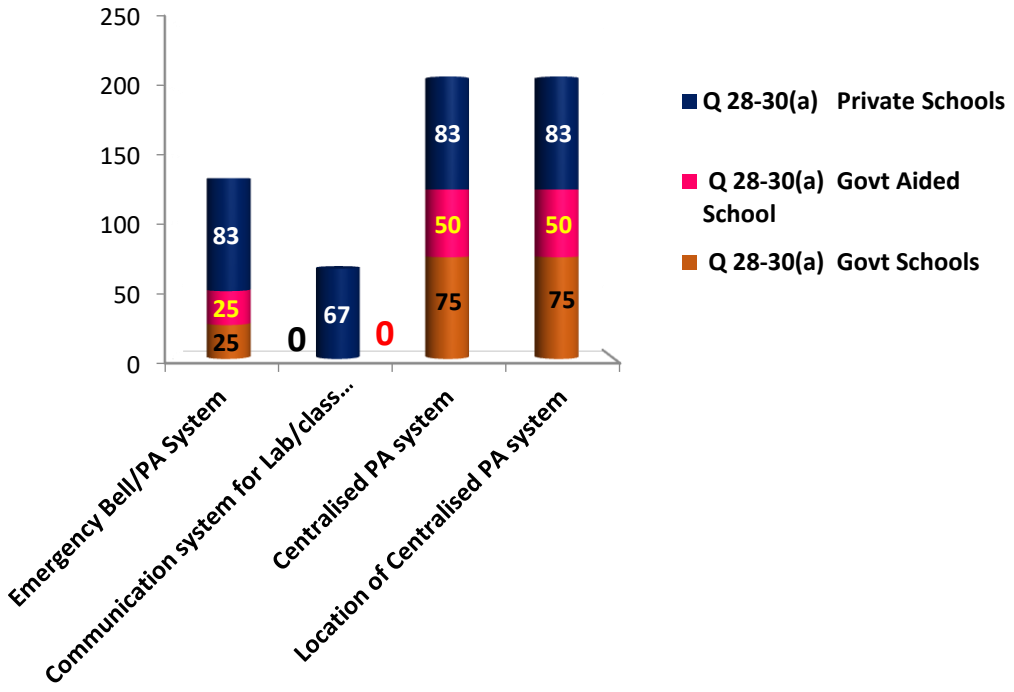

Figure 4.45- Fire and Evacuation Drills (%)

The responses to these questions are depicted graphically in Fig -47 above. It can be seen that percentage of awareness of SSFPTs of private schools and the facilities with respect to communication system is better than Govt Aided and Govt schools. ANOVA test with respect to Emergency Bell/Centralised PA system and location of PA system (F cal / F crit, 2.75/3.98 / p>0.05 ,0.58/3.98/ p>0.05 and 0.58/3.98/ p>0.05 respectively) indicates that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors. However with respect to communication system from lab/class room ANOVA test (F cal / Fcrit, 6.28/3.98 and p=0.01) indicates that the difference is statistically significant w.r.t. observing the preparedness month.

Therefore the null hypothesis cannot be accepted. It can be inferred that the factor affecting this observed difference could be the type of school involved.

4.4.17 Awareness w.r.t. Children Evacuation plan

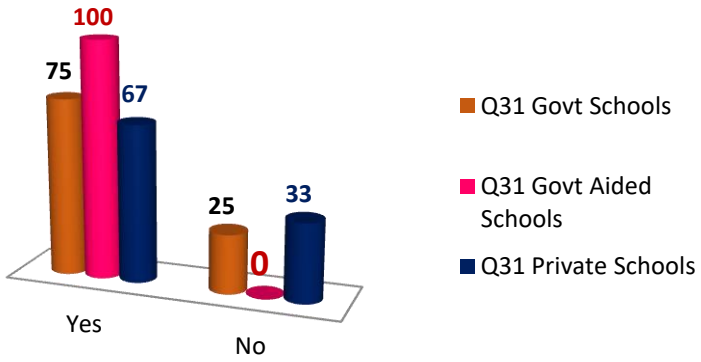

Figure 4.46- Children evacuation plan (%)

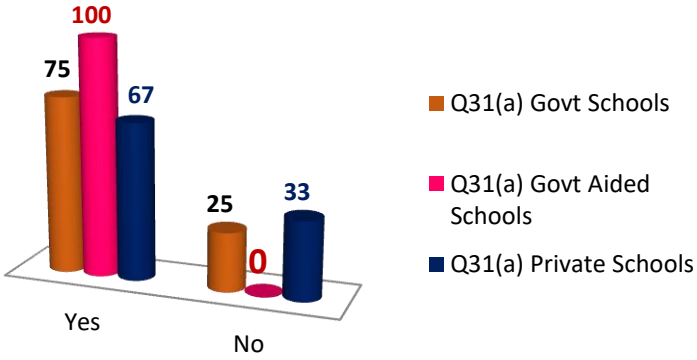

Figure 4.47- Place of assembly after evacuation (%)

The responses to these questions are depicted graphically in Fig - 48 & 49 above. It can be seen that 100 % SSFTs of Govt Aided schools were aware of children evacuation plan as against 75% of Govt schools and 67 % of private schools and were maintaining records to this effect. ANOVA test (F cal / F crit, 0.58/3.98 / p>0.05 and 0.72/3.98/ p>0.05 respectively) indicates that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors.

4.4.18 Awareness with respect to number of high rise building in the vicinity of the school

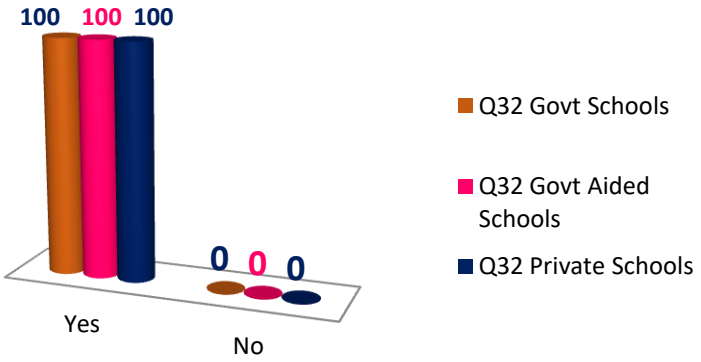

Figure 4.48- No of high rise building (%)

The response to this question is depicted graphically in Fig -51 above. It can be seen that 100 % SSFTs of all the schools were aware of the number of high rise buildings in the vicinity of the school. The observed difference between the means is absolutely zero; hence ANOVA values can't be calculated. As such it is inferred that there is no significant difference between the means.

4.4.19 Awareness with respect IS Standards for Chemistry Lab

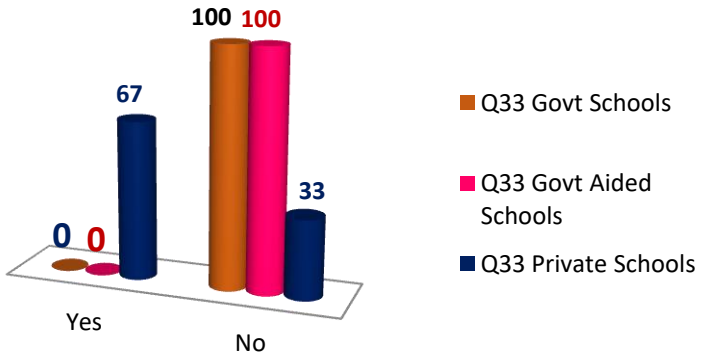

Figure 4.49- IS standard for chemistry lab (%)

The response to this question is depicted graphically in Fig -51 above. It can be seen that only 67 % SSFTs of private schools were aware of IS Standards for Chemistry Lab. None of the teacher of Govt and Govt Aided schools was found aware. ANOVA test (F cal / Fcrit, 6.28/3.98 and p=0.01) indicates that the difference is statistically significant w.r.t. observing the preparedness month. Therefore the null hypothesis cannot be accepted. It can be inferred that the factor affecting this observed difference could be the type of school involved.

4.4.20 Conclusion- Summarised Average response of SSFPTs: A comparative analysis

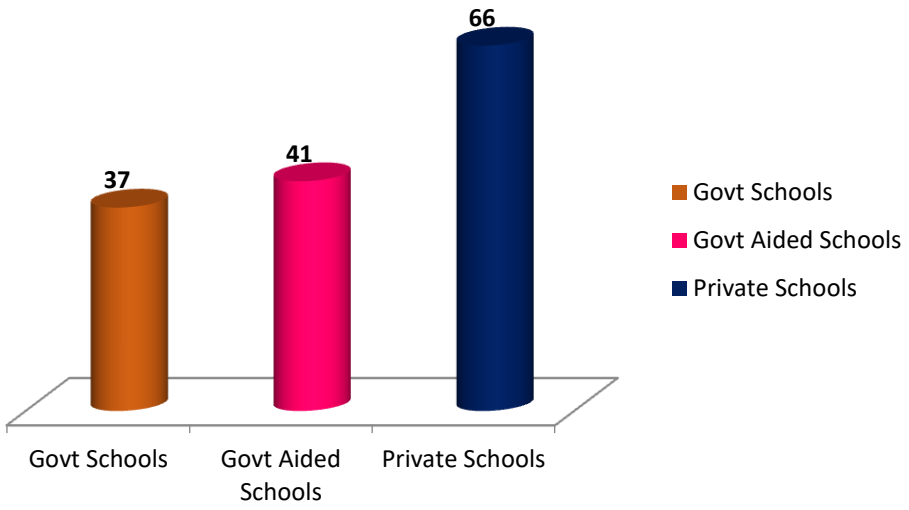

Figure 4.50- Average response of SSFPTs: (% Yes)

Question wise examination of level of awareness of SSFPTs brings out that except for awareness with respect to the following questions, the response of SSFPTs of private schools was found better than Govt Aided and Govt Schools including maintenance of records. This was substantiated further by evaluation of a consolidated average response as depicted by the figure 53 above.

(a) Type of fire extinguisher- (Govt. School - 50%, Private Schools- 83%, Govt. Aided Schools- 100%)

(b) Serviceability of fire extinguisher-(Govt. School - 50%, Private Schools- 67%, Govt. Aided Schools- 75%)

(c) Fire hydrant system--(Govt. School - 25%, Private Schools- 83%, Govt. Aided Schools- 100%)

(d) Separate water tank--(Govt. School -25%, Private Schools-83%, Govt. Aided Schools- 100%)

(e) Record of mock drill--(Govt. School- 25%, Private Schools- 67%, and Govt. Aided Schools- 75%)

(f) Children evacuation plan--(Private Schools-67%, Govt. School- 75%, Govt. Aided Schools- 100%)

(g) Place of assembly after evacuation--(Private Schools-67%, Govt. School - 70%, Govt. Aided Schools- 100%)

Accordingly, it can be concluded that the hypothesis "Involvement/awareness of SSFPTs of all the schools whether Government, Government Aided or Private Schools show equal level of Involvement/awareness with respect to facilities and safety measures pertaining to structural and non structural hazards available at their schools" fails to be accepted.

4.5 RESPONSE FROM STUDENTS

Children have an absolute right to a safe and protective environment and the same has been universally recognised. Schools are one place, where children spend their substantial time of the day, and they become an important part in order to contribute their valuable suggestion and judgment with respect to the facilities available in the school.

Keeping in view the above, a total of 218 students from four Govt Schools (n=77), four Govt aided schools (n=56) and six private schools (n=85) participated in the survey. They were apportioned a questionnaire consisting of a total 20 questions related to infrastructure, knowledge levels etc. The responses sought were on ordinal scale or on nominal scale. Accordingly, a non parametric test like Chi SQ test is used to test the homogeneity of data. Taking Question 1 as an example, it can be seen that the data is on nominal scale. A contingency table, of observed values of the responses of responding students is shown below:

4.5.1 Cleanliness of toilets

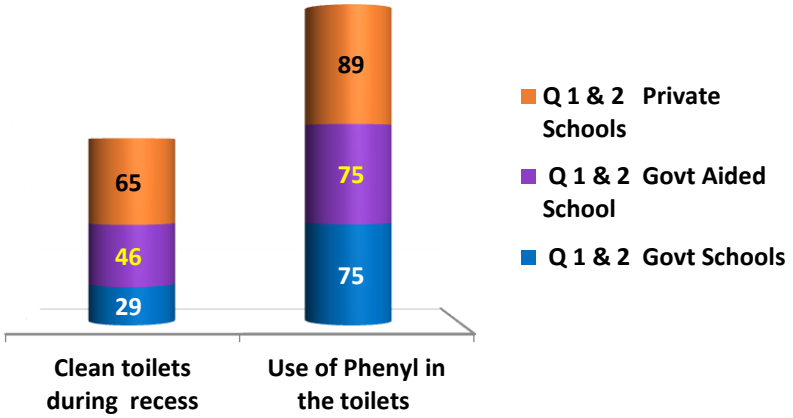

Figure 4.51 Cleanliness of Toilets (% of Yes)

The subject questions were intended to evaluate the hygiene standard maintained by the type of schools. Only 29 % of Govt School children found their toilets clean during the recess as against 46% of Govt aided and 65% of Private schools.86% students of private schools found use of phenyl as against 75 % of Govt and Govt aided schools. Chi Sq test in both the cases {Chi Sq cal/Chi Sq Crit (0.05,2) - 21.18 / 5.99 and 6.74 / 5.99 respectively}indicate that the responses to Q1 & 2 given by the students of all the three schools is "same", cannot be sustained(Chi sq cal > Chi Sq crit). Thus the responses to both the questions are dependent on the type of school of the respondent.

4.5.2 Presence of Games teacher in the play ground

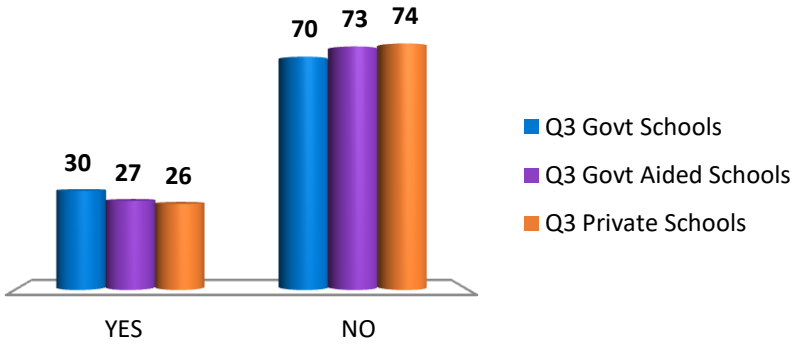

Figure 4.52 - Playing during other than the games period (%)

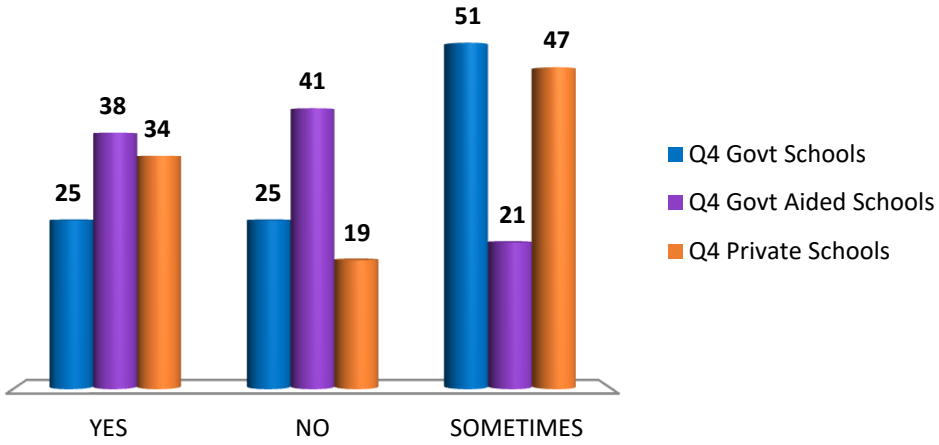

Figure 4.53- Presence of Supervisor during the games other than the games period (%)

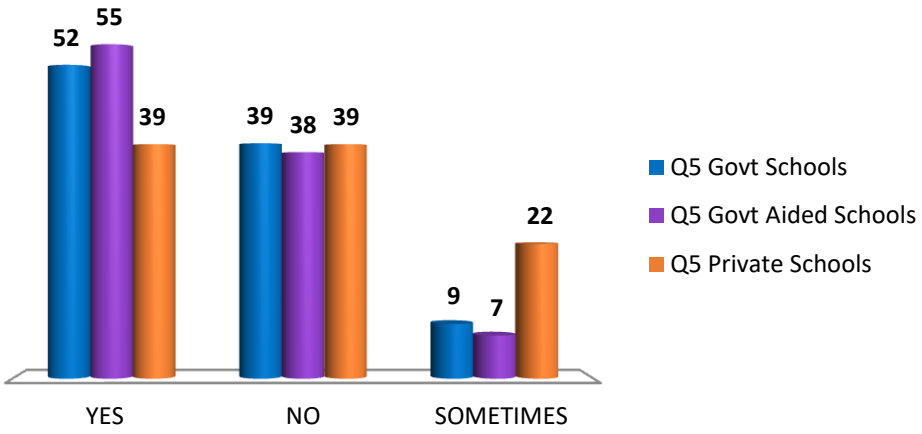

Figure 4.54- Availability of first aid kit during the games (%)

Sports are considered as an integral part of learning and overall development of a child. However equally important is to provide them a safe playground and environment. The responses received from the students are to evaluate, the level of safety being provided by various types of schools. It can be seen that approx 30 % of students irrespective of type of school do play during other then the games period and approx 40% (sometimes + no) out of these students have reported "Nil" supervision during other than the games period. Approximately 40 % of the students of all the schools have observed non availability of first aid kit, indicating that its availability was not being constantly ensured. Chi Sq test against Q 4&5 {Chi Sq cal/Chi Sq Crit (0.05,4) - 21.18 / 5.99 and 6.74 / 5.99 respectively}indicate, that the responses by the

students of all the three schools is “same”, cannot be sustained(Chi sq cal > Chi Sq crit). Thus the responses to both the questions are “dependent” on the type of school of the respondent. However, on the other hand , response to Q3, indicates that the Chi Sq Cal (0.34) is less that Chi sq crit (0.05, 2) (5.99) and hence the null hypothesis cannot be rejected, and that the response is “independent” of type of school or is homogeneous to all the schools.

4.5.3 Mosquito menace, serviceability of Electric fans and electric supply

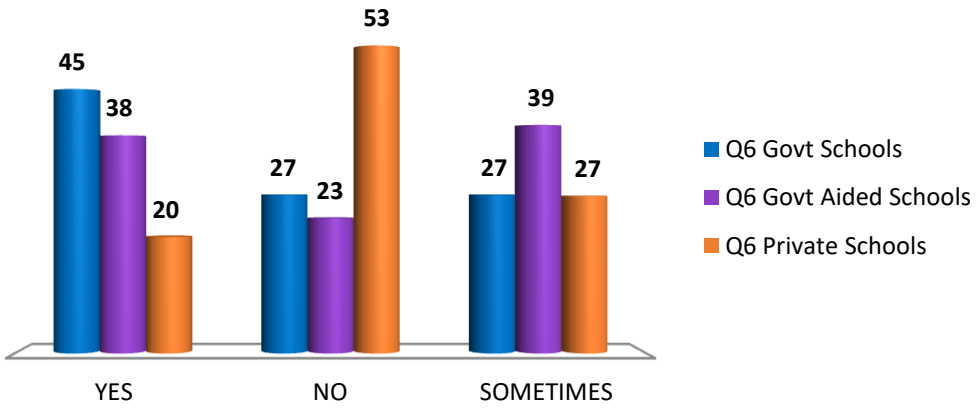

Figure 4.55- Mosquito menace (%)

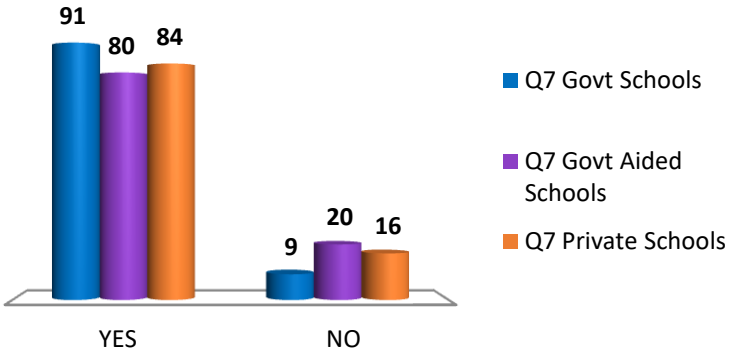

Figure 4.56- Serviceability of Electrical fans (%)

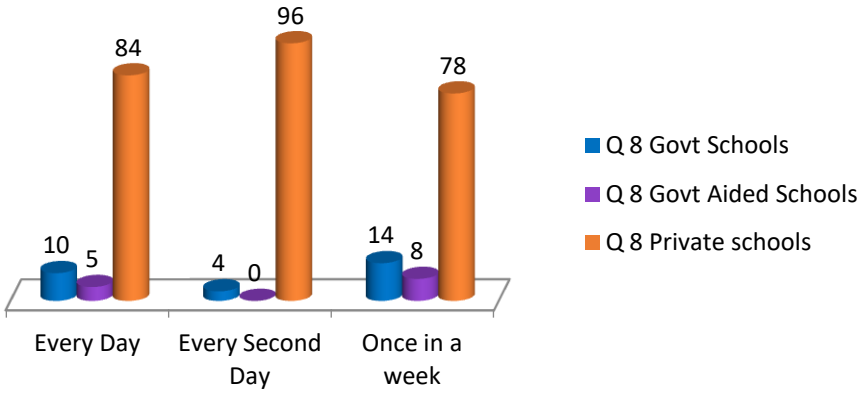

Figure 4.57- Serviceability of Electrical fans (%)

Mosquito menace is a universal complaint by the students. However the same was reported only by 23% (Sometimes + Yes) of students of Private schools. 38% of Govt Aided schools reported suffering from mosquito bites. The suffering from mosquito bites was reported **maximum,** by approximately 50 % students, of Govt schools. Chi Sq test against {Chi Sq cal /Chi Sq crit(0.5,4) - 21.07 / 9.48 }indicates, that the responses by the students of all the three schools is "same", cannot be sustained(Chi sq cal > Chi Sq crit). Thus the responses are found to be "dependent" on the type of school of the respondent. The response with respect to serviceability of electric fans was obtained, as the same is helpful in reducing the mosquito menace to some extent apart from providing comfort during the summers. Chi Sq test (0.05, 2) against this response indicates that the Chi Sq Cal (3.23) is less that Chi sq crit (5.99) and hence the null hypothesis cannot be rejected, and that the response is "independent" of type of school or is homogeneous to all the schools. This aspect is also related with the continuity of electric supply during the school timings. More than 80 % of students of private schools reported frequent disruption of electric supply defeating the very purpose of availability of electric fans. Chi Sq test against {Chi Sq cal /Chi Sq crit(0.5,4) - 9.67 / 9.48 }indicates, that the responses by the students of all the three schools is "same", cannot be sustained(Chi sq cal > Chi Sq crit). Thus the responses are found to be "dependent" on the type of school of the respondent

4.5.4 Participation in Mock Drills

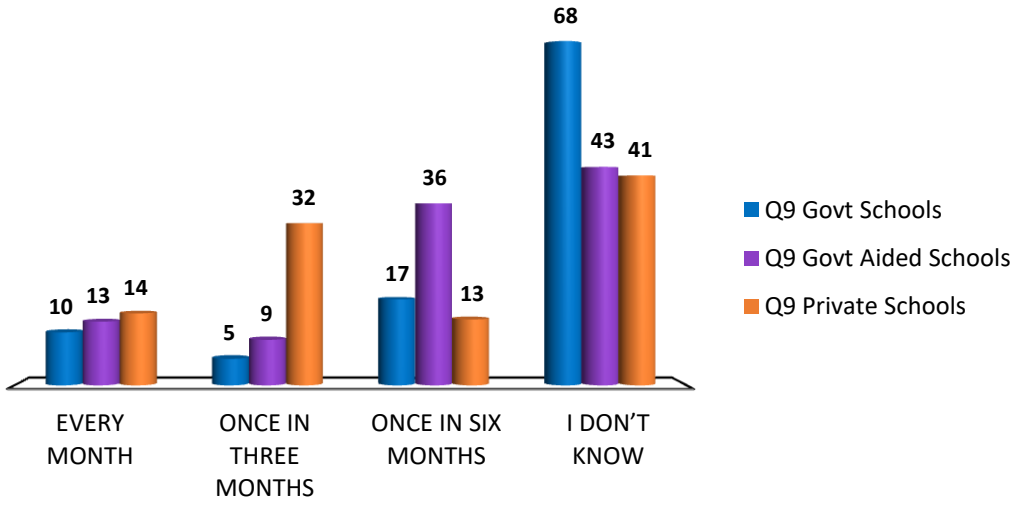

Figure 4.58- Participation in Mock Drills (%)

Mock drills play the most important role in dealing with emergent situations. It is therefore mandatory that all the schools regularly organise and practice these mock drills. The response to this question was intended to ascertain the frequency of mock drill conducted by various types of school and thereby participation of students and instill awareness amongst the students. It can be seen that most of the schools are not serious to this aspect except private schools to some extent that of private school 32% conducting in each quarter and 14 % in every month. Approximately 40% students showed ignorance which amounts to not conducting /participation. Chi Sq test {Chi Sq cal /Chi Sq crit(0.5,6) - 65.80 / 12.59}indicates, that the responses by the students of all the three schools is "same", cannot be sustained(Chi sq cal > Chi Sq crit). Thus the responses are found to be "dependent" on the type of school of the respondent.

4.6.5 Knowledge level: Earthquake Drill (Drop, Cover and Hold)

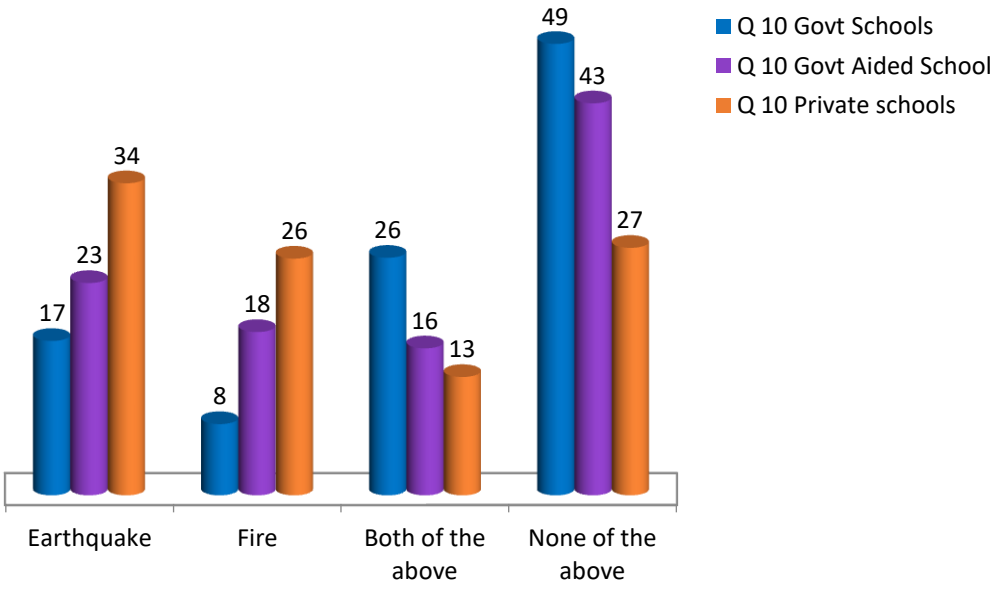

Figure 4.59 - Knowledge level : Earthquake Drill (%)

Earthquake Drill is a series of coordinated actions practiced by a larger group of people for the purpose of safe evacuation at the time of earthquake type situation. It is based on the lines of the Drop, Cover and Hold concept. The response to this question was aimed to evaluate the knowledge level of students with respect to correct procedure of the drill. It can be seen that only 17% of Govt School, 23 % of Govt aided School and 34 % of Private Schools were found aware of the correct procedure which is considered to be poor. Chi Sq test {Chi Sq cal /Chi Sq crit(0.5,6) - 38.28 / 12.59}indicates, that the responses of students of all the three schools is "same", cannot be sustained(Chi sq cal > Chi Sq crit). Thus the responses are found to be "dependent" on the type of school of the respondent.

4.5.6. Mode of Communication during Emergency

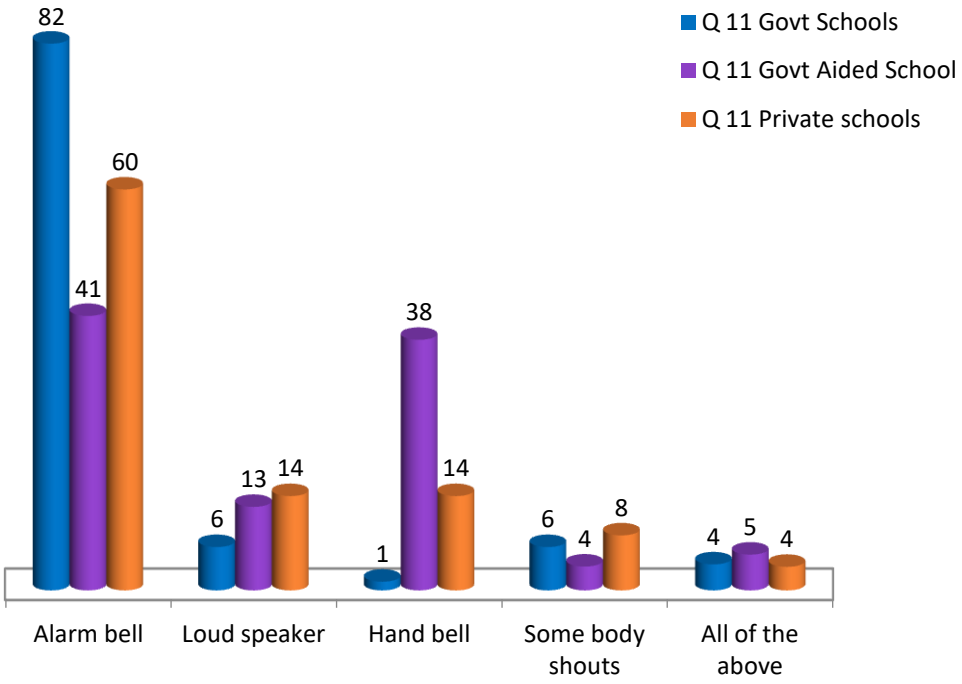

Figure 4.60 - Mode of Communication during Emergency (%)

Communication during an emergency or crisis is one of the most important elements of a workplace disaster preparedness plan. Accordingly, it was considered essential to evaluate the awareness of students as this will indicate the level of awareness/involvement of SSFPTs also. The correct answer to this question is “all of the above”. However, a merger 4 % of students only knew the correct answer. Chi Sq test {Chi Sq cal /Chi Sq crit (0.5,8) - 39.90 / 15.50}indicates, that the responses by the students of all the three schools is “same”, cannot be sustained(Chi sq cal > Chi Sq crit). Thus the responses are found to be “dependent” on the type of school of the respondent.

4.5.7 Place of assembly during mock drill

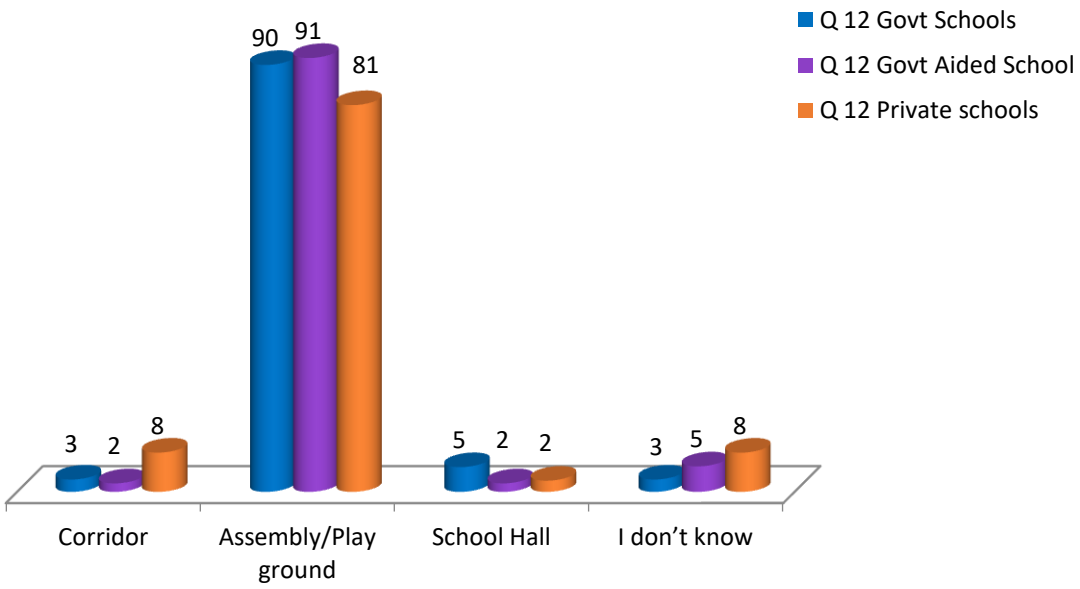

Figure 4.61- Place of assembly during mock drill (%)

In continuation to evaluate awareness with respect to mock drill it was ascertained whether schools follow the correct practice during conduct of mock drill. Assembly ground/playground/open area is the correct place to assemble during the drill. Majority of the students of all the schools responded correctly. Chi Sq test {Chi Sq cal /Chi Sq crit (0.5, 6) - 14.49 / 12.59} however indicates, that the responses by the students of all the three schools is "same", cannot be sustained (Chi sq cal > Chi Sq crit). Thus the responses are found to be "dependent" on the type of school of the respondent.

4.5.8 Awareness with respect to Headcount during the mock drill

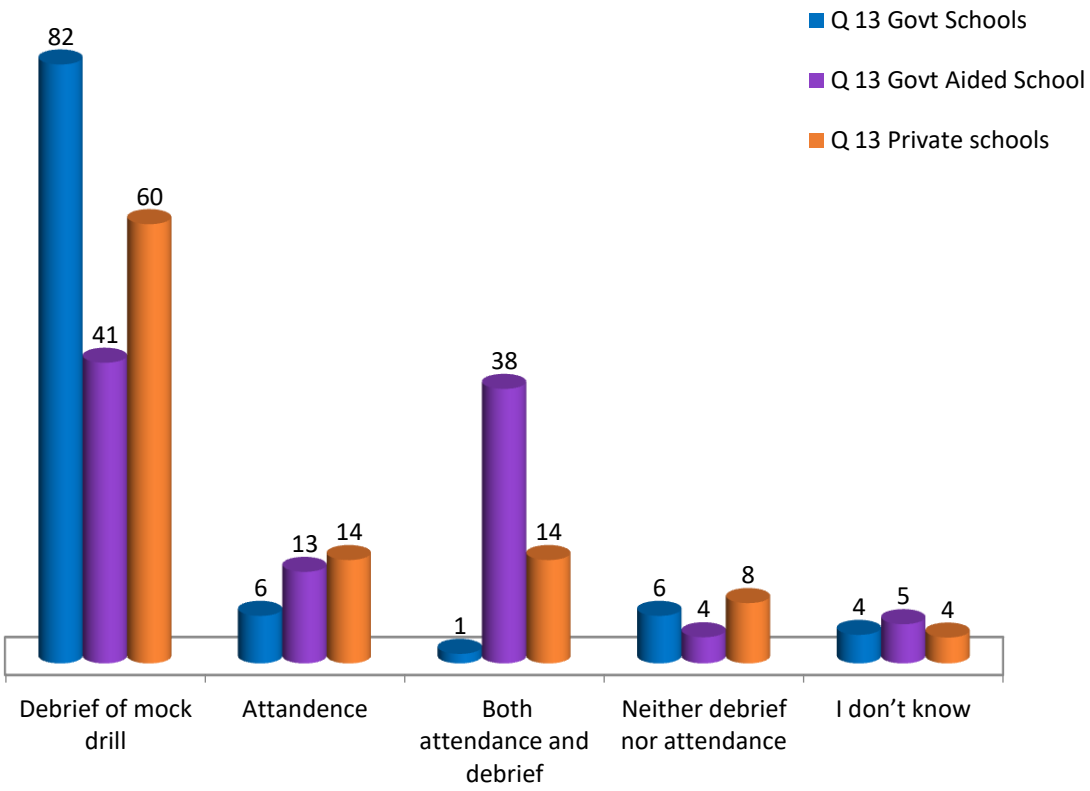

Figure 4.62- Head count during the mock drill (%)

One of the most important aspects of any type of mock drill is to conduct head count so as to ascertain whether any student is left behind in unsafe zone/classroom. As per the correct procedure the teachers shall carry out both attendance and debrief. Only 38 % students of Govt Aided School as against of only 14 % of Private school indicated that their school follow the correct practice. This is again a reflection of non involvement / poor level of knowledge of teachers. Chi Sq test {Chi Sq cal /Chi Sq crit (0.5,8) - 34.01 / 15.50}indicates, that the responses by the students of all the three schools is "same", cannot be sustained(Chi sq cal > Chi Sq crit). Thus the responses are found to be "dependent" on the type of school of the respondent.

4.5.9 Knowledge level: Fire Mock Drill (Stop, Drop, Roll) ,classification / type of fire and fire extinguisher

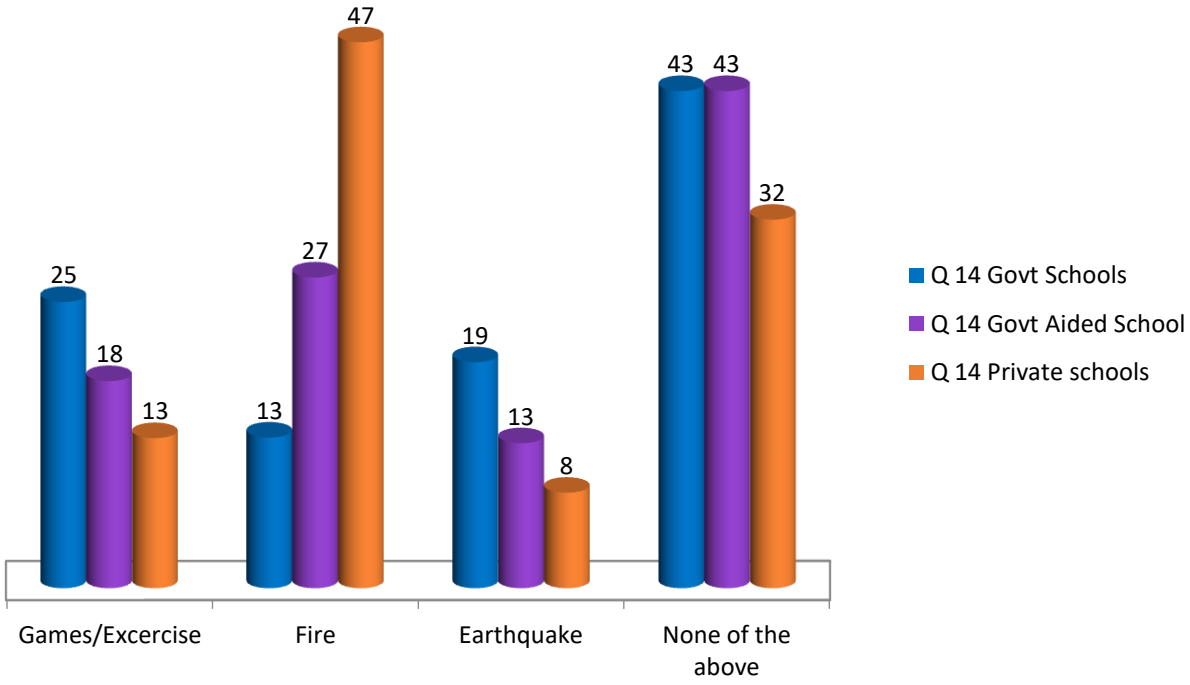

Figure 4.63- Fire Drill (Stop, Drop, Roll) (%)

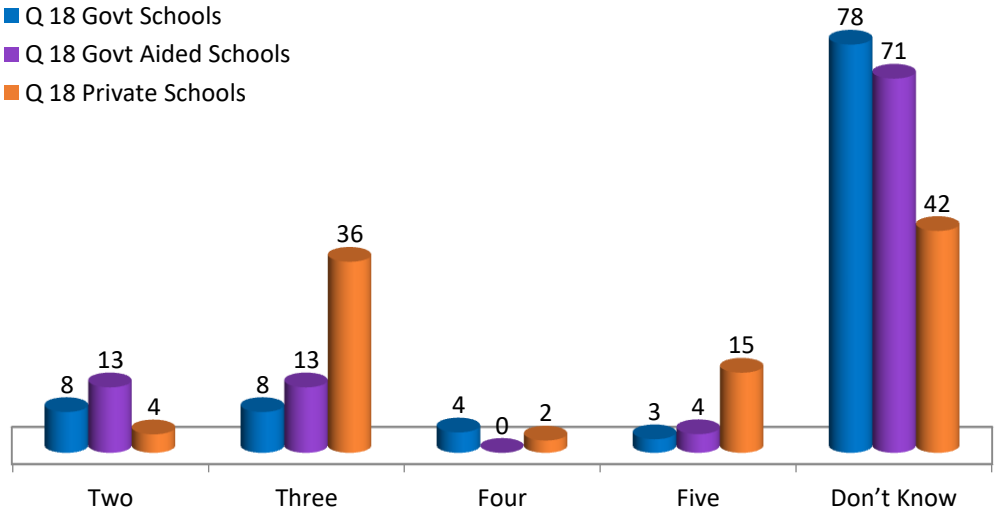

Figure 4.64 - Classification of Fire (%)

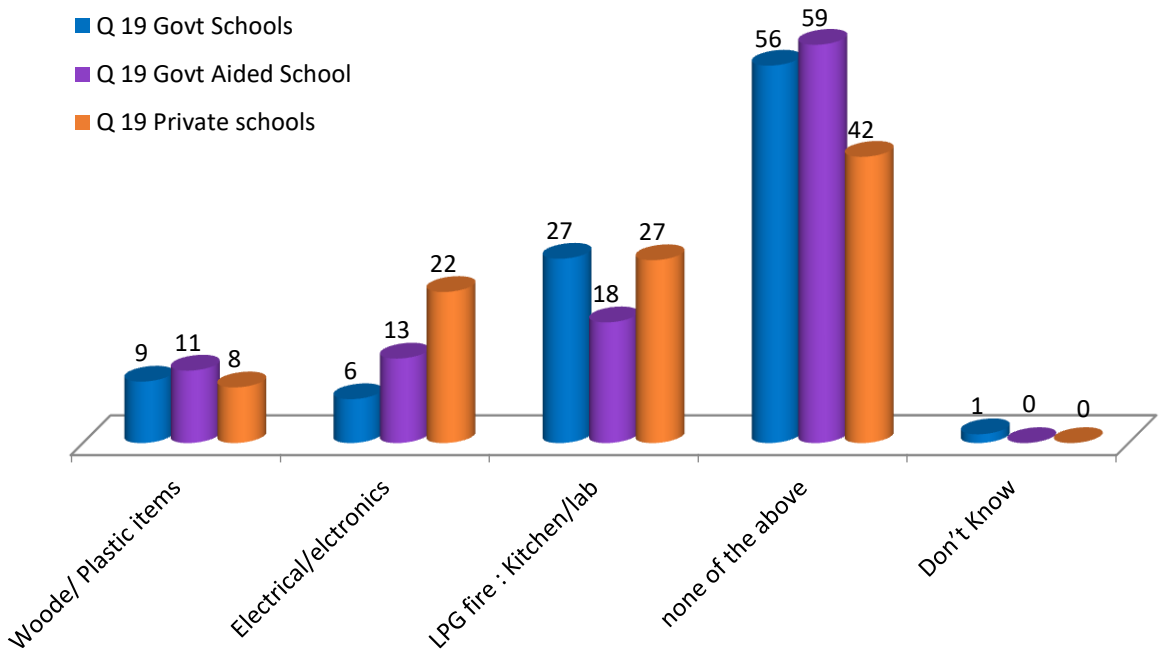

Figure 4.65 - Classification of Fire (%)

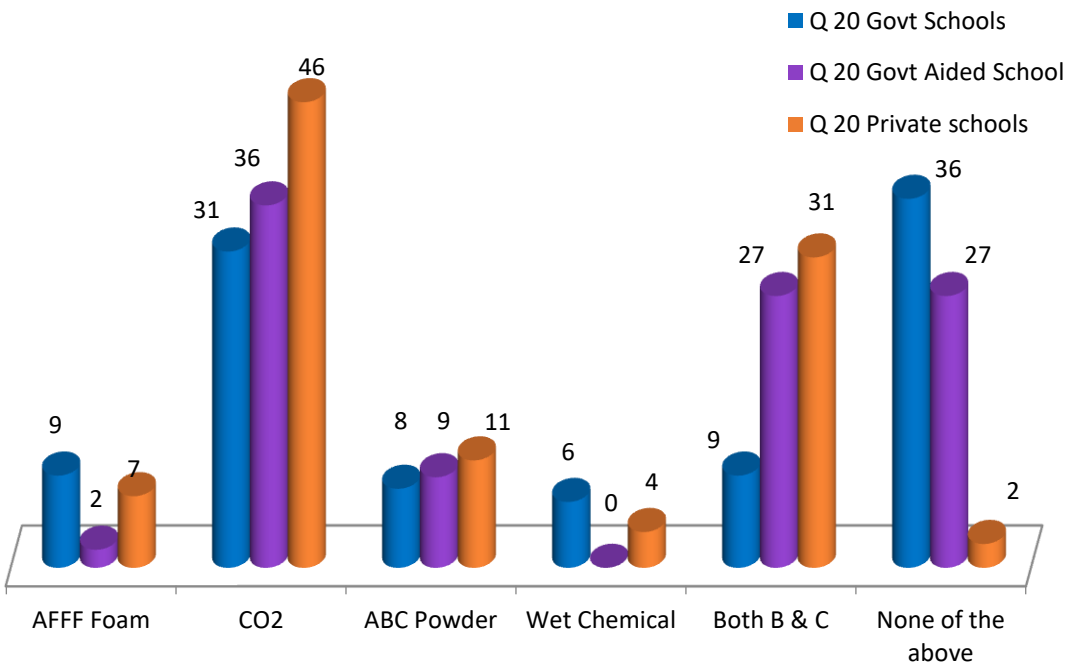

Figure 4.66- Fire Extinguishers (%)

Fire Drill is once again a series of coordinated actions practiced by a larger group of people for the purpose of safe evacuation just like an earthquake drill discussed above. It is based on the lines of the Stop, Drop and Roll concept. The response to this question was aimed to evaluate the knowledge level of students with respect to correct procedure of the drill. It can be seen that only 13% of Govt School, 27 % of Govt aided School and 47 % of Private School were found aware of the correct procedure and is considered Poor. The knowledge level of students of Private school though was observed better then Govt and Govt Aided but only 15%,27% and 31 % against Q No 18,19 and 20 i.e. types of fire and fire extinguisher. The response of Govt School was the lowest. The above graph clearly depict that adequate attention is not being paid by the teachers to educate the students on this aspect

Chi Sq test {Chi Sq cal /Chi Sq crit59 for Q 17 (0.5,6) - 47.41 / 12, for Q 18 (0.05,8) 43.80/15.50 for Q 20 (0.05,10) 42.54/18.30}indicate, that the responses by the students of all the three schools is "same", cannot be sustained(Chi sq cal > Chi Sq crit). Thus the responses are found to be "dependent" on the type of school of the respondent. However Chi Sq test (0.05, 8) against Q 19 indicates that the Chi Sq Cal (13.08) is less that Chi sq crit (15.50) and hence the null hypothesis cannot be rejected, and that the response is "independent" of type of school or is homogeneous to all the schools

4.5.10 Mouse menace

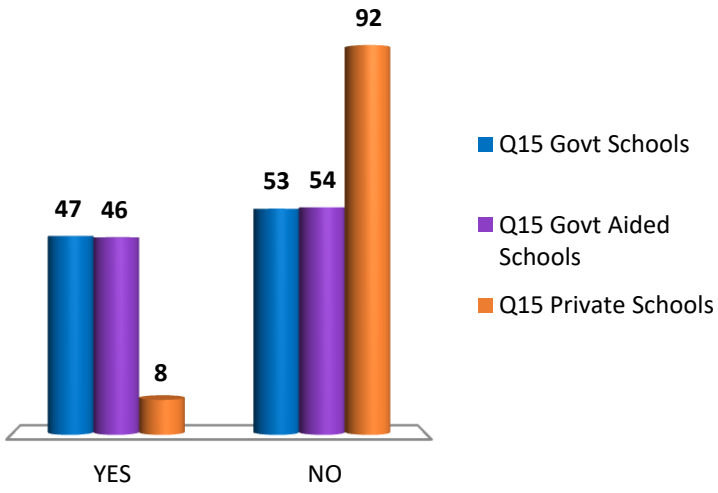

Figure 4.67- Mouse menace (%)

The subject response was to obtain to ascertain the hygiene level maintained by the school. The response from Govt and Govt Aided Schools was found alarming i.e.46%, while 92 % students have given negative response to availability of mouse in their school premises. Chi Sq test {Chi Sq cal /Chi Sq crit(0.5,2) - 35.31 / 5.99}indicates, that the responses by the students of all the three schools is "same", cannot be sustained(Chi sq cal > Chi Sq crit). Thus the responses are found to be "dependent" on the type of school of the respondent.

4.5.11 Safety Aspect: Chemistry Lab, No of students in chemistry lab at a time

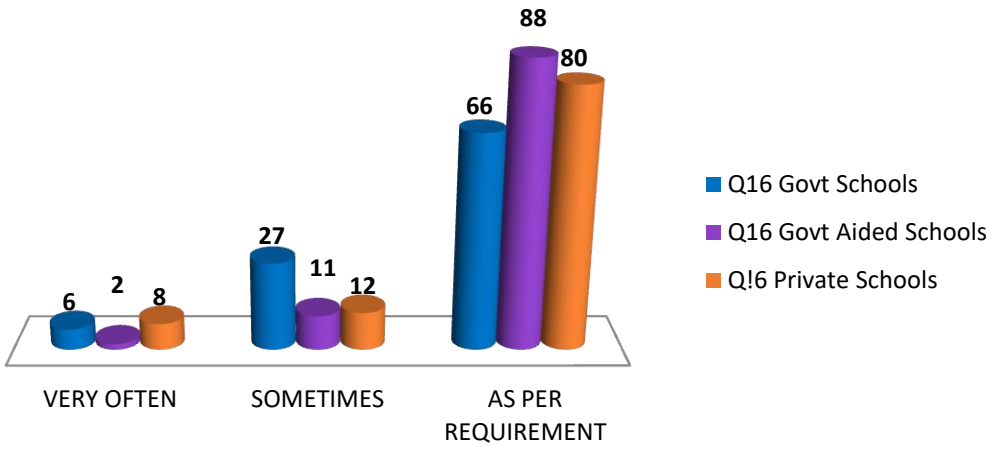

Figure 4.68 - Safety Aspect: Chemistry Lab (%)

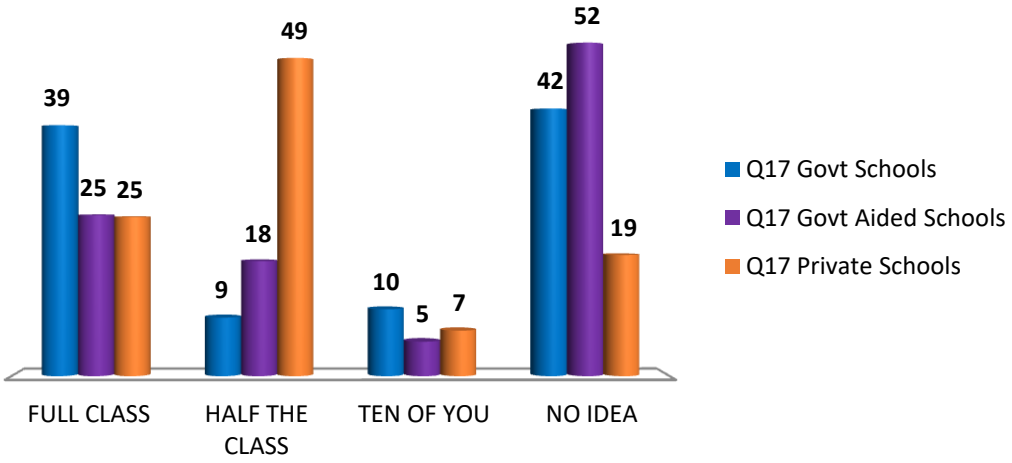

Figure 4.69- No of students in chemistry lab at a time (%)

Both of the above response with respect to safety aspect is to be evaluated in conjunction. As per the laid down norms maximum ten students shall be attending the practical at a time in order to ensure a smooth evacuation in case of an untoward incident. The response of nearly 90 % of the students, however, indicated that the schools do not follow the correct practice and in nearly 25 % 0f school full class of 45 students attend the chemistry lab together. Chi Sq test {Chi Sq cal /Chi Sq crit(0.5,4) - 11.93 / 9.48 and (0.05,6) 73.93/12.59 respectively}indicate, that the responses by the students of all the three schools is "same", cannot be sustained(Chi sq cal > Chi Sq crit). Thus the responses are found to be "dependent" on the type of school of the respondent.

4.5.12 Conclusion- Summarised Average response of Students: A comparative analysis

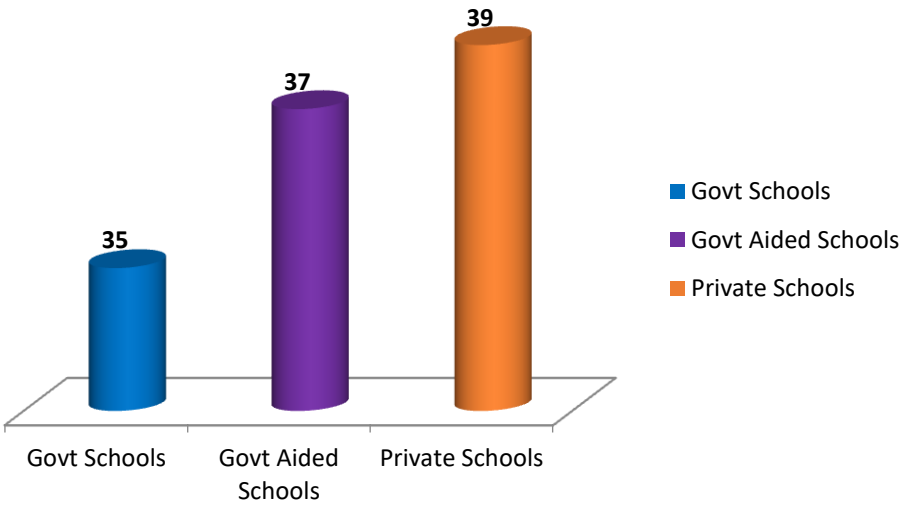

Figure 4.70- Comparison of awareness of students

As per the Fig. 73 depicted above it may be seen that the level of awareness of students of private school was found better than Government and Government Aided schools.

Accordingly, it can be concluded that the hypothesis "Involvement/awareness of Students of all the schools whether Government, Government Aided or Private Schools show equal level of Involvement/awareness with respect to facilities and safety measures pertaining to structural and non- structural hazards available at their schools" fails to be accepted.

4.6 RESPONSE FROM PARENTS

Parental involvement, encouragement and support in building a strong parent - school - relationship is critical to children's education and all-round development. Parents can take a few basic steps to ensure safe school experience by addressing concerns regarding emergency procedures, travel routes, safety and security measures etc. in the school premises and staying away from evading their responsibility by pre-supposing that -"It can't happen here", "We can't afford it", "We don't have the time to do all that". Parents should routinely check the school's emergency procedure checklist so that proper procedures are followed to the children's well-being. It is also one of the responsibilities of the parent to make sure the school is equipped to deal with any emergencies.

4.6.1 Awareness with respect to safety measures available in school

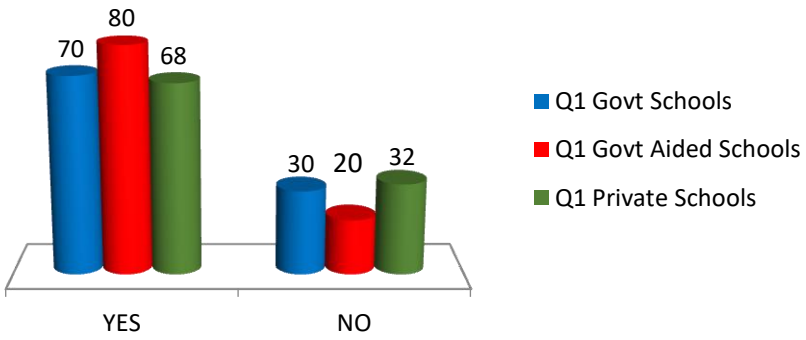

Figure 4.71 Awareness: safety Measures available in school (%)

Parents need to be well informed about the facilities with respect to safety of the children available in the school so that to effectively take where ever they observe any

deficiency. The response from the parents to this was quite encouraging, nearly 70 %, however lowest amongst parents of wards of Private school. Chi Sq test (0.05, 2) against this response indicates that the Chi Sq Cal (2.83) is less that Chi sq crit (5.99) and hence the null hypothesis cannot be rejected, and that the response is "independent" of type of school or is homogeneous to all the schools

4.6.2 Participation of Children in organised safety Programme conducted by Delhi police or any other department.

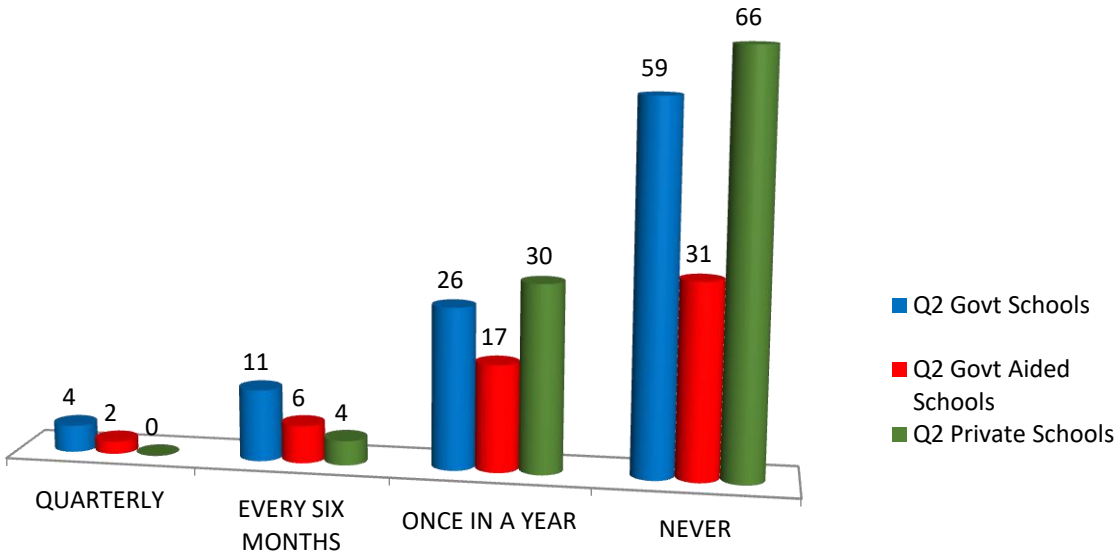

Figure 4.72- Safety Programmes (%)

The response to this question was to ascertain two aspects. First, whether the school takes initiative to organise such Programme and second, to check the awareness of the parents to this effect. Nearly 60 % of both Govt and Private schools responded that their wards never attended such programme as against 31 % of Govt Aided schools. Chi Sq test (0.05, 6) against this response indicates that the Chi Sq Cal (7.12) is less that Chi sq crit (12.59) and hence the null hypothesis cannot be rejected, and that the response is "independent" of type of school or is homogeneous to all the schools.

4.6.3 Sickness/ accident of ward and medical aid in school

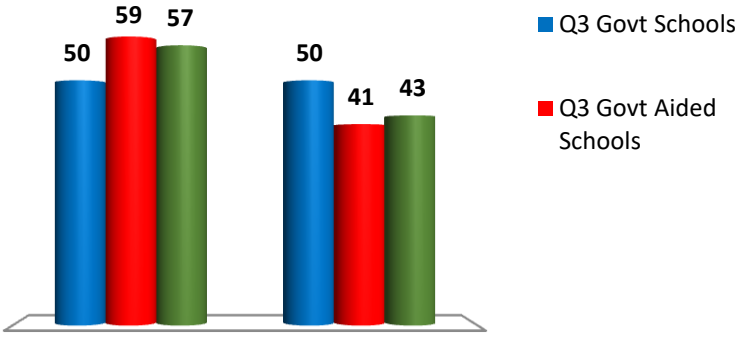

Figure 4.73- Sickness/Accidents and Medical Aid (%)

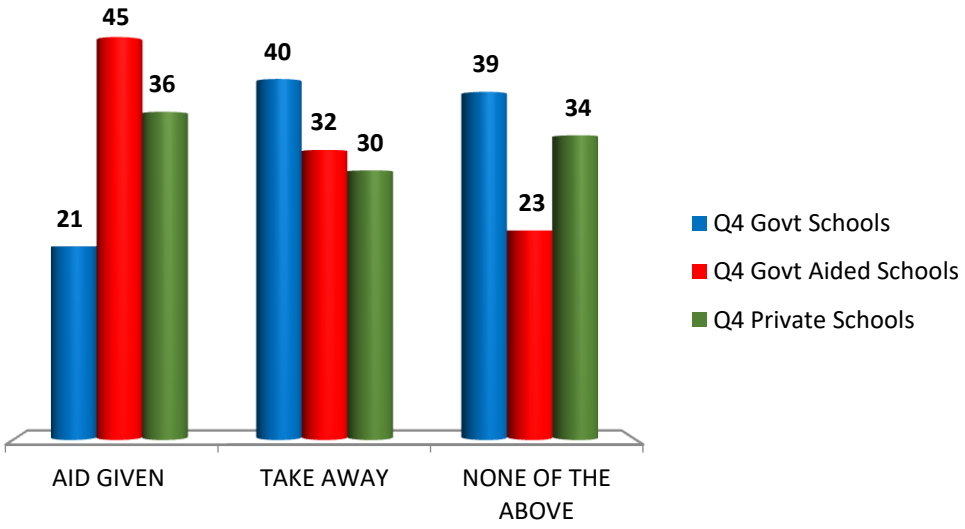

Figure 4.74- Sickness/Accidents and Medical Aid (%)

Simple accidents, such as slips or trips, might seem a trivial part of the day-to-day hustle and bustle of school life, but they are capable of causing serious injuries. Nearly 50 % of parents informed that their wards had some time or the other fallen sick or met with an accident in the school. However most of the time either they were not provided with medical aid or were asked to take away their wards. It may be seen that out of 50 % wards of Govt School faced sickness/accidents only 21 % received medical aid. The ratio of Govt School was the best i.e. 45 % out of 59 % reported sickness/accident followed by Private i.e. 36% out of 57 %. In terms of percentage the only 39 % wards of private school 42 % of Govt School and 76 % of Govt Aided School received first aid in the school. Both against Q 3 Chi Sq test (0.05,2) and Q

4(0.05, 4) indicate that the Chi Sq Cal (1.19)> Chi sq crit (5.99) and Chi Sq Cal (8.81) >Chi sq crit (9.48)respectively , and hence the null hypothesis cannot be rejected, and that the response is “independent” of type of school or is homogeneous to all the schools.

4.6.4 Awareness – Canteen/fast Food

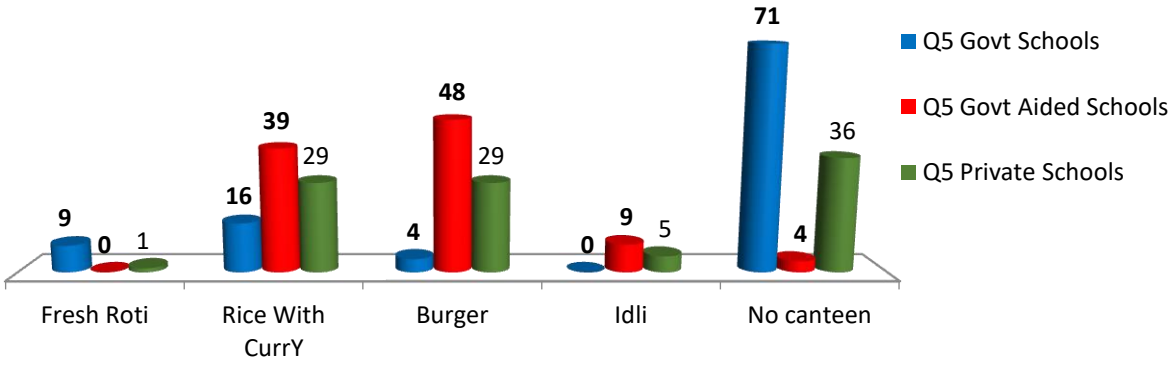

Figure 4.75- Sickness/Accidents and Medical Aid (%)

Our schoolchildren are increasingly becoming overweight or obese. Childhood obesity is a matter of serious concern because children who are overweight or obese grow up to be overweight or obese adults. The subject response was to evaluate the level of awareness of parents with respect to the type of food sold by the canteen of the schools. A substantial 48% of Govt Aided and 29 % parents were aware that the school canteen had been selling Fast Food despite reverse advisory by the Govt. Chi Sq test against {Chi Sq cal /Chi Sq crit(0.5,8) - 81.02 / 15.50 }indicates, that the responses by the students of all the three schools is “same”, cannot be sustained(Chi sq cal > Chi Sq crit). Thus the responses are found to be “dependent” on the type of school of the respondent

4.6.5 Awareness – School Transport Facility

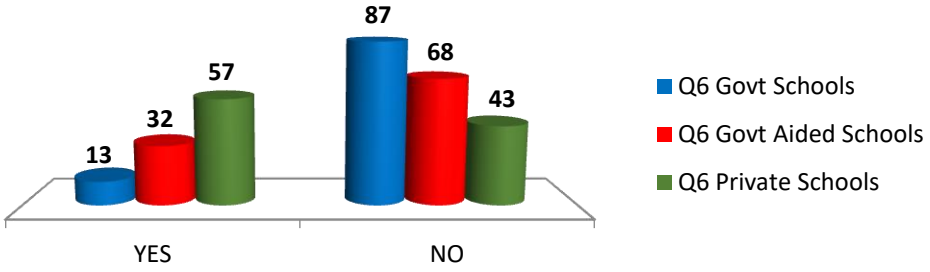

Figure 4.76- Use of school transport by the ward (%)

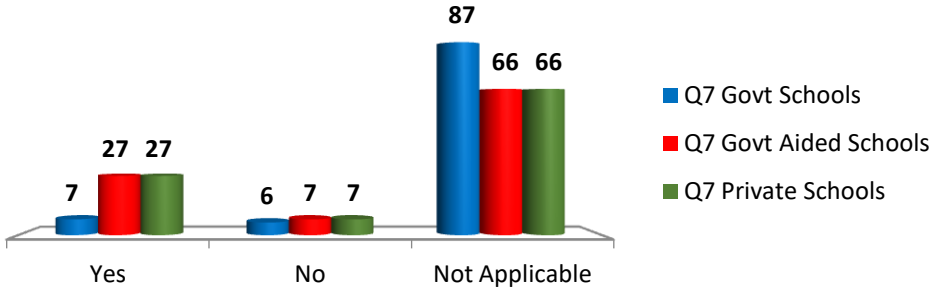

Figure 4.77 -Comfortable Seats (%)

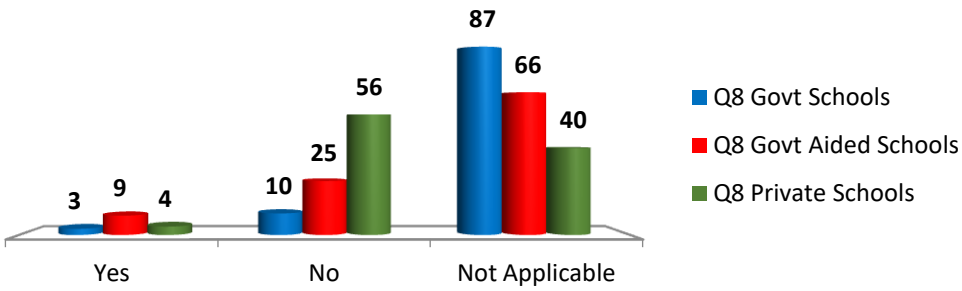

Figure 4.78 -Seat belt (%)

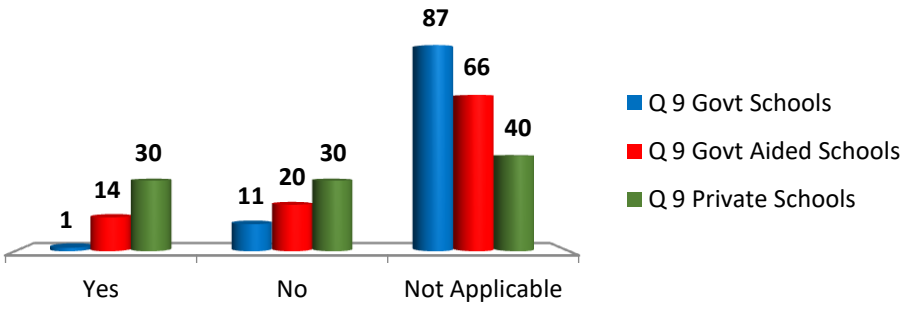

Figure 4.79 -Bus attendant (%)

Many special education students ride the bus to school, but parents often don't know the basic facts about their child's commute. The subject question was asked to evaluate the awareness of the parents with respect to school transport as well evaluate safety level observed by the school with respect to their transports . Against 57 % wards of Private school, 30 % reported the seats of the transport were comfortable, only 4 % buses were fitted with seat belts and in 30 % the bus attendants were available. In terms of the “safety of school transport” the percentage is 47, 7 and 52 with respect to Private school and 84, 33, and 51 for Govt aided school with respect to Q 7, 8 and 9 respectively. Chi Sq test against all the question indicate, that the responses by the students of all the three schools is “same”, cannot be sustained (Chi sq cal > Chi Sq crit). Thus the responses are found to be “dependent” on the type of school of the respondent.

Q. NO	Chi Sq Cal	Chi Sq Cal	Chi Inv
6	31.89	5.99	0.05,2
7	43.83	9.48	0.05,4
8	40.84	9.48	0.05,4
9	40.84	9.48	0.05,4

Table4. 3 -School Transport Facility

4.6.6 Awareness: Access Road to the School

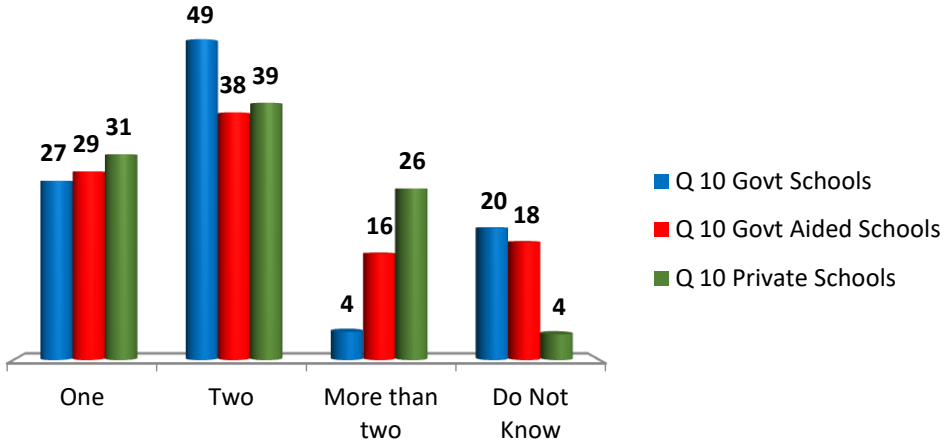

Figure 4.80- No of Access roads (%)

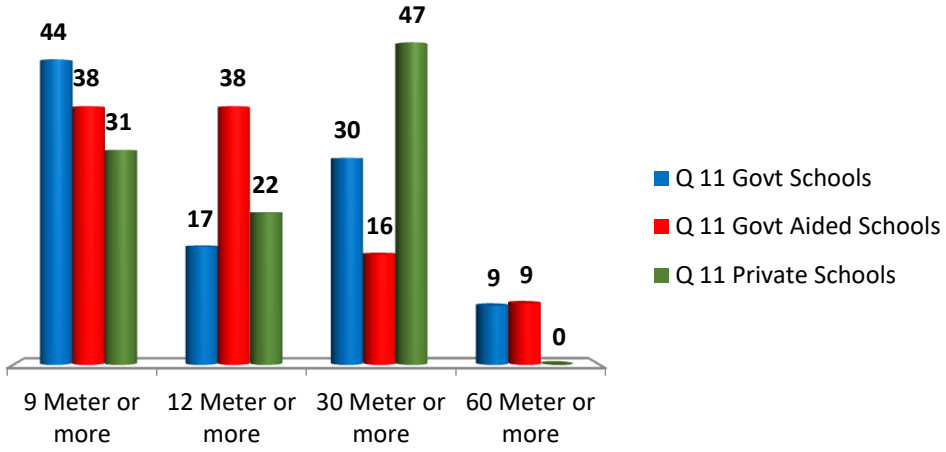

Figure 4.81 -Width of the road (%)

In case of any emergency the parents must be aware of alternative routes and the width of the road in order to evacuate their ward safely. Maximum numbers of parents of almost all the schools were aware of number of roads. Only 20 % parents of Govt Schools and 18 % of parents of Govt Aided schools were not aware of the number of roads . The awareness levels of parents of Private schools was found better aware and only 4% of them were aware of such information. While most of the Private schools were situated on 12 Mtr wide and above roads (69%) followed by Govt aided schools (63%) and Govt schools (56%). Maximum no of Govt and Govt Aided Schools were found situated at 9 Meter wide road. Chi Sq test against both the question {Chi Sq cal /Chi Sq crit(0.5,4) - 12.31 / 9.48 and Chi Sq cal /Chi Sq crit(0.5,6) –

23.57/12.89}indicate, that the response of students of all the three schools is the "same", cannot be sustained(Chi sq cal > Chi Sq crit). Thus the responses are found to be "dependent" on the type of school of the respondent

4.6.7 Knowledge/awareness with respect to various important committee of the school (Q 12,13 & 16)

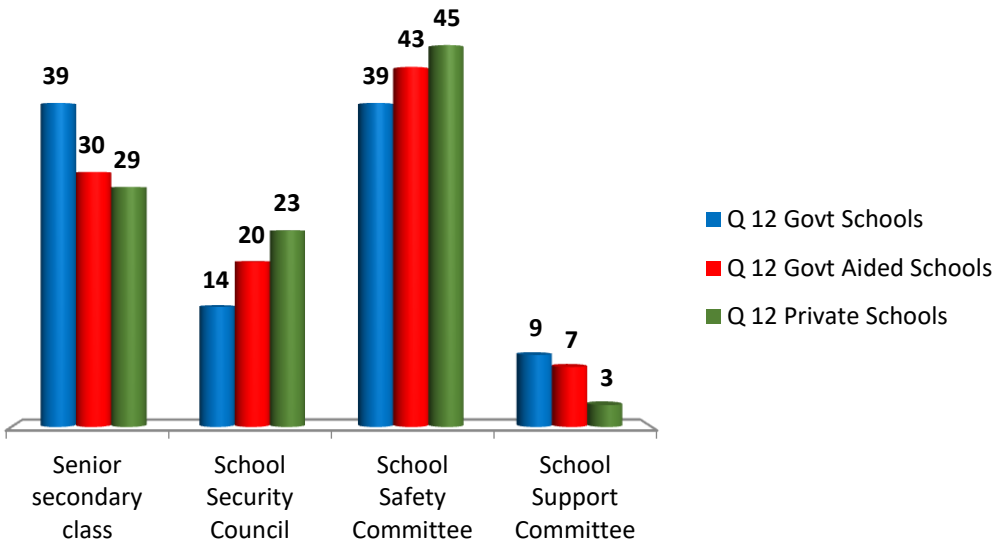

Figure 4.82- School Safety Committee (%)

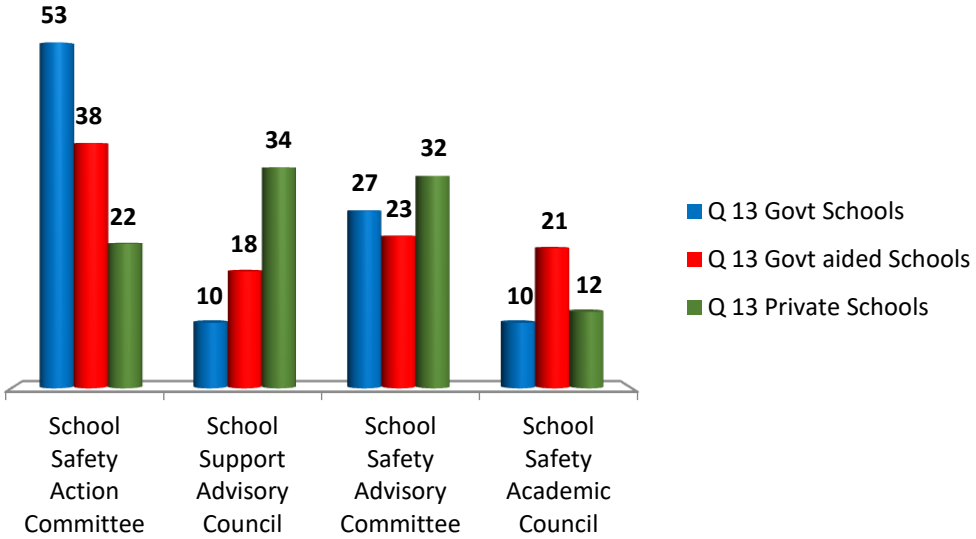

Figure 4.83- School Safety Advisory Committee (%)

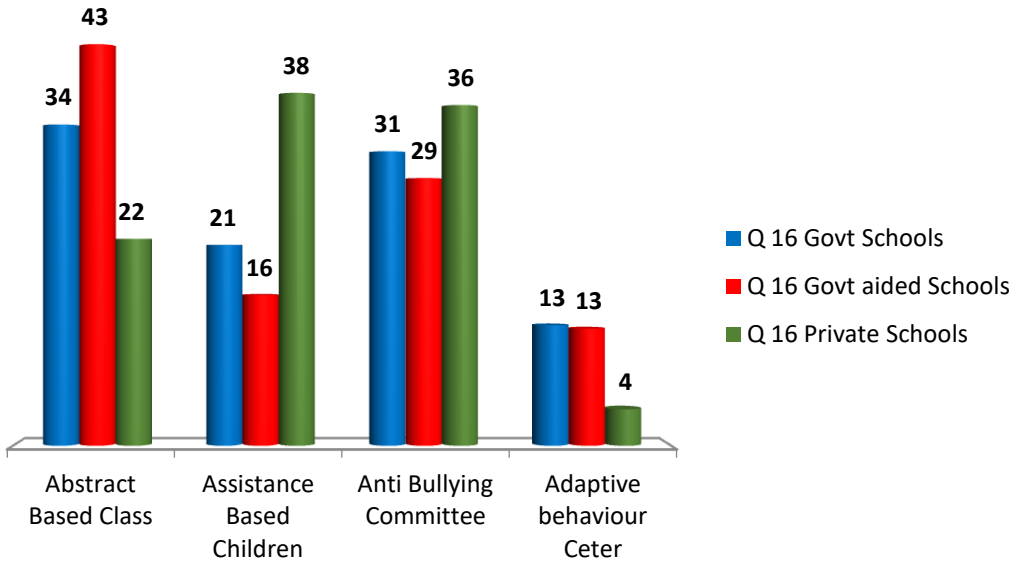

Figure 4.84- Anti Bullying Committee (%)

Various committees in a school play an important role and are a liaison between parents and school staff for monitoring the School Safety Plan. These committees are expected to regularly review security needs, Internet safety, emergency preparedness, and health concerns, and offer parent's perspective and volunteer support as needed. It is therefore important that the parents are aware of these committees. The response of parents against all the questions indicated an awareness level between 25 to 40% irrespective of the school and is thus considered very low. Chi Sq test against Q 13 & 16 {Chi Sq cal /Chi Sq crit(0.5,6) - 23.95 / 12.59 and Chi Sq cal /Chi Sq crit(0.5,6) – 15.83/12.59}indicate, that the responses by the students of all the three schools is "same", cannot be sustained(Chi sq cal > Chi Sq crit). Thus the responses are found to be "dependent" on the type of school of the respondent. However against Q 12, Chi Sq test (0.05, 6) indicates that the Chi Sq Cal (5.64) is less that Chi sq crit (12.59) and hence the null hypothesis cannot be rejected, and that the response is "independent" of type of school or is homogeneous to all the schools

4.6.8 Parents -school Communication on safety aspect and involvement of parents (Q 15 & 17)

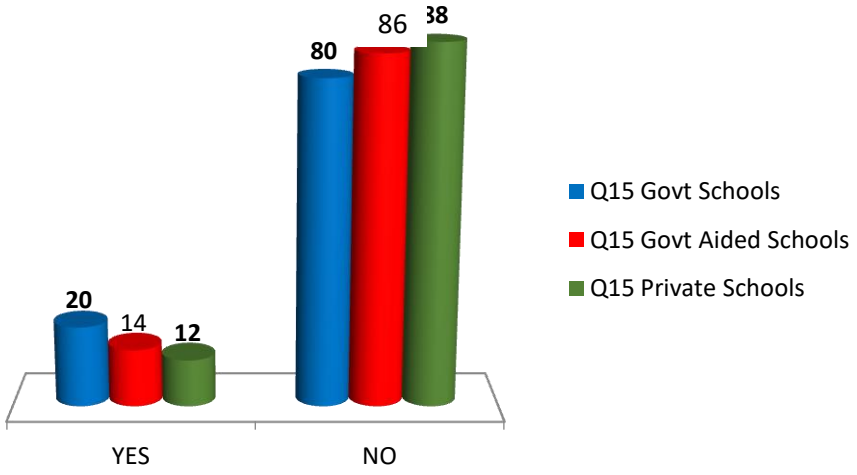

Figure 4.85- School Safety Committee (%)

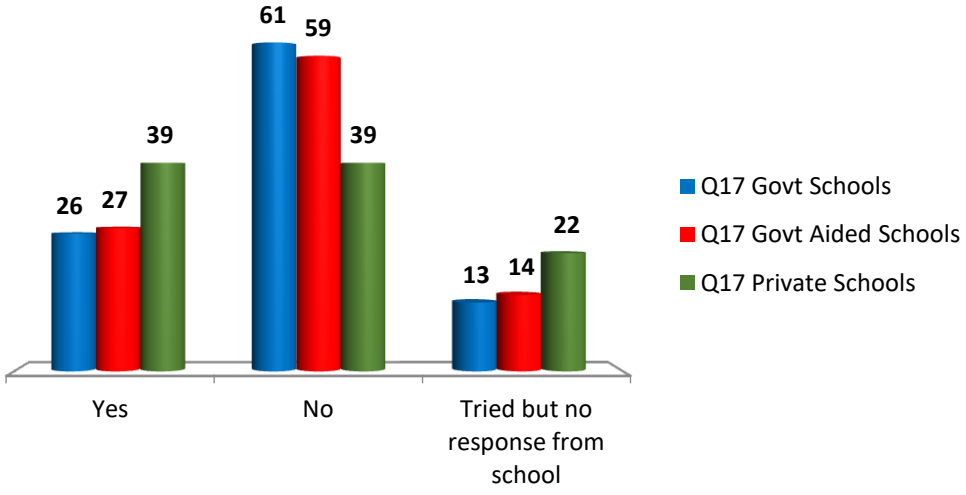

Figure 4.86- Suggestion made to the school (%)

Q 15 represents communication made by the school with parents in PTA meeting and Q 18 with respect to whether any suggestion was made by the parents with respect to infrastructure of the school. It may be seen that only 12 to 26 % of parents gave a positive response against these questions there by indicating virtually no

communication/involvement of between the parents and the school. Chi Sq test (0.05, 2) against Q 15 and (05.4) against Q 17 indicate that the Chi Sq Cal (2.01) is less that Chi sq crit (5.99) and Chi Sq Cal (8.87) is less that Chi sq crit (9.48) respectively hence the null hypothesis cannot be rejected, and that the response is "independent" of type of school or is homogeneous to all the schools.

4.6.9 Involvement of NDMA in generation of awareness amongst the parents

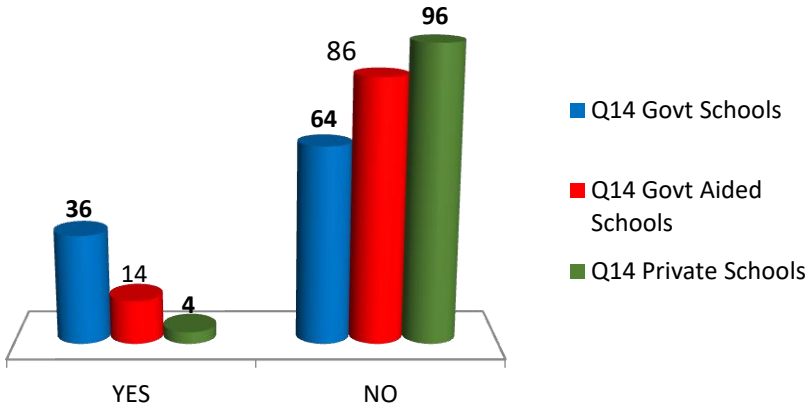

Figure 4.87- Distribution of NDMA Guidelines to Parents (%)

As per the response of Principals, SSFPTs and the students the study has so far reached to a conclusion that NDMA has made virtually NIL awareness in distributing a well laid guideline prepared by them. This was further substantiated by the response of the parents, where 6o % of parents of Govt School and Govt aided school confirmed non receipt any material with respect to the safe aspect from NDMA. 39 % of Private school parents however responded positively. Chi Sq test against question {Chi Sq cal /Chi Sq crit(0.5,2) - 26.07 / 5.99 indicate, that the responses by the students of all the three schools is "same", cannot be sustained(Chi sq cal > Chi Sq crit). Thus the responses are found to be "dependent" on the type of school of the respondent

4.6.10 Satisfaction level with respect to safety level of the school

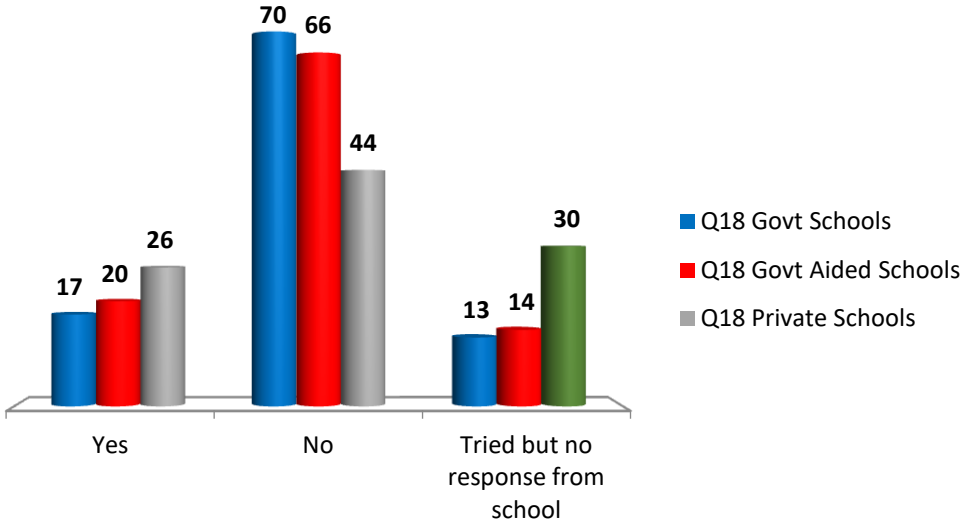

Figure 4.88- Distribution of NDMA Guidelines to Parents (%)

Only 17 % of Govt, 20% of Govt aided and 26% of Private schools were found satisfied with the safety measures available in the schools. However about 70 % of the parents were neither satisfied nor did they bother to know the insight of the safety level of the school. Chi Sq test against question {Chi Sq cal /Chi Sq crit(0.5,4) - 12.57 / 9.48 indicate, that the responses by the students of all the three schools is "same", cannot be sustained(Chi sq cal > Chi Sq crit). Thus the responses are found to be "dependent" on the type of school of the respondent.

4.6.11 Conclusion- Summarised Average response of Parents: A comparative analysis

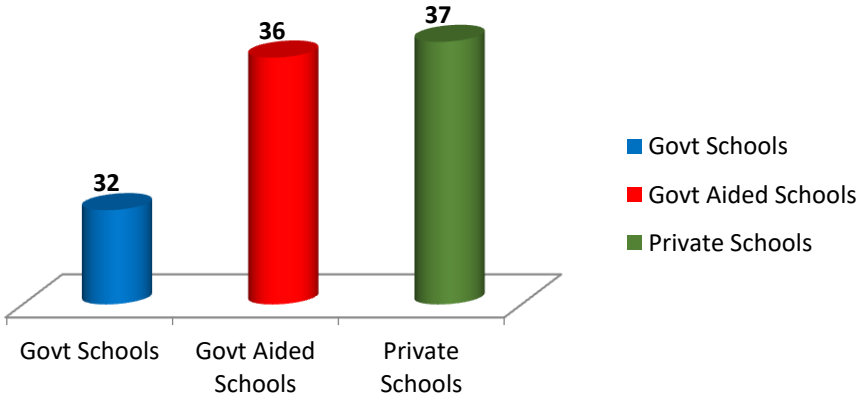

Figure 4.89- Level of Awareness : Parents

As per the Fig 92 depicted above it may be seen that the level of awareness of parents of private school was found better than Government and Government Aided schools.

Accordingly, it can be concluded that the hypothesis "Involvement/awareness of Students of all the schools whether Government, Government Aided or Private Schools show equal level of Involvement/awareness with respect to facilities and safety measures pertaining to structural and non- structural hazards available at their schools" fails to be accepted.

4.7 PHYSICAL VERIFICATION OF SUFFICIENCY OF EXISTING FACILITIES PERTAINING TO STRUCTURAL AND NON- STRUCTURAL HAZARDS (OBSERVATION)

A child spends his/her maximum time in school as a student. The school infrastructure then becomes a major factor behind how a child sees the world as he/she grows up. Sending children to a school where the building looks rundown and playgrounds need work can never be a good idea. Can parents feel safe sending their child to an environment like that? Well, even children won't feel satisfied in a place that lacks physical comfort and other basic facilities. This part of research pertains to examine the appropriateness and sufficiency of existing facilities and safety measures in schools of Delhi pertaining to **structural and non- structural hazards.** Each school was examined physically by a group comprising of an Asst Professor and B Ed Students as per the questionnaire and the outcome was accordingly noted. Wherever the facilities have been found available as per the existing guideline has been noted as **"Yes", else "NO".** Except for Question No 3 & 4 the outcome observed percentage of responses received as "Yes" has been depicted by a "stacked column graph" for all the three categories of the schools.

4.7.1 Physical Safety- vigilance/monitoring though CCTV. In the age of technology, this simple weapon is one of the most effective ways to deter and fight the evils. CCTV surveillance is of great importance in schools. It helps in monitoring and keeping track of activities taking place in school premises. The responses to these questions are depicted graphically in Fig 4.90 below. It can be seen that the percentage of availability of this facility in Private Schools is better than Govt Aided and Govt schools.

ANOVA tests with respect to all the observations except for "boundary wall, Other Gates and stair cases" indicate that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors. However with respect to boundary wall, Other Gates and stair cases ANOVA tests indicate that the difference is statistically significant. Therefore the null hypothesis cannot be accepted. It can be inferred that the factor affecting this observed difference could be the type of school involved.

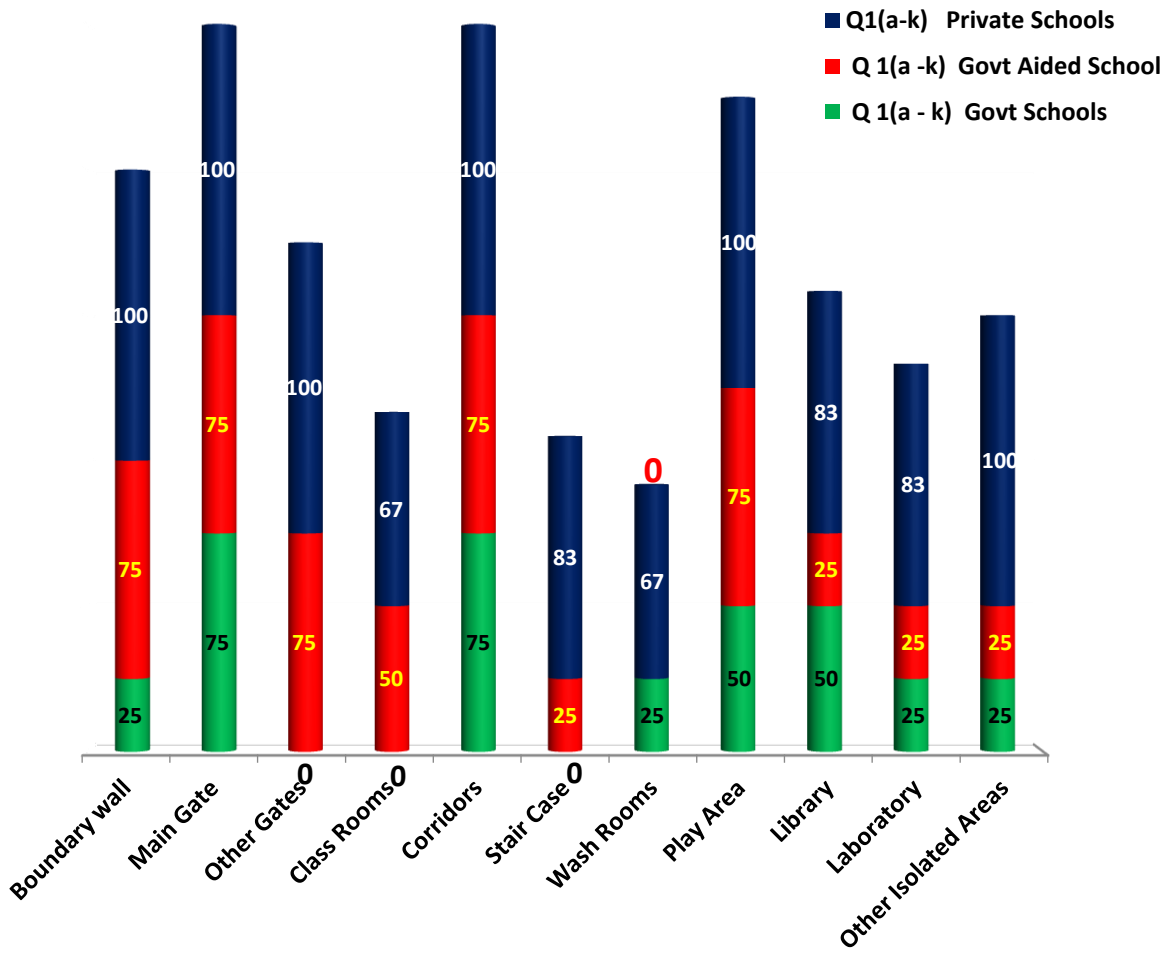

Figure 4.90- Vigilance /Monitoring through CCTV (%)

Observation	F Calculated	F Critical	P
Boundary Wall	4.97	3.98	0.02
ı Gate	.78	3.98	0.47
Other Gates	18.07	3.98	0.00
Class Room	2.58	3.98	0.12
Corridors	.78	3.98	0.47
Stair case	6.40	3.98	0.01
Wash Room	2.98	3.98	0.09
Play Area	1.90	3.98	0.19
Library	1.79	3.98	1.79
Laboratory	2.75	3.98	0.10
Other Isolated Area	.01	3.98	0.01

Table 4 .4 -Vigilance /Monitoring through CCTV

AFGJI

AFGJI

DAV

DAV

DAV

<u>CCTV - (Private Schools)</u>

CCTV : Salwan Public School (Govt Aided)

4.7.2 Structural aspects

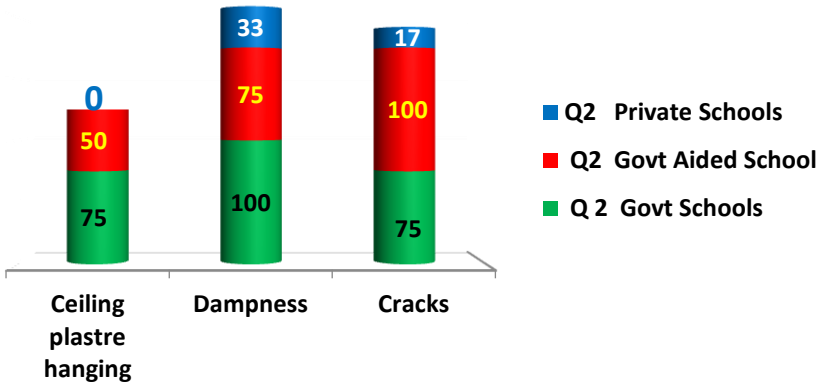

Figure 4.91- Structural Aspects: Poor %

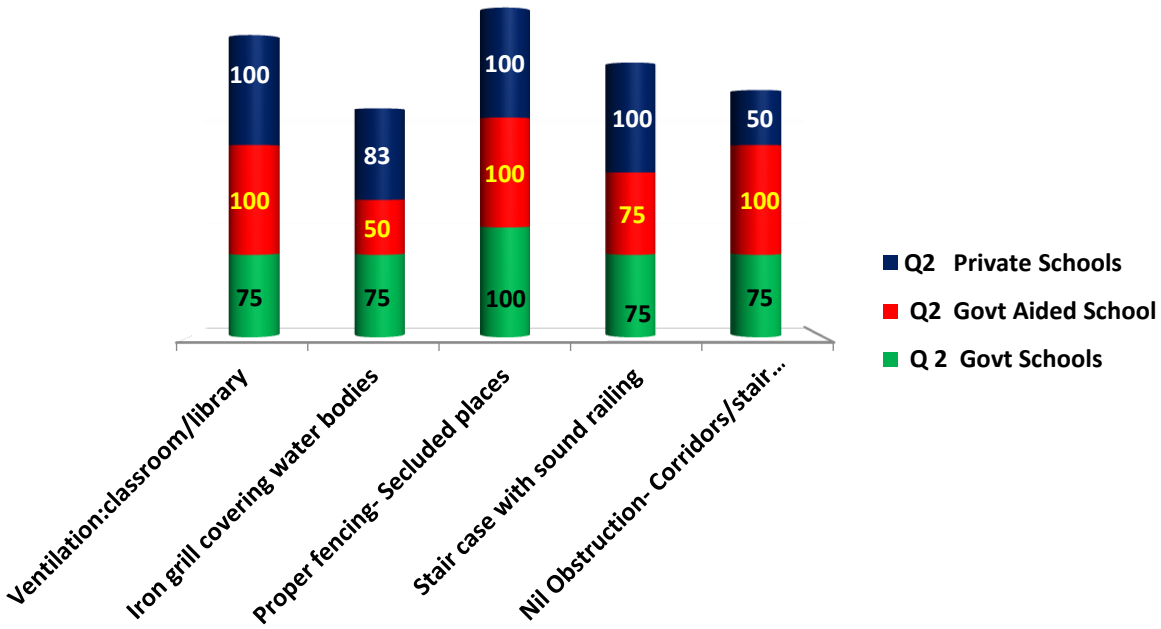

Figure 4.92 Structural Aspects: Good %

Observation	F Calculated	F Critical	P
Ceiling Plaster Hanging	4.6	3.98	0.03
Dampness	2.98	3.98	0.09
Cracks	6.4	3.98	0.01
Cross Ventilation	1.3	3.98	0.3
Well protection	1.2	3.98	0.3
Proper Fencing -Secluded places			
Stair case Railing	0.47	3.98	0.47
Obstruction Corridor/Staircases	1.48	3.98	0.26

Table4. 5- Structural Aspects

All the important structural aspect depicted by the graph above is of prime importance in any school building. There are several examples when poor infrastructures, improper upkeep of the building and negligence have resulted into serious accidents. In case of observance with respect to Ceiling, plaster, dampness, and cracks on walls the infrastructure of private schools was found much better than the Govt Aided and Govt schools which were found badly affected. In fact some of the Govt school buildings like Govt Aided Sardarini Sada Kour Khalsa Scool Dariyaganj School are in dilapidated state as is clearly evident from the following photographs.



(Govt School Patel Nagar)

(Govt School Tagore Garden)

Private schools have also been found taking precaution with respect to proper fencing, however 50% of the schools were found with obstruction in corridor and stair cases.

ANOVA tests with respect all the observations except for "ceiling plaster hanging and cracks of wall" indicate that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors. However with respect to "ceiling plaster hanging and cracks of wall" ANOVA tests indicate that the difference is statistically significant. Therefore the null hypothesis cannot be accepted. It can be inferred that the factor affecting this observed difference could be the type of school involved.

(Govt School Patel Nagar)

4.7.3 Evaluation of Facilities

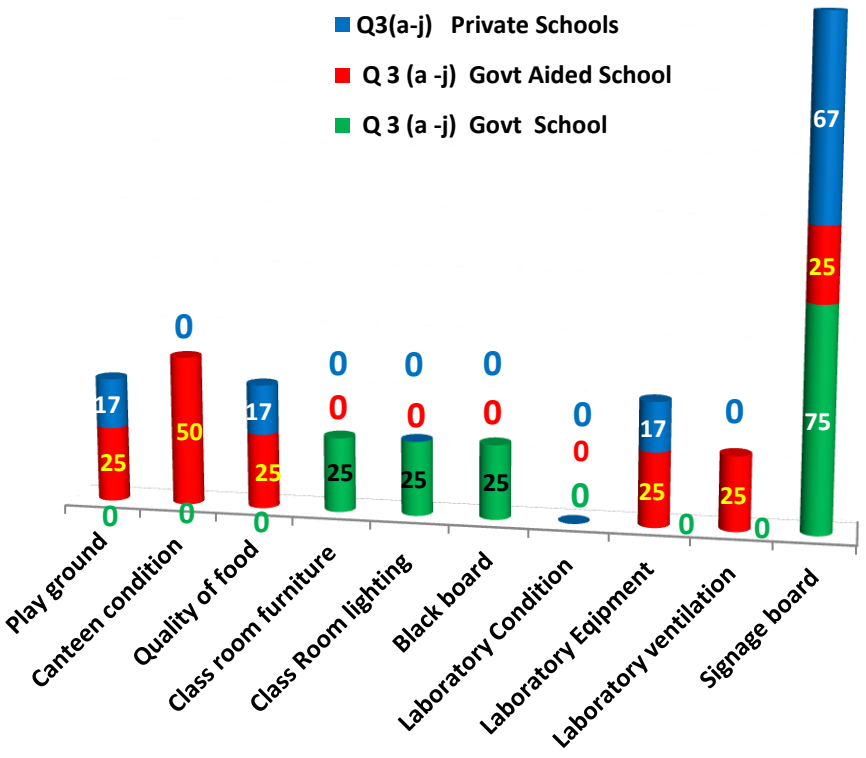

Figure 4.93- Structural Aspects "Poor" %

Observation	F Calculated	F Critical	P
Playground	2.30	3.98	0.14
Canteen Condition	2.11	3.98	0.16
Quality of Food in Canteen	3.05	3.98	0.08
Classroom Furniture	3.57	3.98	0.06
Classroom Lighting	.87	3.98	0.44
Blackboard	6.7	3.98	0.01
Laboratory Condition	1.15	3.98	0.35
Laboratory Equipment	0.35	3.98	0.70
Laboratory Ventilation	0.67	3.98	0.52
Signage Board	1.98	3.98	0.18

Table4. 6- Evaluation of Facilities

Laboratory : Salwan Public School (Govt Aided)

Buildings, classrooms, laboratories, and equipment- education infrastructure - are crucial elements of learning environments in schools. There is strong evidence that high-quality infrastructure facilitates better instruction, improves student outcomes, and reduces dropout rates, among other benefits. The subject observation was based on three point scale i.e. good, average and poor. However for the purpose of evaluation only the response reported as "**Poor**" has been taken into consideration. It may be seen that 17 %Private school were found poor in case of play ground, classroom furniture and laboratory condition. That works out only one school out of six. However, the condition of signage board was observed poor in highest number of 67%Private School. Govt and Govt Aided School however have been found Poor in more no of observations as depicted by the graph.

ANOVA tests with respect to all the observations indicate that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors.

4.7.4 Sufficiency of Fire extinguisher – sufficient / not sufficient, life expired fire extinguisher, availability of ABC type of fire extinguisher in chemistry lab and F type of fire extinguisher in cooking area/kitchen/home science lab.

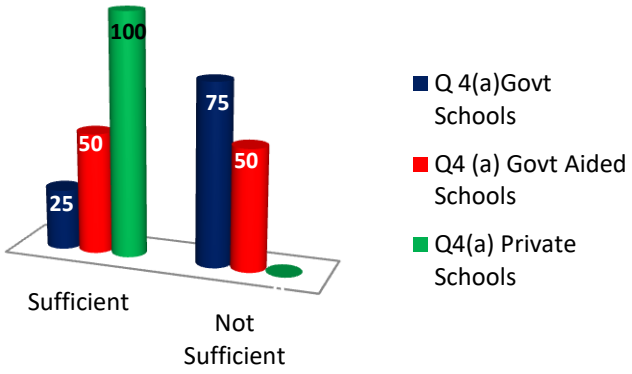

Figure 4.94 sufficient / not sufficient (%)

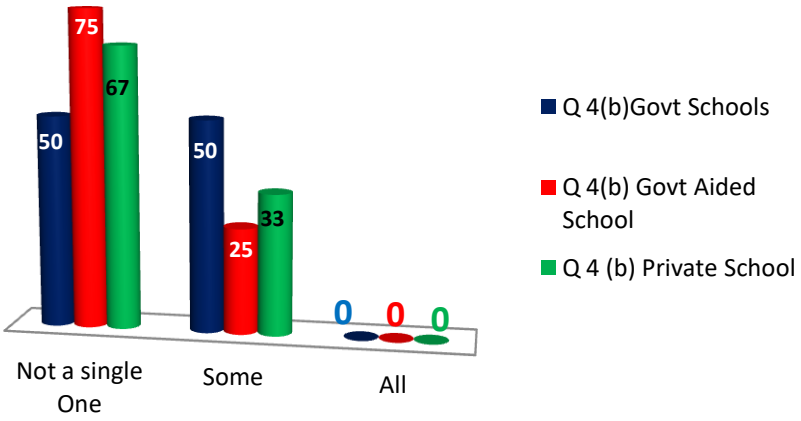

Figure 4.95- No. of life expired fire extinguisher (%)

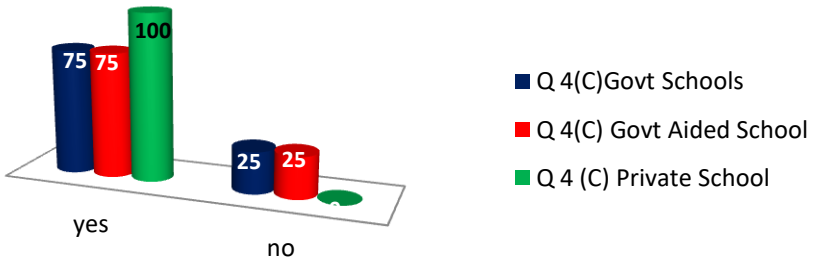

Figure 4.96 -ABC type fire extinguisher in chemistry lab(%)

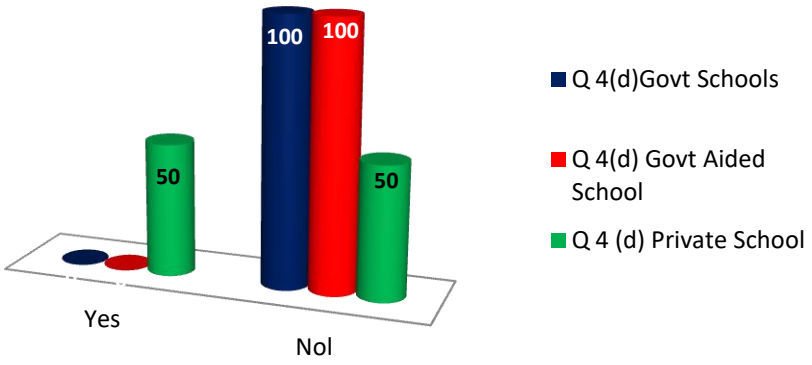

Fig. 100 - "F' type fire extinguisher in cooking area/kitchen/home science lab (%)

Fire extinguishers in schools save lives. Countless times these devices have been used to quickly eliminate the threat of a fire. They minimise property damage, reduce injuries and prevent death. Schools are large and busy places where fire protection plays an important part to keep students, teachers, and other staff safe. As per the observation in 75% of Govt School and 50% of Govt Aided School, fire extinguishers were not found sufficient as per the size of the building. In 50 % of Govt, 25 % of Govt Aided and 33% of Private Schools some of the fire extinguishers were found life expired. Both in Govt and Govt Aided Schools the right kind of "ABC" fire extinguisher were not found available. Similarly "F" or "K" types of fire extinguisher were not found available all the Govt and Govt Aided schools as well 50% private schools. These extinguishers are specially used for oil based fire.

ANOVA tests with respect to the three observations (Q 4 b, c and d) indicate that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors. However, with respect to sufficiency of fire extinguisher (4 a), ANOVA test indicates that the difference is statistically significant. Therefore the null hypothesis cannot be accepted. It can be inferred that the factor affecting this observed difference could be the type of school involved.

Expired Fire Extinguisher- AFGJI & APS

Good Condition Fire Extinguisher- DAV & Mahavir School (Private School)

4.7.5 Laboratory safety

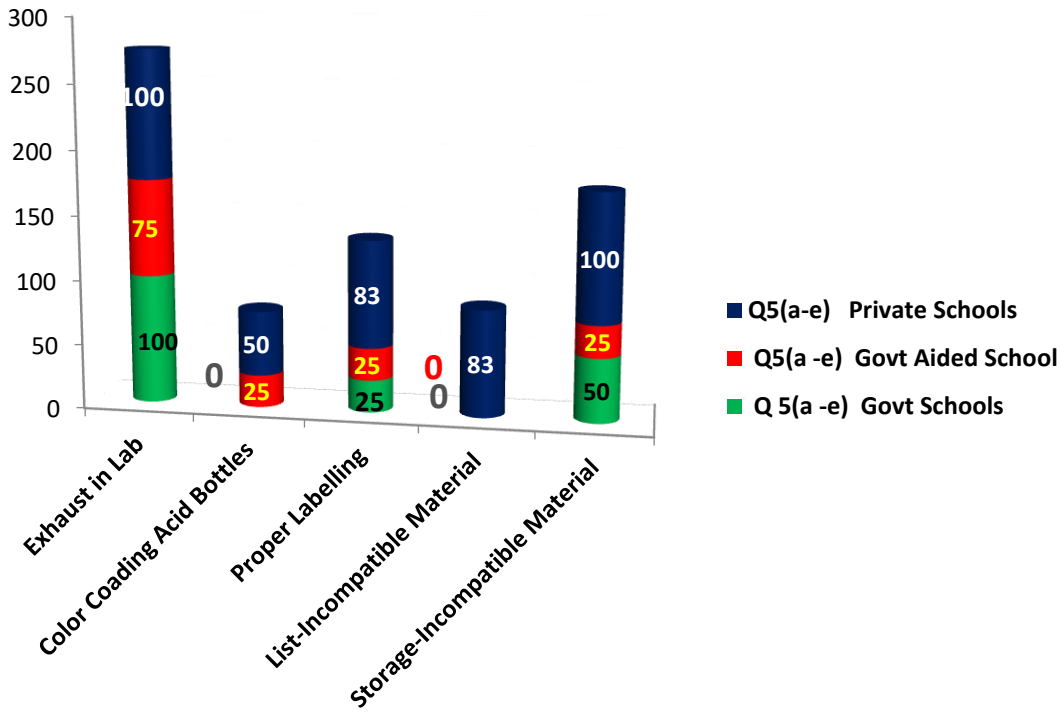

Figure 4.97- Laboratory safety (%)

Observation	F Calculated	F Critical	P
(a) Exhaust fan in Laboratory	1.30	3.98	0.30
(b) Color Coding Acid Bottle	1.48	3.98	0.26
(c) Proper Labeling on Chemical bottle	2.75	3.98	0.10
(d) List of incompatible material	15.71	3.98	0.00
(e) Storage of incompatible material	4.60	3.98	0.35

Table4. 7 Laboratory safety

From chemicals to electrical equipment, laboratories reap a wide array of safety hazards, which is why it is so vital to understand the important of lab safety.Private schools were found to be observing better safety standards than Govt Aided and Govt Schools. ANOVA tests with respect to the three observations (Q 5 b, c and d) indicate

that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors. However, with respect to sufficiency of fire extinguisher (4 d & e) , ANOVA test indicates that the difference is statistically significant. Therefore the null hypothesis cannot be accepted. It can be inferred that the factor affecting this observed difference could be the type of school involved.

4.7.6 Cleanliness, hygiene, and facilities provided

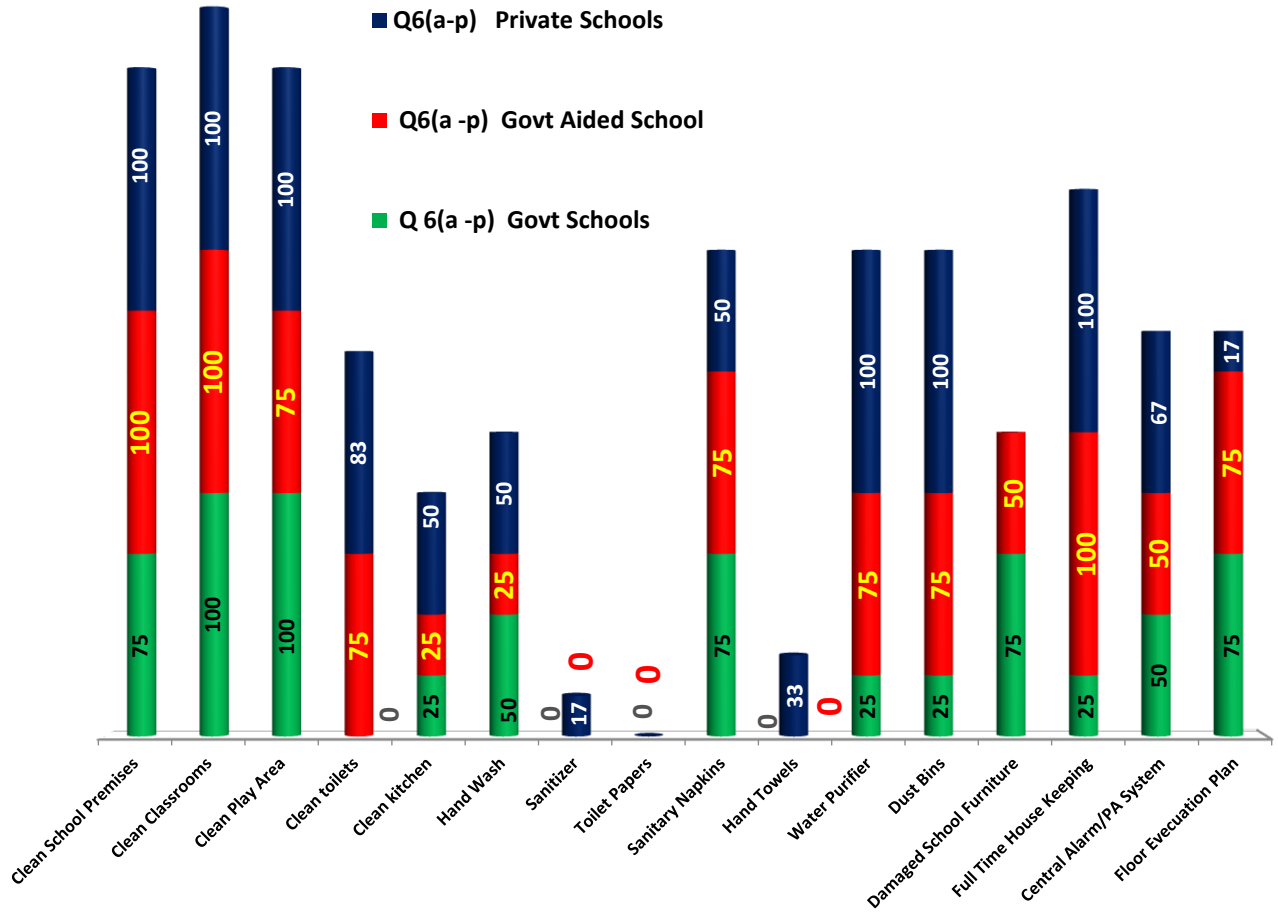

Figure 4.98 - Cleanliness, hygiene and facilities (%)

Observation	F Calculated	F Critical	P
(a) Clean school premises	1.30	3.98	0.30
(b) Clean classrooms			
(c) Clean play area	1.30	3.98	0.30
(d)Clean toilets	6.40	3.98	0.01
(e) Clean Kitchen	3.53	3.98	0.06
(f) Hand wash	0.30	3.98	0.74
(g) Sanitizer	0.62	3.98	0.55
(h) Toilet papers			
(i) Sanitary napkins	1.15	3.98	0.35
(j) Hand towels	1.57	3.98	0.25
(k) Water purifiers or clean drinking water	5.81	3.98	0.02
(l) Sufficient number of dust bins	4.97	3.98	0.02
(m) Dirty, cracked, scribbled school furniture	4.60	3.98	0.03
(n) Fulltime housekeeping staff	11.78	3.98	0.00
(o) Central alarm/PA system	0.15	3.98	0.85
(p) Floor evacuation plan	2.75	3.98	0.10

Table4. 8 - Cleanliness, hygiene and facilities

Except for providing sanitary napkins and floor evacuation plan the hygiene standards and other facilities of private school were found better than the Govt and Govt aided School. Govt aided school were found better than Govt schools.

ANOVA tests with respect to all the observations except (Q6 d, k, l, m &n) indicate that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors. However, with respect to Q6 d, k, l, m &n, ANOVA test indicates that the difference is statistically significant. Therefore the null hypothesis cannot be accepted. It can be

inferred that the factor affecting this observed difference could be the type of school involved.

Poor facility of drinking water- Govt school

Poor condition of toilets (Govt Aided -Khalsa school)(Pic below)

Good condition of toilet (Private School-AFGJI)

4.7.7 Dust bins in Girls toilets, running water in toilets, women attendant outside girls toilet, monitoring of traffic moment by a dedicated team, any high voltage wire in the premises.

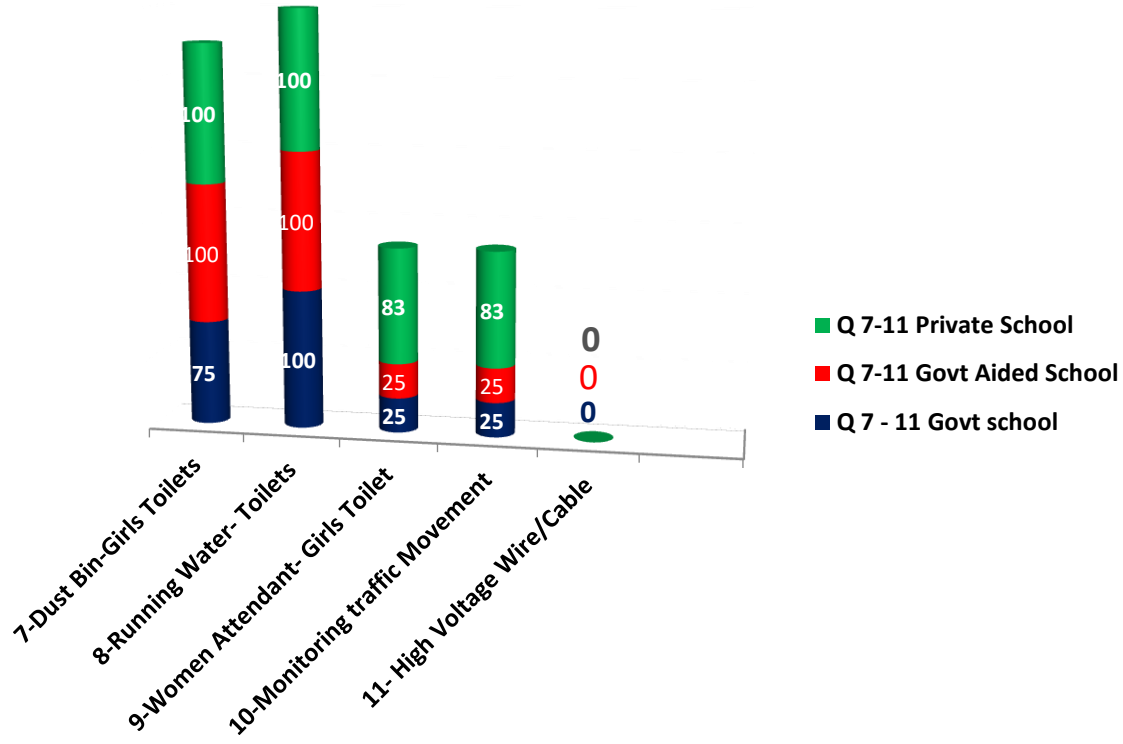

Figure 4.99- Facility and Security (%)

Observation	F Calculated	F Critical	P
(7) Dust Bins in girl's toilets	1.30	3.98	0.30
(8) Running water facility in toilets			
(9) Women attendant outside girl's toilets	2.75	3.98	0.10
(10) Traffic movement monitoring by a dedicated team	2.75	3.98	0.10
(11) High Voltage wires cables in school premises	1.30	3.98	0.30

Table4. 9 Facility and Security

The responses of Private School As well As Govt Aided School were found better than the Govt School. ANOVA tests with respect to all the observations except (Q 9,10 & 11) indicate that the null hypothesis (there is no difference between averages of group) is accepted. The observed differences of averages are by chance and not due to other factors. However, with respect to Q 7 & 8 ANOVA test indicates that the difference is statistically significant. Therefore the null hypothesis cannot be accepted. It can be inferred that the factor affecting this observed difference could be the type of school involved.

4.7.8 Conclusion- Summarised Overall average % of available facility based on observation: a Comparative analysis

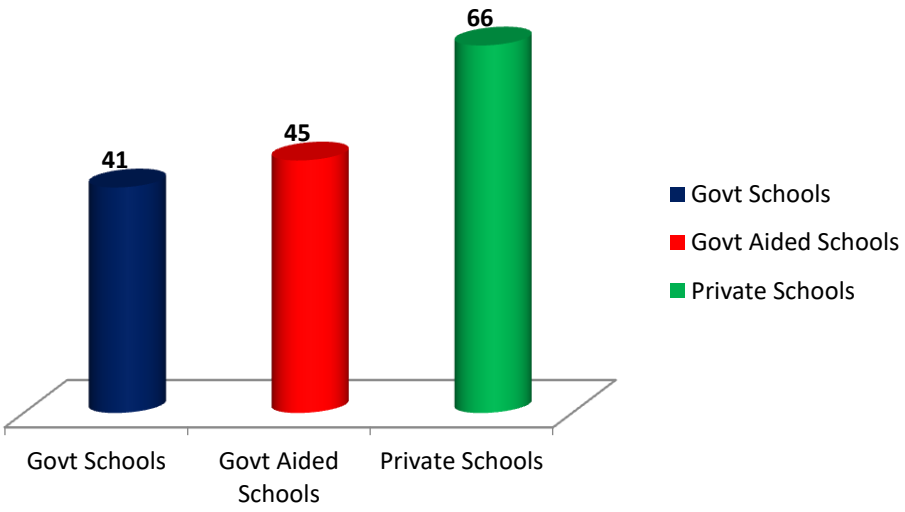

Figure 4.100- Overall average % of available facility (%)

Keeping in view the outcome of the analysis of response from physical verification it can be seen that the Private Schools have much better facilities pertaining to structural and non- structural hazards then the Govt Aided schools and Govt schools Accordingly, it can be easily concluded that facilities available in

"Private schools > Govt Aided schools > Govt Schools"

Accordingly, it can be concluded that the hypothesis "All the schools, whether Government, Government Aided or Private are having similar level of facilities and safety measures pertaining to structural and non structural hazards" fails to be accepted.

CHAPTER 5 - FINDINGS, SUGGESTIONS AND CONCLUSION

5.1 FINDINGS

5.1.1 School DM Plan Model Template vide Section 3.2.2(Annexure 8) of National Disaster Management Guidelines, School Safety Policy (Feb. 2016) to be referred as **"Policy 1" for all future references,** mandates constitution of DM committee, composition of core team and laying down their role and responsibility. Apart from the Principal and Vice Principal the committee includes Education officer, Parent Teacher Association President, 4 Students (Preferably NCC/Scouts) representative of District Administration, DDMA, Fire Services, Police, Health Dept, and warden of Civil Defense. The response of Principals of Govt and Govt aided schools was found to be poor both in terms of awareness as well as in terms of maintenance of record to this effect .Keeping in view the necessity of maintenance of record of such an important facet, it was evident from the of response of all the Principals of Govt Schools that they do not maintain any record. Response of 25 % of Govt aided school could not be established. Annexure 3 and Annexure 8 of "Policy 1" narrate that capacity building and training of students and teachers is an important step to ensure safety of school going community in a disaster situation. NDMA has accordingly published detailed Guidelines in the form of National School Safety Programme with an aim to impart training to school teachers and children and appoint Master Trainer in each state .A Training Module has also been devised for the master trainers. The list of these Master Trainers is placed as **Appendix "F"**. Despite these guidelines, majority of schools were neither aware of the Master Trainer nor have any one undergone any formal training.

5.1.2 The national building code of India 2005, developed by the Bureau of Indian standard (BIS) provides guidelines for regulating building construction activities across the country and serves as a Model Code for adoption by all the agencies involved in school construction works. The code attributes an "Importance factor" to ascertain the structural design of different types of buildings, depending on the functional use of the structure, characterised by hazardous consequences of its failure, its Post- earthquake functional need, historic value, or economic importance. In

section 5.3.4, the code attributes **Importance factor of 1.5 to schools, higher than all other buildings indicating the importance of the schools**. The code should serve as a reference for all States and UTs, for design and construction of school infrastructure. **Hon'ble Supreme Court of India** has also mandated ensuring NBC standards against Writ Petition (civil) no 483 of 2004 in the light of provisions of RTE. The Court has emphasised that the evaluation of structural aspect of the school may be carried out periodically. The concerned engineers and officials must strictly follow the NBC. The safety certificate is to be issued only after proper inspection. Dereliction in duty must attract immediate disciplinary action against the concerned officials. Salient features of this code and school building specification as per **Supreme Court Guidelines (annexure 6 - School Safety Policy (Feb. 2016))** are placed in "**Appendix-G".**[17,18,19] The response against this "**Serious Aspect"** has been found very poor which clearly indicates a lack of will on the part of State/District Government to ensure safety of building.

5.1.3 Section 5 (b) of Annexure 8 of "Policy 1" mandates electrical safety audit by an electrician. Although the Principals were found to be sensitive and claimed to have been carrying out the safety audit, however were not found keeping any record and hence their authenticity of response could not be established .

5.1.4 The best approach to deal with an emergent situation is to create a comprehensive, all-hazards emergency plan and implement **Mock Drills** so that we can instill in the minds of our students the correct procedure to be followed during actual occurrence. All this will help to ensure that, there will be no confusion or panic among students and faculty members. A handbook on School safety for administrators, education officers, emergency officials, school Principals and Teachers,(First Addition 2004) issued by NDMA , to be referred as **"Policy 2" for all future references,** under its chapter of "Comprehensive School Safety Programme- Basic Components" and section 3 of "Policy 1" brings out organizing mock fire drill in co-ordination with Fire Service department in case of fire. The

[17] https://ndma.gov.in/images/pdf/SchoolSafety1.pdf

[18] http://rmsaindia.gov.in/images/School_Infrastructure_and_Strengthening.pdf

[19] http://www.builtconstructions.in/OnlineMagazine/Bangalore/Pages/National-Building-Code-Of-India-2005-633.aspx

involvement of the Principals and SSFPTs of Private as well as Govt Aided schools, as per their response, was found adequate .The aspect of conducting fire emergency mock drill was examined through interview of SSFPTs. The outcome of Private as well as Govt aided schools as per the response given was also found adequate both in terms of conducting the drill and maintenance of records. The involvement of Govt schools however was found lacking with respect to maintenance of record of mock drills and fire evacuation plan. The subject response of Principal and SSFPTs, when crosschecked with the responses of the students (Q 9,10,11,13 & 14) indicated a **clear lack of involvement/awareness of the teachers**. This was further substantiated by the response of the students against Q 18, 19 and 20 based on evaluation of the level of knowledge in case of fire.

5.1.5 In approximately 80% of all fire incidents, a simple portable fire extinguisher is all that is needed to put out the fire. Studies have also shown that 60% of fires go un-noticed. This means that the fire is not severe and can be handled easily with a fire extinguisher.[20] A school must always understand the importance of Fire Prevention and be a fire safe place for our children. The observations (Q 4 of physical Observation) with respect to fire extinguishers show a serious deficiency in Govt and Govt Aided Schools. Private schools were found better equipped, however in 33 % of the schools; some of the fire extinguishers' were found life expired. "F" type of fire extinguishers required for cooking area also were not found available in 50 % of Private Schools against 100 % of Govt and Govt Aided schools.

5.1.6 Section 3 of "Policy 1" suggests maintaining a School Emergency /DM kit consisting of Stretcher, Ladders, thick rope, torch, first aid box, temporary shelter (tents/tarpaulins), sand buckets, and fire extinguishers .The awareness level of this important aspect was found to be **very poor,** as only two out of fourteen schools were maintaining the said kit.

5.1.7 Annexure 8 (iii) of "Policy 1" as well as the chapter on "Comprehensive School Safety Programme- Basic Components" describing demonstration of disaster risk management of "Policy 2" brings out formulation of an efficient evacuation plan for each floor and ensuring prominent display. Although three out of four Govt Aided

[20] https://www.fireline.com/blog/importance-fire-extinguishers/

schools have ensured this but both Private and Govt Schools have not been found paying adequate attention to this important aspect.

5.1.8 Delhi gets worst affected by **MOSQUITOES,** particularly Dengue, and hundreds of children suffer from this deadly infection. Adequate precaution, therefore, is of utmost importance and preventive measures like frequent Anti mosquito spray is a must in all the schools. However, both health department of state government as well as Principals of Govt and Govt aided schools were not found serious in this aspect. The response from students against question no 6 confirms this "**NEGLIGENCE**" by all concerned. The problem becomes worse due to non-functioning of electric fans due to frequent disruption of electric supply.

5.1.9 None of the schools were found using Snake repellent, thereby completely taking it for granted that no snake can ever sneak into the premises.

5.1.10 The National Disaster Management act, 2005 mandates the SDMA to provide guidelines to integrate disaster prevention and mitigation measures in the Development Plan. The school development plan, as laid out by RTE act spells out the physical requirement of additional infrastructure and equipment to meet the norms spelt out in the schedule. A comprehensive assessment of needs, conducted prior to the development of SDP is essential for identifying the probable risks for children as well as their capabilities to respond and recover from critical incidents. Therefore **participation of children** in school development plan is of utmost importance. Section 4.10 of "Policy 1" accordingly mandates participation of children in preparing and implementing SDPs, however percentage of participation of children in Govt and Govt Aided schools was found to be less.

5.1.11 NCC/Scouts of the schools can be effectively utilized to counter the disaster situation and accordingly needs to be trained as per the guidelines spelt out vide Section 3 of annexure 8 of "Policy 1"

5.1.12 Section 3 (c), of "Policy 1" (School DM plan Model template), includes provision of grants out of MPLAD/MLALA to strengthen the infrastructure required for disaster management. None of the school principals were either aware or tried to approach any MP/MLA to get the same or vice versa.

5.1.13 Communication during an emergency or crisis is one of the most important elements of a workplace disaster preparedness plan. Not having a strategy for how you're going to communicate during a disaster event is a fundamental weakness. During an emergency, it is critical that those within the school know how to communicate effectively. This calls for an efficient management of internal and external communications. Section IV of Sample Outline for District of "Policy 2", suggests for maintaining a Standard Operating Procedure for notification and activation of communications both external and internal as being one of the most important aspect and the first step of handling a disaster situation. The level of awareness of SSFPTs (Q 1) of Govt and Govt Aided Schools was found poor as against 100 % of Private Schools. The response of students (Q 11) irrespective of the schools also clearly indicates non involvement/ unawareness of teachers.

5.1.14 Section 3.5 of "Policy 1", stipulates review of SDP on a quarterly basis as there could be cases of unaddressed hazards and additional new hazards that may emerge in the course of implementing SDP. These, therefore can be integrated through the process of review/updation. Also, there may be risks that have to be monitored periodically in order to safeguard the health and well being of children such as cleanliness of toilets and water.

5.1.15 Comprehensive School safety Programme of "Policy 2" suggests carrying out large scale awareness through a public education campaign by organizing "Preparedness Month" with a goal to enable increased awareness and enhanced knowledge amongst Members of SSC, school teachers, students, and their families and to motivate and involve education departments, policymakers, key stakeholders of the district administration, Police, Red Cross, local media and civil defense. However none of the Govt or Govt aided school observes this activity. Only 67 % SSFPTs of Private Schools have responded in the affirmative.

5.1.16 At the school level a SSFPT is nominated to operationally anchor safety related actions as part of his/her routine commitments. He /She accordingly need to be formally trained to act and liaise with different stakeholders responsible for various activities. The SSFPTs are expected to undergo training organised preferably by SDMA/DDMA, else by DTE of Education in order to be conversant with the prevailing guidelines. None of the SSFPTs were found aware of very frequently used

terminologies Like HVCR (Hazard Vulnerability Capacity and Risk), CPR (Cardio Pulmonary Resuscitation), SFMC (school fire management committee) and EHS (environmental, health and safety).

5.1.17. The importance of Electrical safety audit and Fire safety audit have already been discussed above. The level of awareness of SSFPTs is considered important as she/he is directly involved to ensure these aspects including the maintenance of records. The involvement of SSFPTs of both Private and Govt aided schools was found better then the Govt schools.

5.1.18. Earthquakes are a unique challenge for schools. Unlike other natural or man-made hazards, they occur without any warning. Schools cannot be closed in advance, nor evacuated. However, with proper training and planning in advance, everyone in the school community can be prepared to react appropriately during and after an earthquake. One of the most important aspect on the basis of which the subject topic of research was selected are frequent earthquakes, almost on quarterly basis, experienced by Delhi. The knowledge as well as safety related aspects with respect to evacuation plan and procedure therefore becomes utmost important. It was heartening to note that majority of SSFPTs were conversant with the evacuation procedure and floor wise evacuation plan, However the knowledge level of almost all the SSFPTs with respect to some of the very important aspects of earthquake related facts like (a) Seismic level of Delhi, (b) total number of these fault lines and (c) names of these fault lines. Also, the response from students pertaining to conducting Mock Drill as well as the knowledge level with respect to correct drill was also to be found **very poor**(Q 9 & 10) except for Private Schools to some extent.

5.1.19. Only 67 % of SSFPTs were found aware of IS Standards**, IS 4209(1987)**[21] of Chemistry Lab.

5.1.20. If we recollect our school days, we can easily recall that we were afraid of visiting toilets? School toilets can be extremely daunting particularly for children if the toilet is dirty, dark and dingy. Children are frequently forced to use "smelly, dirty

[21] http://images10.newegg.com/UploadFilesForNewegg/itemintelligence/Pacon/is.4209.19871453376681588.pdf

or unpleasant toilets in their schools". However it is pleasing to note the favorable response of students from majority of Govt aided and Private schools. The question in this respect was framed to know the hygienic standard of toilets particularly during the recess to ascertain continuous cleaning of toilets throughout the day. The response of Govt schools was found very poor despite sufficient use of Phenyl on the other hand. This aspect was further substantiated by Q 6,7 and 8 of physical verification of the schools. The hygienic standards were also checked through a question asked from the students with respect to availability of Mouse (Q 15). The response of Govt as Well as Govt Aided School was found poor.

5.1.21. Complete education of a child is a balanced combination of study and sports. Games and sports are necessary for every student so that they can learn how to get across with other people and develop personality traits. However, a safe environment during games can only be ensured with proper supervision and availability of first aid kit. Therefore, presence of Games teacher/ suitable supervisor is mandatory in order to handle any untoward accident/incident. Accordingly, the responses received from students were analysed taking into consideration the absence of game teacher when ever children are playing especially during other than the games period. About 30% students irrespective of schools responded playing during other than the games period. In about 60 % of all the schools there is no supervision during other than the games period. Only about 50% Students of Govt and Govt aided school reported availability of first aid kit with only 39 % of Private Schools. It can therefore be concluded that majority of schools fail to provide a safe playground environment.

5.1.22 Health and safety, and in particular availability of first aid is of prime importance in any school. Having a thorough and well thought out first aid strategy not only makes schools safer, but also benefits wider communities. First aid is an important life skill that helps reduce fatalities and enables the faster treatment of injuries. It also has an important role to play in providing staff and pupils with a sense of purpose and achievement, giving them the skills that potentially save lives. However, it was surprising to note that private schools, charging hefty fees, to be the least sensitive on this vital aspect **(39% efficiency/sensitivity),** followed by Govt School (42% efficiency/sensitivity) and (76 % efficiency/sensitivity) of Govt Aided Schools against 100% desirable efficiency and sensitivity level as per the response received from **parents**. The subject finding gets further substantiated when read in

conjunction with the preceding Para where an exact no of **39 % students** reported non availability of first aid kit during games.

5.1.23 As per the study published in the Indian Journal of Public Health "Down to Earth", [22]Jehangir Hospital in Pune and UCL Institute of Child Health, London, bring out that, 30 per cent of children living in urban areas are obese or overweight. An example shows that 33 per cent of children studying in affluent schools of Rajkot in Gujarat are obese or overweight. In the same article Sonam Taneja and Amit Khurana say that , 93% of children in urban area are fond of eating packaged food and 68% consume packaged sugar-sweetened beverages more than once a week; 53% consume these products at least once a day. While 56% of the children consume packaged sweet products like chocolates and ice-creams more than twice a week, 53% consume packaged salty food like chips and noodles and 49% packaged sugar-sweetened beverages like soft drinks and packaged juices at this rate. Almost 27% of the schoolchildren consume products churned out by fast food outlets, such as burger and pizza, more than once a week. Such foods may not be packaged in the strict sense but are ultra processed and high in fat, salt or sugar (HFSS).Several guidelines have been issued by the Govt to ban selling of fast food in the schools. However, still 48% of Govt Aided Schools, 29 % of private schools and 4% of Govt Schools were found selling junk food. While the Govt Schools are following the guideline strictly (also linked with the financial condition of the parents), a substantial percentage of parents of Govt Aided and Private Schools were not found aware of the type of food sold by the canteen.

5.1.24 School bus is undoubtedly the most convenient means of student transportation. But unfortunately, there are a number of school bus safety issues faced by students travelling by school vehicles. This is the reason why Hon'ble Supreme Court of India and CBSE board of India have issued guidelines to safeguard children commuting by school buses. As a preventive measure, the rulebook makes both, school and parents proactive towards remedial measures regarding safe commutation of school children. Despite these guidelines, serious deficiencies with respect to safety in the school transport of Private Schools were noticeable. Only 47 % of school buses of private school were reported to be having comfortable seats. Only 7 % of buses

[22] https://www.downtoearth.org.in/news/health/spoilt-for-choice-58417

were fitted with seat belts and only 52 % of them reported bus attendants. Whereas the Govt Aided Schools were found to be little better in safety aspects with 84 % of school buses having comfortable seats, 33 % of buses fitted with seat belts and 51 % with bus attendants.

With respect to Locations, Private Schools were found to be better located on 12 meter wide road as compared to Govt Aided Schools which were found located on 9 meter wide road. The awareness level of parents to this aspect was found adequate.

5.1.25 Parent participation is at the core of any school. Parent involvement makes a significant statement about the importance of education, reinforces the values of the school, and benefits all the members of our community. To be a member of the committee, all that parents need, is a sense of commitment and capacity to contribute to the benefit of the school community. However the awareness level of all the parents irrespective of schools was found to be very low i.e. between 20 to 40%.Similar is the percentage with respect to communication between parents and the school on safety aspect i.e. between 12 to 26%.

5.1.26 Involvement of NDMA in generating awareness with respect to safety is considered one of the most important part of their responsibility. The study however from all the responses received, be it from Principals, SSFPTs , Students or Parents can confidently conclude that, although these well laid out guidelines are available on internet freely, however virtually almost all concerned were found unaware of these. Lack of effort by NDMA in publicising their guidelines is therefore clearly evident.

5.1.27. The overall assessment of the safety measures of the school was adjudged poor by the parents irrespective of the school. The percentage level of Private schools was found little higher from other schools.

5.1.28 Schools should create an environment that not only assures learning, but also pays special attention to the mental and physical well-being of the students. Studies and researches conducted to figure out the effect of infrastructure suggest that students in schools with poor infrastructure can have lower achievement scores as compared to the ones studying in schools that have better infrastructure and facilities. But, what about students who perform well in any kind of school infrastructure? There are times when irrespective of poor infrastructure, students perform

meritoriously. People may argue that physical space is secondary and concentration is what matters but researchers and psychologists suggest that environmental factors can increase the academic performance and motivate attendance. It's proven that overcrowded and stressful environment can affect the learning capabilities of children. The site for educational institutions like schools is a crucial concern as noise and temperature levels are said to affect the understanding levels in students. Physical conditions can leave both positive and negative effects on the students' all-inclusive development.

5.1.29 Increasing incidents of negligence and crimes violating the innocence of children have raised numerous doubts and questions in the minds of every parent, every responsible citizen. The need of the hour is to ensure our children are safe and feel safe all the time. Vigilance and keeping an eye out for any anomaly or deviations in children's behavior is something that we can all do to fortify ourselves in this fight. However, we are only humans and may overlook certain things or may even lower our guard over time. How, then can we ensure the safety of children. The answer is CCTV Surveillance Systems. Photographical comparison clearly brings out that upkeep of CCTV as well as surveillance in private schools is much better than the Govt or Govt Aided Schools. Installation of CCTVs in Govt Schools has started recently. Many of the schools are yet to be equipped.

5.1.30 Students and teachers from moisture damaged schools are at increased risk of upper and lower respiratory tract symptoms, besides the damage to the structural aspect of the building. On 13 Oct 2017 eight students were reported to be injured in a Panvel state Govt aided school in Mumbai region after a portion of ceiling plaster crashed on them while they were asleep in the hall[23]. Wall cracks can be severe enough to cause all or part of the building to collapse. Ventilation air is critical in educational facilities. It influences air quality and energy efficiency, and proper ventilation controls odors, dilutes gases (such as carbon dioxide), and inhibits the spread of respiratory diseases. The wells and ponds if exist in the campus are to be provided with protective wall and iron grills covering the well and the movements of the students should be restricted towards it. The Kitchen cum Store should be located

[23] https://timesofindia.indiatimes.com/city/navi-mumbai/8-kids-injured-as-ceiling-plaster-comes-off-in-panvel-school/articleshow/61057801.cms

in a clean and open place and free from filthy surroundings and should maintain overall hygienic environment. The premises should be clean, adequately lighted and ventilated and have sufficient free space for movement. The staircases, which act as exit or escape route, shall adhere to provisions specified in the National Building Code of India 2005, in order to ensure quick evacuation of children and should have a proper railing for protection. In case of observance with respect to Ceiling, plaster, dampness, and cracks on walls, the infrastructure of private schools was found much better than the Govt aided and Govt schools which were found badly affected. However, 50 % Private schools on the other hand, were found with obstruction in corridor and stair cases. Other aspects were found satisfactory.

5.1.31. Classrooms need good lighting in order to facilitate learning. From a practical standpoint, there needs to be enough of and the right kind of light to perform the functions of a school. . Classroom lighting influences students' circadian rhythms. The school canteen is a great place to promote an enjoyment of healthy eating. For students who use the canteen regularly, the food purchased makes a significant contribution to their total food intake and nutrition; therefore it makes sense to ensure that the best possible food is available School tables and chairs are important not only because of the comfort and part of the style, but also according to classroom situations that should be used. It is important that the furniture is solid and efficient. Blackboard is the traditional visual aids that are very important part of the classroom teaching. Students' attention is a crucial element in classroom management. Having visual reinforcements on the blackboard increases the attention span of students. Schools must have the latest science lab supplies and equipment to make science interesting and effective for students and to encourage them to make significant contributions in the field of physics, biology, chemistry, and other streams of science later in life. As observed, 17 % of Private Schools (i.e one out of six) were found poor in case of play ground, classroom furniture and laboratory condition. However, the condition of signage board was observed poor in highest number of 67%Private Schools. Govt and Govt Aided Schools however have been found Poor in more no of aspects and need improvement in almost all the areas.

5.1.32. In approximately 80% of all fire incidents, a simple portable fire extinguisher is all that is needed to put out the fire. Studies have also shown that 60% of fires go unnoticed. This means that the fire is not severe and can be handled easily with a fire

extinguisher.[24] A school must always understand the Importance of Fire Prevention and be a fire safe place for our children. School fire safety measures, fire devices, fire drills, fire exits, fire escapes fire alarms are just components of a good school fire safety measures. School fire tragedies and disasters can be prevented if proper fire safety measures are in place and religiously implemented, school authorities are well informed, right school personnel's are suitably designated to implement such measures, all government fire safety policies are followed and of course proper training and cooperation by students and faculties.

5.1.33 CONCLUSIVE FINDINGS-

Keeping in view the data observed and analysed with respect to awareness of Principals, SSFPTs, Students and Parents as well as Physical verification of facilities and safety measures pertaining to structural and non structural hazards, it can be concluded that :-

(a) The hypothesis "Involvement/awareness of Principal, School Safety Focal Point Teacher, students and parents of all the schools whether Government, Government Aided or Private, show equal level of Involvement/awareness with respect to facilities and safety measures pertaining to structural and non- structural hazards available at their schools" fails to be accepted.

(b) The hypothesis "All the schools, whether Government, Government Aided or Private are having similar level of facilities and safety measures pertaining to structural and non structural hazards" fails to be accepted.

[24] https://www.fireline.com/blog/importance-fire-extinguishers/

5.2 SUGGESTIONS

Keeping in view the responses received from respondents, viz, school Principal, staff, students, parents and various stake holders plus findings arrived at by the investigator on the basis of questionnaire served to the above concerned, the following suggestions are forwarded for dissection and perusal. At the same time the investigator expresses his grave concern and disappointment that inspite of various guidelines, recommendations and directives issued from time to time by the Central and State Governments and other agencies, like NDMA, Fire Services, Police, Health Department, CBSE, MHA, UNICEF, FICCI, NIDM and Supreme Court of India, except a few private schools, scanty attention has been paid to ameliorate the sense of involvement and instill awareness regarding safety and security perspective in their premises. Leaving a few exceptions, no proper record as such has been maintained/ verified regarding action taken in respect of lecture and demonstration, mock drill (regarding fire fighting, earthquake, electrical hazard etc.), formation of Disaster Management Committee, Training Modules, Preparedness/Observation month etc. Some choicest suggestions are appended below -

5.2.1 DUTIES AND RESPONSIBILITIES

Lackadaisical approach towards possessing adequate knowledge of existing guidelines pertaining to disaster management, conduct of mock drills and maintenance of record were some of the prominent findings. In order to execute effective evacuation during emergency, it should be made mandatory to all the schools to follow the guidelines issued by NDMA and lay down clearly duties & responsibilities of each member of various committees pertaining to safety and security (Safety/Disaster Management/School Development Committee). Adequate participation of students and parents must be ensured. Non participation of District authorities must be appropriately reported and the record to this effect must be maintained. The mock drills must be carried out on the basis of the assigned responsibilities for proper evaluation. The mock drills must particularly ensure serviceability of all devices for internal as well as external communication. All concerned should be well aware of important contact numbers and these should be

properly displayed at all important places. The outcome/ weaknesses/strengths as well as debrief points are to be recorded accordingly after each mock drill for future refinement. Most of the schools were even unaware of basic necessity of maintaining Disaster Management Kit and availability of the same. Availability of the existing guidelines issued by NDMA and other important organizations should also be ensured. It should be made mandatory for District/State education inspecting authorities of the schools to include the above as important check list points for all the regular inspections.

5.2.2 TRAINING/ DISASTER RISK EDUCATION

Proper training is the most effective tool to handle an emergent situation to avoid confusion and chaos. Majority of the school teachers and the Principals neither underwent any formal training by an expert viz Master Trainer appointed by NDMA, nor were conversant with any such term or initiative by NDMA. Lack of involvement of DDMA was also found evident. The state as well as the District administration therefore must ensure proper training of the school teachers, Principals, NCC/Scouts and the students. The schools are also required to take initiative to liaise with the DDMA for necessary training and maintain proper record to this effect. School curriculum should have a front line introduction of disaster preparedness, earthquake-conditioning-discipline-maneuvers and risk education, with periodical demonstration and individual practice. A sufficient number of teachers must be well trained to perform Cardio-Pulmonary Resuscitation (CPR).

5.2.3 NATIONAL BUILDING CODE 2005

Most of the school buildings were not found as per the norms of NBC 2005. Even though the Principals were aware of the subject requirement and have initiated correspondence for improvement of the buildings, however futile, due to the poor response of State / District authorities. Lack of funds and the “Low Priority Area” on the part of State/district administration in spite of **Hon’ble Supreme Court orders** was clearly evident. It should be made mandatory on the part of PWD of the State/ District administration to decertify the schools if not found meeting the norms of

NBC 2005. PWD should be made fully accountable for regular maintenance of Government/ government aided (wherever applicable) and certification to this effect for all the schools that is government, government aided and private schools. Dampness of the walls, damaged ceiling, and cracks of the walls must be immediately reported to the district authorities in case of Government and Government Aided schools and to the management in case of private schools. Students and the parents can play an important role to ensure the same in liaison with media and district authorities. Social media also can be an effective tool if used with restraint.

5.2.4 FIRE SAFETY

Placement of portable fire extinguishers at locations prone to fire accidents, periodically validated fire safety certificate by the concerned authority, should not only be a must, but each and every member of the school should be well conversant with the types of fire and fire containment chemicals as well as how to use them. For conducting mock drills and live demonstration, those fire extinguishers can be used which are nearing their expiry date. The fire alarm should be well identifiable and audible throughout the school premises

5.2.5 SAFETY AUDITS

Electrical system, i.e. distribution boxes, loose wiring/connections, open joints, overloading, lightening conductor and earthing etc. have not only to be checked on a regular basis, and record maintained periodically. Confirmation with respect to undertaking regular electrical and fire safety audit was unavailable as most of the schools did not maintain any record. Life expired fire extinguisher demonstrated the level of involvement of the schools. Specific and strict guidelines from State and District administration are therefore inescapable.

5.2.6 MOSQUITO MENACE

It should be made mandatory on the part of each hospital whether private or government to report the particulars of the students indentified suffering from Dengue or any kind of Mosquito related diseases. This can be used as an effective tool to ensure whether a particular school has taken all adequate precautions like regular

spray, non accumulation of water in open area, covered water tanks and mosquito repellent in the water coolers/ACs.

5.2.7 SPORTS/GAMES/PLAY GROUND

In view of the physical well being of students and as a mandatory part of school infrastructure playgrounds should have a boundary wall/ fencing and should be maintained properly. Availability of trained physical training instructor, sports officer/games teacher during the games whether during the games period or during the non games period must be ensured. First Aid box/Emergency kit with sterile dressing and cleaning agent, antibiotic application, adhesive bandage, eye wash solution, pain relievers should be mandatory and easily accessible. The students also must be made aware of the location of the first aid kit for immediate accessibility. Tie up with local reputed hospital for catering to sports injury and supervision of games activities, particularly during non- playing-hours/free periods should be well ascertained by the games teacher/sports officer. A sufficient number of teachers must be well trained to perform Cardio-Pulmonary Resuscitation (CPR). A regular demonstration of CPR to students is also desirable.

5.2.8 JUNK FOOD

Adequate guidelines already exist on this aspect for strict implementation by the schools. Parents must play an important role to educate their wards and keep a check on school canteens.

5.2.9 SCHOOL BUS

Sufficient guideline as well as Hon’ble Supreme Court orders on the subject must be strictly ensured. Seat belt must be made mandatory.

5.2.10 SECURITY

An area, which cannot afford slightest amount of negligence on the part of school administration in the light of recent accidents/mis-happenings. Keeping in view the advancement in surveillance technology and easy/affordable availability, all the schools must have adequate CCTVs to cover the entire school. A continuous

monitoring of display of CCTV must be mandatory. Girls' toilets are to be properly guarded. Water storage tanks should be duly covered and secure and water bodies to be protected by grill coverings. The schools must be protected from stray dogs. Use of Rat/Snake repellents should be regularly ensured.

5.2.11 LABORATORY

Chemicals and instruments used in the laboratory should be kept beyond any easy access and should be made use of under strict supervision of the lab-in-charge. Availability and ready- for-use first aid box and exhaust facility for gases are a must in the laboratory. Overcrowding in the laboratory beyond its holding capacity (as per the norms) should be avoided and the school team should be trained to meet any emergency in the lab. Safety Standard with respect to Chemistry Lab and the labs containing chemicals must be ensured as per **IS 4209(1987)[25].**

5.2.12 TOILETS

Efficient drainage system, separate toilets for boys, girls and staff with running water facility along with mosquito, rat and snake repellents is a must. Toilets should be cleaned with disinfectants at least thrice a day and specially during recess when they are heavily used.

5.2.13 MONITORING ROLE

School psychologists, school counselors, and school social workers should provide a range of services that reinforce safe school environment. These include implementing prevention programs; helping staff recognize the signs of a struggling student; conducting risk and threat assessments; providing counselling; making referrals and coordinating with community service providers when needed.

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25 http://images10.newegg.com/UploadFilesForNewegg/itemintelligence/Pacon/is.4209.19871453376681588.pdf

5.2.14 GRANTS FROM MPLAD/MLALA

The investigator has never come across any MP or MLA coming forward/inspecting school infrastructure and allocating grants to improve the same. A definite amount out of MPLAD/MLALA must be mandatory for improvement of school infrastructure.

5.3 CONCLUSION

The destiny of India is now being shaped in her classrooms. In a world based on science and technology, it is education that determines the level of prosperity, welfare and security of the people. Thus creating safe and supportive environment in schools has to be accorded an agreeable precedence and priority at the national level since schools are a place where students perform vibrant activities. Safety includes a range of contexts appropriate to the age and development of the pupils. Effective school safety is not achieved with a single program or piece of security equipment. Rather it starts with prevention of accidents, mishaps, damage, error, harm or other event which is considered non-desirable. It also includes protection against physical, social, emotional, occupational, psychological, educational and other situations.

As such, schools are expected to own moral responsibility for safe housing during school hours of students. This issue requires close monitoring, research, policy making and sustainable solutions as well as resources, financial and human, to implement and sustain the practices that will truly make children and schools safe from the inside out.

It is distasteful and frustrating to note that assigning low priority to education in comparison with other heads in the national and state level budgets, and education being the first victim of pruning while observing austerity measures, naturally culminates into paucity of funds available to fulfill the norms laid down for safety and security. Further, apathy and insensitivity of local representatives of democracy towards affairs of the schools (inauguration, foundation laying and chief guest being exceptions) deprives these institutions of various resources which could be devoted for amelioration of such burning issues.

Complacency and lackadaisical attitude of school authorities, as well as parents and students, towards following the guidelines and complying with directives, issued from time to time, leaves the situation unchanged and perpetual. Thus child safety has not remained an inherent practice; it has diminished and cheapened to be an imposed policy.

We need an echo system in-place where each and every molecule of the school and those answerable to the society, directly and indirectly, are tuned into the needs of children, a place where child-centric-education is more meaningful than just a slogan.

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APPENDICES

APPENDIX A : INTERVIEW SCHEDULE: PRINCIPAL
(Refers to Para No.3.5)

(To check the awareness and involvement)
(Yes = 1 No = 2)

1. Who is your SSFPT?
2. How often do you conduct SDMC meeting.
   (a) Is there any record of Minutes of the meeting?
3. Who is the DDMA of this area?
   (a) Name and Mobile no/ Office number.
4. Who is the Master Trainer responsible for training on Disaster Management?
5. Have you undergone training conducted by DDMA or Block Education Officer?
6. How many teachers have been trained by the Master Trainer?
   (a) Is there any record available?
7. Is the School building as per the norms under National Building Code of India 2005? Y/N
8. Is emergency equipment/DM kit available?
9. How often electrical safety inspection is carried out.
   (a) Availability of record.
10. How often the structural inspection is carried out?
    (a) Record available.
11. Which fire station is responsible for this school?
12. How often fire fighting mock drill is conducted by the fire department.
    (a) Record available

13. Is there any laid down formal children evacuation plan available for both in case of fire and earthquake.

14. How often anti mosquitoes spray carried out.

    (a) Record available.

15. How often the snake repellent used.

16. How often do you review the School development plan?

    (a) Do the school children participate in preparing and implementing the SDPs?

17. Do you have NCC or Scouts and Guide?

18. NCC or Scouts and Guide children were trained by SSFPT or Master Trainer?

19. Did you receive any aid from MPLADs/MLALADs any time?

    (a) If yes, was it spent for safety related purpose or any other purpose.

APPENDIX B: INTERVIEW SCHEDULE: SCHOOL SAFETY FOCAL POINT TEACHER

(Refers to Para No.3.5)

(Yes = 1 No = 2)

1. How do you notify the emergency situation in your school?

2. How often your school reviews the school development plan. (Carried out -Y/Not carried out – N)

3. Who is the Head of the SSAC? (Knows- Y, Does not Know – N)

4. DO you attend meetings of SSAC?

5. Which month do you observe as preparedness month with respect to DM.

6. What is the configuration of your school safety committee/school management committee SMC? (Knows- Y, Does not Know – N)

   (a) Any record Y/N

7. On which day of the month does the SSC/SMC meet? (Meets-Y/Doesn't meet-N)

   (a) Record Y/N

8. Have you been trained by DDMA. Y/N

   (a) Who was the master trainer? (Details known-Y, Details not known-N)

9. Are you conversant with the safety manual or training manuals issued by NDMA?

10. Does the school building have the Lightening conductor? Y/N

11. When was the serviceability of lightning conductor checked? Checked-Y, Not Checked-N)
    (a) Any Record available? Y/N

12. How often do you carry out check of your electrical lines and fittings? (Check - Carried Out-Y, Check-not Carried Out-N)

13. Who carries out the check of electrical lines? (Knows- Y, Does not Know – N)

    (a) Any record available? Y/N

14. Do you carry out electrical earthling fitness check? Y/N

(a) Any record available? Y/N

15. Do you know about classification of fire? (Knows- Y, Does not Know – N)

16. How many fire extinguishers are available in your school? (Knows- Y, Does not Know – N)

17. How many types of Fire extinguishers are available in your school? (Knows- Y, Does not Know – N)

18. How many of them are serviceable or with life. (Knows- Y, Does not Know – N)

19. Do you have fire hydrant system in your school (multi story building) Y/N

20. How often do you carry out serviceability check of hydrant system? Y/N

21. Do you have any separate water tank for firefighting? Y/N

22. Which floor (Ground floor/First floor/ Second floor) is evacuated first in case of earthquake? (Knows Correct Option-Y/Doesn't Know Correct Option)

23. Knowledge level with respect to

(a) What is the seismic level of Delhi? (Knows- Y, Does not Know – N)
(b) On how many seismic fault lines Delhi is situated. (Knows- Y, Does not Know – N)
(c) How many of these are active fault lines. (Knows- Y, Does not Know – N)
(d) Can you name these? (Knows- Y, Does not Know – N)

24. Full form of these-
(a) HVCR- (Knows- Y, Does not Know – N)
(b) CPR- (Knows- Y, Does not Know – N)
(c) SFMC-(Knows- Y, Does not Know – N)
(d) EHS- (Knows- Y, Does not Know – N)

25. What does "ABC" mean in AIIMS manual? (Knows- Y, Does not Know – N)

26. How often do you conduct mock drills? (Conducted-Y, Not Conducted-N)

(a) Any record available? Y/N

27. What is the last model step of organization of fire and evacuation drill as per NIDM? (Knows- Y, Does not Know – N)

28. Do you have emergency bell/speaking system for any emergency particularly in the **LABS**? Y/N

29. Any other communication system from **lab/class room**, if something goes wrong? Y/N

30. Does your school have central announcement system? Y/N

(a) If yes, Place from where you announce-principal room/vice principal room/any other Place. (Knows- Y, Does not Know – N)

31. Do you have Children evacuation plan from school to a safe place outside. Y/N

    (a) Which is that place. (Knows- Y, Does not Know – N)

32. How many high rise building are there on the access road to the school. (Knows- Y, Does not Know – N)

33. Do you follow IS Standard for Chemistry Lab. Y/N

    (a) If Yes can you name the IS Standard. (Knows- Y, Does not Know – N)

34. Does school have the following medical facilities? Y/N

(This question has been shifted to observation schedule while carrying out data analysis)

(a) Sick room Y/N
(b) School clinic Y/N
(c) First aid tablets Y/N
(d) Medical equipments (Stethoscope, BP machine, Oxygen mask) Y/N
(e) In house doctor Y/N
(f) On call (part-time) doctor Y/N
(g) Full time nurse Y/N
(h) Male/female help (maids) Y/N
(i) School ambulance Y/N

APPENDIX C: QUESTIONNAIRE - STUDENTS

(Refers to Para No.3.5)

STUDENT, S NAME ---------- AGE ----------
CLASSS---------
Nk= dk uke ---------- vk;q ---------- d{kk ----------
SCHOOL'S NAME ----------
Ldwy dk uke ----------

1. Do you find your toilets clean during the recess?
   (a) Yes
   (b) No

01- D;k fjlsl ds le; vki vius Ldwy ds VkW;ysV LoPN ikrs gSa \

¼v½gka¼c½ ugha

2. Do you find that Phenyl is used every time whenever the toilet is cleaned?
   (a) Yes
   (b) No

02- tc Hkh VkW;ysV dh lQkbZ gksrh gS rks fQuk;y dk mi;ksx fd;k tkrk gS ;k ugha \

¼v½- gka¼c½ ugh

3. Do you play in other than the games periods also
   (a) Yes
   (b) No

03- D;k vki [ksy ds ihfj;M ds vykok Hkh vU; fdlh ihfj;M esa [ksyrs gSa \

¼v½- gka¼c½ ugha

4. Does the sports teacher always supervise you or standing nearby you whenever you play other than the games period (Yes-1, No-2, Some Times-3)
   (a) Yes
   (b) No
   (c) Sometimes

04- tc vki [ksy ds ihfj;M ds vykok vU; ihfj;M esa [ksyrs gSa rc D;k vkids dzhM+k f"k{kd ogka mifLFkr jgrs gSa \

¼v½gka¼c½ ugha ¼l½ dHkh&dHkh

5. Is the first aid box always available with sports teacher whenever you play? (Yes-1, No-2, Some Times-3)
   (a) Yes
   (b) No
   (c) Sometimes

05- tc vki [ksyrs gSa rks D;k vkids dzhM+k f”k{kd ds ikl izkFkfed fpfdRlk isVh miyC/k jgrh gS \

¼v½gka¼c½ ugha ¼l½ dHkh&dHkh

6. Do you often suffer from mosquito bite in the class? ? (Yes-1, No-2, Some Times-3)

(a) Yes
(b) No
(c) Sometimes

06- D;k vkidks d{kk esa vDlj ePNj dkVrs jgrs gSa \

¼v½gka¼c½ ugha ¼l½ dHkh&dHkh

7. Are all the ceiling fans serviceable in the class.
(a) Yes
(b) No

07- D;k d{kk esa yxs gq, lHkh lhfyax ia[ksa pkyw gkyr esa gSa ;k ugha \

¼v½gka¼c½ ugha

8. How often do you face electric supply failure for more than 20 minutes
(a) Every Day (1)
(b) Every Second Day (2)
(c) Once in a week (3)

08- Ldwy esa fdruh ckj 20 feuV ls vf/kd ds fy, fo|qr vkiwfrZ can gksrh gS \

¼v½izfrfnu ¼c½ izfr nwljs fnu ¼l½ lIrkg esa ,d ckj

9. How often the Mock Drills for emergency are conducted in the school
(a) Every Month (1)
(b) Once in Three Months(2)
(c) Once in Six Months(3)
(d) I don’t know(4)

09- vkikrdkyhu fLFkfr ds fy, Ldwy esa dc&dc bejtsalh ekWd fMªy vk;ksftr dh tkrh gS \

¼v½izfrekg ¼c½ izfr rhu ekg esa

¼l½ izfr N% ekg esa ¼n½ ugha ekywe

10 . Duck, cover and hold is used during (Knows – 1, Does not Know -2)(B1-36)
(a) Earthquake
(b) Fire
(c) Both of above
(d) None of the above

10- Md] doj vkSj jksy Ldwy esa dc mi;ksx fd;s tkrs gSa \

¼v½HkwdEi ds le; ¼c½ vkx yxus ij

¼l½ nksuksa fLFkfr;ksa esa ¼n½ buesa ls dksbZ Hkh ugha

11. How are you notified about emergency by school during the mock drill ?
(a) By Alarm Bell (1)
(b) By Loud Speaker(2)
(c) By hand Bell(3)
(d) Somebody shouts(4)
(e) All of the above(5)

11- vH;kl fMªy vk;ksftr gksus ds nkSjku vkidks vkikrdky dh lwpuk dSls nh tkrh gS \

¼v½ vykeZ ?kaVh ctkdj ¼c½ ykmMLihdj ls

¼l½ gkFk dh ?kaVh ctkdj ¼n½ fpYykdj ¼b½ mi;ZqDr lHkh

12. Where do you assemble during the mock drill
(a) In the Corridor (1)
(b) In the assembly Ground or play ground (2)
(c) In the school Hall (3)
(d) I don't Know (4)

12- vH;kl fMªy ds nkSjku vki lc dgka bdV~Bs gksrs gSa \

¼v½ cjkens esa ¼c½ vlsEcyh vFkok [ksy ds eSnku esa

¼l½ Ldwy ds gkWy esa ¼n½ eSa ugha tkurk

13. What does the teacher or teachers do when you assemble during the mock drill?
(a) Explains the purpose, method or debrief of mock drill (1)
(b) The class teacher takes attendance (2)
(c) The class teacher takes attendance as well as conducts debrief (3)
(d) Tell you to go back to the class without doing any thing (4)
(e) I don't know (5)

13- vH;kl fMªy ds nkSjku tc vki ,df=r gksrs gSa rc vkids f"k{kd D;k djrs gSa\

¼v½ vH;kl fMªy dk rjhdk vkSj mn~ns"; crykrs gSa

¼c½ d{kk f"k{kd vkidh mifLFkfr ntZ djrs gSa

¼l½ d{kk f"k{kd mifLFkfr ugha ysrs dsoy le>krs gSa

¼n½ dqN u djrs gq, vkidks d{kk esa okfil pys tkus gsrq dgrs gSa

¼b½ eSa ugha tkurk

14. Stop, drop and roll is used during (Knows – 1, Does not Know -2)(b1-36)
(a) During the Game or exercise
(b) During Fire

(c) During Earthquake
(d) None of the above

14- :dks] ysVks vkSj yq<+dks dc mi;ksx fd;k tkrk gS \

¼v½[ksy vFkok vH;kl ds nkSjku ¼c½ vkx yxus ij

¼l½ HkwdEi ds le; ¼n½ buesa ls dksbZ Hkh ugha

15. Have you seen Rats in your school?
(a) Yes
(b) No

15- D;k vkius Ldwy esa pwgs ns[ks gS \

¼v½ gka ¼c½ ugh

16. How often do you use gas stoves during Chemistry Practical?
(a) Very Often (1)
(b) Some times (2)
(c) As per the requirement (3)

16- vki vius dsesLVªh izsfDVdy esa xSl LVkso dk dc&dc mi;ksx djrs gSa \

¼v½vDlj ¼c½ dHkh&dHkh ¼l½ vko";drk iM+us ij

17. How many children attend Chemistry Practical at a time?
(a) Full Class (1)
(b) Half the Class (2)
(c) Ten of You (3)
(d) No idea (4)

17- ,d le; esa fdrus Nk= dsesLVªh izsfDVdy djrs gSa \

¼v½iwjh d{kk ¼c½ vk/kh d{kk ¼l½ 10 Nk=

¼n½irk ugha

18. Fire is classified into how many groups (Classification of fire) (Knows – 1, Does not Know -2)

(a) Two
(b) Three
(c) Four
(d) Five
(e) Don't know

18- vkx dk oxhZdj.k fdrus Jsf.k;ksa esa fd;k tkrk gS \

¼v½nks ¼c½ rhu ¼l½ pkj ¼n½ ikap ¼b½ irk ugh

19. Class C fire pertains to (Knows – 1, Does not Know -2)
(a) Wooden Table, wooden Chair , Plastic Chair, Wooden Almirah
(b) Computer Fax machines, Physics Electrical equipment and UPS etc.
(c) LPG fire in Chemistry Lab or Kitchen
(d) None of the above

19- C Js.kh dh vkx fdlls lacaf/kr gS &

¼v½ydM+h dh Vsfcy] ydM+h dh dqlhZ] lykfLVd dh dqlhZ] ydM+h dh vkyekjh

¼c½dEI;wVj] QSDl e"khu] HkkSfrd"kkL= ds fctyh midj.k] ;wih,l vkfn

¼l½ fdpu vFkok dSesLVªh ySc esa ,y-ih-th- dh vkx

¼n½buesa ls dksbZ Hkh ugha

20 Which one is the most Used fire Extinguisher in case of electrical fire? (Knows – 1, Does not Know -2)

(a) AFFF FOAM
(b) CARBON DIOXIDE (CO2)
(c) ABC POWDER.
(d) WET CHEMICAL
(e) Both (b) or (c)
(f) None of the above

20- fctyh ls lacaf/kr vkx yxus ij buesa ls fdl vfXu"keu iz.kkyh dk mi;ksx fd;k tkrk gS \

¼v½,,Q,Q,Q >kx ¼c½ dkcZu&MkbvkWDlkbM

¼l½ ,chlh ikmMj ¼n½ xhyk jlk;u ¼b½ v ,oa c

¼bZ½ buesa ls dksbZ ugha

APPENDIX D : QUESTIONNAIRE – PARENTS

(Refers to Para No.3.5)

Name of My Child ---------- Age ---------- Name of the School ----------

Nk= dk uke ---------- vk;q ---------- Ldwy dk uke ----------

Father'sName…….Mother'sName ……..

firk dk uke ---------- ekrk dk uke ----------

Govt Servant/Private Company/Private business …….

"kkldh; deZpkjh@izkbosV daiuh@Lo;a dk O;olk; ----------

Monthly Income--------ekfld vk; ----------

1. Are you aware of the safety measures available at your ward's school?
   (a) Yes
   (b) No

1- D;k vkidks vius iq=@iq=h ds fo|ky; esa miyC/k lqj{kk O;oLFkk dh tkudkjh gS \

¼v½gka ¼c½ ugha

2. How often your child has attended the safety programme conducted by Delhi Police or any other Govt Dept. *(Quarterly-1, Every Six Month-2, once in a Year-3, Never-4)*
   (a) Quarterly
   (b) Every Six Month
   (c) Once in a year
   (d) Never

2- vkids iq=@iq=h us fnYyh iqfyl vFkok fdlh vU; "kkldh; foHkkx }kjk vk;ksftr lqj{kk dk;Zdze esa dc&dc Hkkx fy;k gS \

¼v½izfr rhu ekg ¼c½ izfr N% ekg

¼l½ o'kZ esa ,d ckj ¼n½ dHkh ugha

3. Did your child ever got hurt or felt sick in the school?
   (a) Yes
   (b) No

3- D;k vkidk iq=@iq=h fo|ky; esa dHkh chekj gqvk gS vFkok mls pksV yxh gS \

¼v½gka¼c½ ugha

4. If yes, did he/she get first aid or were you informed to take away the child to home

Received first aid (1), Informed by the school to take away the child (2), none of the above (3)

(a) Received first aid
(b) Informed by the school to take away the child
(c) None of the above

4- ;fn gka] rks D;k mls izkFkfed fpfdRlk fey ikbZ vFkok vkidks lwfpr fd;k x;k fd mls ?kj ys tk;sa \

¼v½izkFkfed fpfdRlk feyh ¼c½ fo|ky; }kjk ?kj ys tkus gsrq dgk x;k

¼l½ nksuksa esa ls dksbZ ugha

5. The canteen of the school normally sells

(Fresh Roti/Parantha Subzi- 1, Rice with Curry or Rajma-2, Burger, Pizza, Pastry, Patties and coco cola and other cold drinks-3, Idli,Dosa ,Vada , Sambar-4, No canteen in the school-5)

(a) Fresh Roti/Parantha – Subzi
(b) Rice with Curry or Rajma
(c) Burger, Pizza, Pastry, Patties and coco cola and other cold drinks
(d) Idli,Dosa ,Vada , Sambar
(c) NA

5- fo|ky; dh dSaVhu lkekU;r% D;k&D;k csprh gS \

¼v½rkth jksVh@ijkBk&lCth
¼c½jktek vFkok djh ds lkFk pkaoy
¼l½ cxZj] fiTtk] isLVªh] iSVh] dksdkdksyk ,oa vU; “khry is;
¼n½bMyh] Mkslk] oM+k] lkaHkj

¼b½□□□□ □□□□

6. Does your child use school transport?

(a) Yes
(b) No

6- D;k vkidk iq=@iq=h fo|ky; ds ifjogu dk mi;ksx djrk gS \

¼v½gka ¼c½ ugha

7. If yes, are the seats of bus comfortable?

(a) Yes
(b) No
(c) NA

7- ;fn gka rks] D;k cl dh lhVsa vkjkenk;d gSa \

¼v½gka ¼c½ ugha ¼l½ □□□□ □□□□

8. Does the bus seats are fitted with seat belts?

(a) Yes
(b) No
(c) NA

8- D;k cl dh lhV esa lhV csYV yxs gq, gSa \
¼v½gka¼c½ ugha ¼l½ □□□□ □□□□

9. Does the school administration provide one attendant in every bus?
(a) Yes (b) No (c) NA

9- D;k fo|ky; iz"kklu izR;sd Ldwy cl esa ifjpkjd dh O;oLFkk j[krk gS \
¼v½gka¼c½ ugha ¼l½ □□□□ □□□□

10. How many access roads does the school have adjoining the gate/Gates of the school?
(One-1, two-2, more than two-3, do not know-4)
(a) One
(b) Two
(c) ---- (write the number)
(d) Do not know

10- fo|ky; ds eq[; }kj rd fdrus igqap ekxZ tkrs gSa \
¼v½,d ¼c½ nks ¼l½ la[;k fy[kks ¼n½ ugha ekywe

11. The width of each road is
(9mtr or more-1, 12 mtr or more-2, 30 mtr or more-3, 60 mtr or more-4, don't know-5)
(a) 9 mtr or more
(b) 12 mtr or more
(c) 30 mtr or more
(d) 60 mtr or more

11- fo|ky; rd tkus okys igqap ekxZ dh pkSM+kbZ fdruh gS \
¼v½yxHkx 9 ehVj ¼c½ 12 ehVj vFkok vf/kd
¼l½ 30 ehVj ¼n½ 60 ehVj vFkok vf/kd

12. What is meant by SSC? (Knows-1, Does not know-2)
(a) Senior Secondary Class
(b) School Security Council
(c) School Safety Committee
(d) School Support Committee

12- ,l,lh ls vki D;k le>rs gSa \
¼v½lhfu;j lsds.Mjh Dykl ¼c½ Ldwy flD;qfjVh Dykl
¼l½ Ldwy ls¶Vh desVh ¼n½ Ldwy liksVZ desVh

13. What do you understand by SSAC? *(Knows-1, Does not know-2)*
(a) School Safety Action Committee

(b) School Support Advisory Council
(c) School Safety Advisory Committee
(d) School Safety Academic Council

13- vki ,l,l,lh ls D;k le>rs gSa \

¼v½Ldwy ls¶Vh ,D”ku desVh ¼c½ Ldwy liksVZ ,Mok;tjh dkSafly
¼l½ Ldwy ls¶Vh ,Mok;tjh desVh ¼n½ Ldwy ls¶Vh ,dsMsfed dkSafly

14. Did you any time receive any published material by NDMA or DDMA?
(a) Yes (b) No

14- D;k vkidks ,uMh,e, vFkok MhMh,e, }kjk izdkf”kr dHkh dksbZ lkexzh feyh gS \

¼v½gka ¼c½ ugha

15. Has the aspect of SSC been discussed any time by the school during the PTA Meeting?
(a) Yes (b) No

15- D;k fo|ky; }kjk dHkh ihVh, ehfVax esa SSCls lacaf/kr dksbZ ppkZ dh xbZ gS \

¼v½gka] ¼c½ ugha

16. What do you understand by ABC in the school? *(Knows-1, Does not know-2)*
(a) Abstract Based Class
(b) Assistance Based Children
(c) Anti Bullying Committee
(d) Adaptive Behavior Center

16 fo|ky; esa vki ABC ls D;k le>rs gSa \

¼v½ ,ClVsªDV csLM Dykl ¼c½ vflLVsal csLM fpYMªu
¼l½ ,UVh cqfyf;ax desVh ¼n½ ,MsfIVo fcgsfo;j lsUVj

17. Did you ever made any suggestion to school authority with respect to infrastructural related issues or facilities available with respect to your child’s security/safety in the school
(Yes-1, No-2, Tried but did not get any response from the school-3)
(a) Yes
(b) No
(c) Tried but did not get any response from the school

17- D;k vkius dHkh fo|ky; dh volajpuk ls lacaf/kr vius iq=@iq=h dh lqj{kk@lqfo/kk ds ckjs esa fo|ky; iz”kklu dks dksbZ lq>ko fn;s gSa \

¼v½gka ¼c½ ugha
¼l½ iz;kl rks fd;k fdUrq fo|ky; ls leqfpr izR;qRrj izkIr ugha gqvk

18. Are you satisfied with the safety measures of school?

(Very Much Satisfied-1, Satisfied To Some Extent-2, Not Satisfied-3)

(a) Very much satisfied

(b) Satisfied to same extent

(c) Not satisfied

18- D;k vki fo|ky; dh lqj{kk&O;oLFkk ls larq’V gSa \

¼v½ cgqr vf/kd ¼c½ dqN lhek rd

¼l½ larq’V ugha

APPENDIX E: QUESTIONNAIRE - OBSERVATION

(Refers to Para No.3.5)

Name of the School- ---------- Name of Board ----------

Govt/ Govt Aided/ Private

---

1. Physical Safety - Which of the following are under vigilance/monitoring through CCTV (YES-1, NO-2)

(a) Boundary wall
(b) Main Gate
(c) Other Gates
(d) Classroom
(e) Corridors
(f) Staircase
(g) Washroom
(h) Play area
(i) Library
(j) Laboratory
(k) Other isolated areas

2. Structural aspects (YES-1, NO-2)

(a) Whether ceiling tiles or plaster hanging from the wall/roof?
(b) Is there any dampness in wall?
(c) Are there any cracks in the school structures?
(d) Cross ventilation in classrooms and library
(e) Iron grills covering the wells (Yes-1, No-2, No Well in School- 3)
(f) Proper Fencing/ gates with lock separating secluded places/lonely area
(g) Staircase with railing
(h) Are the corridors and staircases clear of obstruction? (Y/N)

3. About school facilities? Indicate-
(Good-1, Average-2, Poor-3)

(a) Playground (pots/Material / equipment Sharp edges)
(b) Canteen condition (rates /storage eating material/furniture)
(Good-1, Average-2, Poor-3, No Canteen-4)
(c) Quality of food in the canteen (oily/junk food/soft drinks- coke)
(d) Classroom furniture
(e) Classroom lighting
(f) Blackboard
(g) Laboratory condition (neatly arranged or not)

(h) Laboratory equipment (vintage (p)/relatively old (a) /new (g))
(i) Laboratory ventilation (Cross (g) otherwise (p))
(j) Signage Boards to indicate Emergency Exit (quality/prominence)

4. Observation with respect to fire safety

(a) No of Fire extinguishers- (Sufficient-1, Not Sufficient-2)
(b) How many life expired – (Not A Single One-1, Some-2, All-3)
(c) Whether Chemistry Lab has ABC type fire extinguisher. (Yes-1, No-2)
(d) Whether cooking area/kitchen/ Home science Lab has F type fire extinguisher. (Yes-1, No-2)

5. Lab Safety (Y/N) (Yes-1, No-2)

(a) Is there proper ventilation and exhaust facility in the laboratory?
(b) Do the acid bottles have different color caps?
(c) Whether the bottles are properly labeled
(d) Whether the list of Incompatible Materials prominently displayed
(e) Whether incompatible materials are stored separately (IS 4209 : 2013)

6. Does the school demonstrate the following during the visit? (YES-1, NO-2)

(a) Clean school premises
(b) Clean classrooms
(c) Clean play area
(d) Clean toilets
(e) Clean Kitchen
(f) Hand wash
(g) Sanitizer
(h) Toilet papers
(i) Sanitary napkins
(j) Hand towels
(k) Water purifiers or clean drinking water
(l) Sufficient number of dust bins
(m) Dirty, cracked, scribbled school furniture
(n) Fulltime housekeeping staff
(o) Central Alarm system/PA system
(p) Floor evacuation plan

7. Whether Girls Toilets are having dust bins for disposing waste material. (Y/N) (Yes-1, No-2)

8. Is there running water facility in all the toilets? (Y/N) (Yes-1, No-2)

9. Does any woman attendant stand outside the ladies toilet? (Yes-1, No-2)

10. Is there any team or committee to monitor traffic movement at the time of assembly and dispersal? (Yes-1, No-2)

11. Any high voltage wires / cables/towers in the school premises? (Yes-1, No-2)

12. Is the ID of visitor checked based on valid ID proof such as :- (Yes-1, No-2)

    (a) Aadhar card
    (b) PAN card
    (c) Any other official ID

13. Does school have the following medical facilities? Y/N

    (a) Sick room Y/N
    (b) School clinic Y/N
    (c) First aid tablets Y/N
    (d) Medical equipments (Stethoscope, BP machine, Oxygen mask) Y/N
    (e) In house doctor Y/N
    (f) On call (part-time) doctor Y/N
    (g) Full time nurse Y/N
    (h) Male/female help (maids) Y/N
    (i) School ambulance Y/N

APPENDIX F: LIST OF MASTER TRAINERS- DELHI AREA

(Refers to Para No.4.36,5.1.1)

SOURCE: https://ndma.gov.in/images/pdf/school_safety/particpnats.pdf

Sh. Charan Singh Yadav	Nodal Officer	DDE, SW-B	9868489393
Sh. U.K. Tanti	PGT	Dept. of Education,DDE, SW-B	9868374217
Sh. Ram Chander,	District Project Officer	District Disaster Management Authority	9971975737
Sh. Sanjay Kumar Jha	Project Coordinator	District Disaster Management Authority	9312156998
Ms. Sumedha Goel	District Project Officer	District Disaster Management Authority	9873931566
Sh. Shakti Kumar	Project Coordinator	District Disaster Management Authority	9990772094
Sh. Surinder Kumar	TGT	Dept. of Education	9250172258
Sh. Novil	TGT	Dept. of Education	9990991388
Sh. Rakesh Kumar Tawar	TGT-Maths	Dept. of Education	9868007580

APPENDIX G: LIST OF MASTER TRAINERS: DELHI AREA

(Refers to Para No. 5.12)

The Hon'ble Supreme Court of India, Justice Dalveer Singh in response in response to Writ Petition (Civil) No.483 of 2004, Avinash Mehrotra vs Union of India has laid down the following minimum specifications for school buildings:

SCHOOL BUILDING SPECIFICATIONS

1. The school building shall preferably be "A" construction with /stone masonry wall with RCC roofing. Where it is not possible to provide RCCC roofing only non – combustible fire proof heat resistance material should be used.

2. The nursery and elementary schools should be housed in single storied buildings and the maximum number of floors in school buildings shall be restricted to three including the ground floor

3. The school building shall be free from inflammable and toxic materials, which if necessary should be stored away from the school building

4. The stair cases which act as exits or escape routes, shall adhere to provision specified in the national building code of India 2005 to ensure quick evacuation of children

5. The orientation of the buildings shall be in such a way that proper air circulation and lighting is available with open space all-round the building as far as possible

6. Existing school buildings shall be provided with additional doors in the main entrance s a well as the class room if required

7. The size of the main exit and class room doors shall be enlarged if found inadequate

8. School buildings have to be insured against fir and natural calamities with group insurance of the school pupils

9. Kitchen and other activities involving use of fire shall be carried out in a secure and safe location away from the main school building

10. All school shall have water storage tanks

SALIENT FEATURES OF NATIONAL BUILDING CODE 2005 (NBC 2005)

1. Inclusion of a complete philosophy and direction for successfully accomplishing the building projects through Integrated Multidisciplinary Approach right through conceptual stage to planning, designing, construction, operation and maintenance stagesA series of reforms in building permit process

2. Provisions to ensure and certification of safety of buildings against natural disaster by engineer and structural engineer
.

3. Provision for two stage permit for high rise and special buildings

4. Provision for periodic renewal certificate of occupied buildings from structural, fire and electrical safety point of view

5. Provision for empowering engineers and architects for sanctioning plans of residential buildings up to 500 m2

6. Inclusion of detailed town planning norms for various amenities such as educational facilities, medical facilities, distribution services, police, civil defence and home guards and fire services

7. Revision of parking requirements for metro and mega cities

8. Up-dation of special requirements for low income housing for urban areas

9. Inclusion of special requirements for low income housing rural habitat planning

10 Revision of the provisions for buildings and facilities for physically challenged

11 Fire safety norms completely revamped through detailed provisions on Fire Prevention, Life Safety and Fire Protection

12 Inclusion of new categories of starred hotels, heritage structures and archeological monuments for fire safety provisions

13 Substitution of halon based fire/extinguishers fire fighting system

14 Promotion to new/innovative building materials/technologies

15 Inclusion of latest provisions for earthquake resistant design and construction

16 Inclusion of details on mult-disaster prone districts

17 Inclusion of new chapter on design and construction using bamboo

18 Chapter on prefabricated and composite construction for speedier construction

19 Updation of provision of safety in construction

20 Complete revision of provision on building and plumbing services in line with applicable international practices

21 Provisions on rain water harvesting

22. Inclusion of new chapter to cover landscaping needs

APPENDIX H: SUMMARIZED STATISTICAL ANALYSIS
(Refers to Para No.4.1)

PRINCIPAL QUESTIONNAIRE STATISITICAL ANALYSIS(ANOVA)

Sl.No.	Calculate Value	Critical Value	P Value	Result
1	6.28	3.98	.015	Significant difference between the group averages
2	2.07	3.98	.17	No significant difference between the groups averages
2(a)	5	3.98	.02	Significant difference between the group averages
3	1.48	3.98	.26	No significant difference between the groups averages
3(a)	3.14	3.98	.08	No significant difference between the groups averages
4	1.48	3.98	.26	No significant difference between the groups averages
5	1.57	3.98	.25	No significant difference between the groups averages
6	1.57	3.98	.25	No significant difference between the groups averages
6(a)	0.62	3.98	.55	No significant difference between the groups averages
7	0.72	3.98	.50	No significant difference between the groups averages
8	0.45	3.98	.64	No significant difference between the groups averages
9	0.78	3.98	.47	No significant difference between the groups averages
10	65535	3.98	NUM	No significant difference between the groups averages
11	1.57	3.98	.25	No significant difference between the

				groups averages
12	0.58	3.98	.57	No significant difference between the groups averages
12(a)	2.98	3.98	.09	No significant difference between the groups averages
13	0.23	3.98	.79	No significant difference between the groups averages
14	1.30	3.98	.30	No significant difference between the groups averages
14(a)	13.35	3.98	.00	Significant difference between the group averages
15	65535	3.98	NUM	No significant difference between the groups averages
16	3.92	3.98	.05	No significant difference between the groups averages
16(a)	1.90	3.98	.19	No significant difference between the groups averages
17	0.00	3.98	1.0	No significant difference between the groups averages
18	0.30	3.98	.74	No significant difference between the groups averages
19	65535	3.98	NUM	No significant difference between the groups averages
19(a)	65535	3.98	NUM	No significant difference between the groups averages

SCHOOL SAFETY FOCAL POINT TEACHER QUESTIONNAIRE STATISITICAL ANALYSIS

Sl.No.	Calculate Value	Critical Value	P Value	Result
1	1.90	3.98	0.19	No significant difference between the groups averages
2	1.30	3.98	0.30	No significant difference between the groups averages
3	1.48	3.98	0.26	No significant difference between the groups averages
4	3.14	3.98	0.80	No significant difference between the groups averages
5	6.28	3.98	0.01	Significant difference between the group averages
6	0.45	3.98	0.64	No significant difference between the groups averages
6(a)	1.23	3.98	0.32	No significant difference between the groups averages
7	0.39	3.98	0.68	No significant difference between the groups averages
7(a)	1.48	3.98	0.26	No significant difference between the groups averages
8	1.57	3.98	0.25	No significant difference between the groups averages
8(a)	0.62	3.98	0.55	No significant difference between the groups averages
9	0.72	3.98	0.50	No significant difference between the groups averages
10	2.98	3.98	0.09	No significant difference between the groups averages
11	1.48	3.98	0.26	No significant difference between the groups

				averages
12	3.14	3.98	0.08	No significant difference between the groups averages
13	1.30	3.98	1.30	No significant difference between the groups averages
13(a)	5	3.98	5.0	Significant difference between the group averages
14	1.90	3.98	1.90	No significant difference between the groups averages
14(a)	5	3.98	.02	No significant difference between the groups averages
15	.73	3.98	.49	No significant difference between the groups averages
16	1.30	3.98	.30	No significant difference between the groups averages
17	1.57	3.98	.25	No significant difference between the groups averages
18	0.23	3.98	.23	No significant difference between the groups averages
19	4.42	3.98	.03	Significant difference between the group averages
20	2.07	3.98	.17	no significant difference between the groups averages
21	4.42	3.98	.03	Significant difference between the group averages
22	.05	3.98	.94	No significant difference between the groups averages
23(a)	6.4	3.98	.01	Significant difference between the group averages
23(b)	65535	3.98	Num	No significant difference between the groups averages
23(c)	65535	3.98	Num	No significant difference between the groups averages

23(d)	65535	3.98	Num	No significant difference between the groups averages
24(a)	65535	3.98	Num	No significant difference between the groups averages
24(b)	65535	3.98	Num	No significant difference between the groups averages
24(c)	65535	3.98	Num	No significant difference between the groups averages
24(d)	65535	3.98	Num	No significant difference between the groups averages
25	3.14	3.98	.08	No significant difference between the groups averages
26	65535	3.98	Num	No significant difference between the groups averages
26(a)	1.15	3.98	.35	No significant difference between the groups averages
27	5.0	3.98	.02	No significant difference between the groups averages
28	2.75	3.98	.10	No significant difference between the groups averages
29	6.28	3.98	.05	Significant difference between the group averages
30	.58	3.98	.57	No significant difference between the groups averages
30(a)	.58	3.98	.57	No significant difference between the groups averages
31	.58	3.98	.57	No significant difference between the groups averages
31(a)	.72	3.98	.50	No significant difference between the groups averages
32	65535	3.98	Num	No significant difference between the groups averages
33	6.28	3.98	0.01	Significant difference between the group

				averages
34	.78	3.98	0.47	No significant difference between the groups averages
34(a)	1.30	3.98	0.30	No significant difference between the groups averages
34(b)	6.40	3.98	0.01	Significant difference between the group averages
34(c)	3.92	3.98	0.05	No significant difference between the groups averages
34(d)	11.78	3.98	0.00	Significant difference between the group averages
34(e)	5.0	3.98	0.02	No significant difference between the groups averages
34(f)	0.39	3.98	0.68	No significant difference between the groups averages
34(g)	6.40	3.98	0.01	Significant difference between the group averages
34(h)	20.16	3.98	0.00	Significant difference between the group averages
34(i)	0.45	3.98	0.64	No significant difference between the groups averages

PARENTS QUESTIONNAIRE STATISITICAL ANALYSIS(Chi Sq)

SL.No.	CALCULATE VALUE	CRITICAL VALUE	Degree of Freedom	RESULT
1	2.83	5.99	(.05,2)	INDEPENDENT
2	7.12	12.59	(.05,6)	INDEPENDENT
3	1.19	5.99	(.05,2)	INDEPENDENT
4	8.81	9.48	(.05,4)	INDEPENDENT
5	81.02	15.50	(.05,8)	DEPENDENT
6	31.89	5.99	(.05,2)	DEPENDENT
7	43.83	9.48	(.05,4)	DEPENDENT
8	40.84	9.48	(.05,4)	DEPENDENT
9	40.84	9.48	(.05,4)	DEPENDENT
10	12.31	9.48	(.05,4)	DEPENDENT
11	23.57	12.59	(.05,6)	DEPENDENT
12	5.64	12.59	(.05,6)	INDEPENDENT
13	23.95	12.59	(.05,6)	DEPENDENT
14	26.07	5.99	(.05,2)	DEPENDENT
15	2.01	5.99	(.05,2)	INDEPENDENT
16	15.83	12.59	(.05,6)	DEPENDENT
17	8.87	9.48	(.05,4)	INDEPENDENT
18	12.57	9.48	(.05,4)	DEPENDENT

STUDENTS STATISITICAL QUESTIONNAIRE ANALYSIS

Sl.No.	CALCULATE VALUE	CRITICAL VALUE	Degree of Freedom	RESULT
1	21.18	5.99	(.05,2)	INDEPENDENT
2	6.74	5.99	(.05,2)	INDEPENDENT
3	0.34	5.99	(.05,2)	INDEPENDENT
4	15.97	9.48	(.05,4)	INDEPENDENT
5	9.96	9.48	(.05,4)	INDEPENDENT
6	21.07	9.48	(.05,4)	INDEPENDENT
7	03.23	5.99	(.05,2)	INDEPENDENT
8	9.67	9.48	(.05,4)	INDEPENDENT
9	65.80	12.59	(.05,6)	INDEPENDENT
10	38.28	12.59	(.05,6)	INDEPENDENT
11	39.90	15.50	(.05,8)	INDEPENDENT
12	14.49	12.59	(.05,6)	INDEPENDENT
13	34.01	15.50	(.05,8)	INDEPENDENT
14	47.41	12.59	(.05,6)	INDEPENDENT
15	35.31	5.99	(.05,2)	INDEPENDENT
16	11.93	9.48	(.05,4)	INDEPENDENT
17	73.93	12.59	(.05,6)	INDEPENDENT
18	43.80	15.50	(.05,8)	INDEPENDENT
19	13.08	15.50	(.05,8)	INDEPENDENT
20	42.54	18.30	(.05,10)	INDEPENDENT

OBSERVATION SCHEDULE STATISITICAL ANALYSIS

Sl.No.	F-CALCULATE VALUE	F-CRITICAL VALUE	P VALUE	RESULT
1(a)	4.90	3.98	0.02	Significant difference between the group averages
1(b)	0.78	3.98	0.47	No significant difference between the groups averages
1(c)	18.07	3.98	0.00	Significant difference between the group averages
1(d)	2.58	3.98	0.12	No significant difference between the groups averages
1(e)	0.78	3.98	0.47	No significant difference between the groups averages
1(f)	6.40	3.98	0.01	Significant difference between the group averages
1(g)	2.98	3.98	0.09	No significant difference between the groups averages
1(h)	1.98	3.98	0.19	No significant difference between the groups averages
1(i)	1.79	3.98	0.21	No significant difference between the groups averages
1(j)	2.75	3.98	0.10	No significant difference between the groups averages
1(k)	7.07	3.98	0.01	Significant difference between the group averages
2(a)	4.6	3.98	0.03	Significant difference between the group averages
2(b)	2.98	3.98	0.09	No significant difference between the groups averages
2(c)	6.40	3.98	0.01	Significant difference

				between the group averages
2(d)	1.30	3.98	0.3	No significant difference between the groups averages
2(e)	1.81	3.98	0.2	No significant difference between the groups averages
2(f)	65535	3.98	-----	No significant difference between the groups averages
2(g)	4.16	3.98	0.04	Significant difference between the group averages
2(h)	0.62	3.98	0.55	No significant difference between the groups averages
2(i)	0.78	3.98	0.47	No significant difference between the groups averages
2(j)	1.48	3.98	0.26	No significant difference between the groups averages
3(a)	2.30	3.98	0.14	No significant difference between the groups averages
3(b)	2.11	3.98	0.16	No significant difference between the groups averages
3(c)	3.05	3.98	0.08	No significant difference between the groups averages
3(d)	3.57	3.98	0.06	no significant difference between the groups averages
3(e)	0.87	3.98	0.44	no significant difference between the groups averages
3(f)	6.70	3.98	0.01	Significant difference between the group averages
3(g)	1.15	3.98	0.35	No significant difference between the groups averages
3(h)	0.35	3.98	0.70	No significant difference between the groups averages
3(i)	0.67	3.98	0.52	No significant difference between the groups averages

3(j)	1.98	3.98	0.18	No significant difference between the groups averages
4(a)	4.60	3.98	0.03	Significant difference between the group averages
4(b)	0.23	3.98	0.79	No significant difference between the groups averages
4(c)	0.78	3.98	0.49	No significant difference between the groups averages
4(d)	3.14	3.98	0.08	No significant difference between the groups averages
5(a)	1.30	3.98	0.03	No significant difference between the groups averages
5(b)	1.48	3.98	0.26	No significant difference between the groups averages
5(c)	2.75	3.98	0.01	No significant difference between the groups averages
5(d)	4.60	3.98	0.03	Significant difference between the group averages
5(e)	15.71	3.98	0.00	Significant difference between the group averages
6(a)	1.30	3.98	0.30	No significant difference between the groups averages
6(b)	65535	3.98	NUM	No significant difference between the groups averages
6(c)	1.30	3.98	0.30	No significant difference between the groups averages
6(d)	6.40	3.98	0.01	Significant difference between the group averages
6(e)	3.53	3.98	0.06	No significant difference between the groups averages
6(f)	0.30	3.98	0.74	No significant difference between the groups averages
6(g)	0.62	3.98	0.55	No significant difference

				between the groups averages
6(h)	65535	3.98	NUM	No significant difference between the groups averages
6(i)	1.15	3.98	0.35	No significant difference between the groups averages
6(j)	1.57	3.98	0.25	No significant difference between the groups averages
6(k)	4.97	3.98	0.02	Significant difference between the group averages
6(l)	4.97	3.98	0.02	Significant difference between the group averages
6(m)	4.60	3.98	0.03	Significant difference between the group averages
6(n)	11.78	3.98	0.00	Significant difference between the group averages
6(o)	0.15	3.98	0.85	No significant difference between the groups averages
6(p)	2.75	3.98	0.10	No significant difference between the groups averages
7	1.30	3.98	0.30	No significant difference between the groups averages
8	65535	3.98	NUM	No significant difference between the groups averages
9	2.75	3.98	0.10	No significant difference between the groups averages
10	2.75	3.98	0.10	No significant difference between the groups averages
11	65535	3.98	NUM	No significant difference between the groups averages
12	2.98	3.98	0.09	No significant difference between the groups averages
13(a)	1.30	3.98	0.30	No significant difference between the groups averages

13(b)	6.40	3.98	0.01	Significant difference between the group averages
13(c)	3.92	3.98	0.05	No significant difference between the groups averages
13(d)	11.78	3.98	0.00	Significant difference between the group averages
13(e)	0.72	3.98	0.50	No significant difference between the groups averages
13(f)	0.72	3.98	0.50	No significant difference between the groups averages
13(g)	6.40	3.98	0.01	Significant difference between the group averages
13(h)	20.16	3.98	0.00	Significant difference between the group averages
13(i)	0.45	3.98	0.64	No significant difference between the groups averages

SL.NO.	E OF THE PRINC	Q.1	Q.2	2(a)	Q.3	3(a)
	ERNMENT SCHO					
1	ANUPAMA TANEJA 981	2	2	2	2	2
2	ANJU SADANA 9811125	2	1	2	2	2
3	OM PRAKASH 97173415	2	2	2	2	2
4	ALKA GUPTA 99993742	2	2	2	2	2
	Yes	0	1	0	0	0
	No	4	3	4	4	4
	Total	4	4	4	4	4
	In % Form					
	Yes	0	25	0	0	0
	No	100	75	100	100	100
	Total	100	100	100	100	100
	MENT AIDED SC					
5	ALKA SIBAL 9810126880	2	2	1	2	2
6	JYOTI SINGH 813080981	2	1	2	2	2
7	KIRAN TALWAR 999940	2	1	1	1	2
8		2	1	2	2	2
	Yes	0	3	2	1	0
	No	4	1	2	3	4
	Total	4	4	4	4	4
	In % Form					
	Yes	0	75	50	25	0
	No	100	25	50	75	100
	Total	100	100	100	100	100
	PRIVATE SCHOOLS					
9	SUMAN GUPTA 981161	2	1	1	1	1
10	CHAIRMAN-MR. S L JAI	2	2	2	2	2
11	PRINCIPAL-POONAM	1	1	1	2	2

12	L-SUDHA ACHARYA-98	1	1	1	1	1
13	PRINCIPAL-ANJU PUR	1	1	1	1	1
14		1	1	1	2	2
	Yes	4	5	5	3	3
	No	2	1	1	3	3
	TOTAL	**6**	**6**	**6**	**6**	**6**

* PRINCIPAL- MR. VIVEK-9899192828

In % Form

YES	67	83	83	50	50
NO	33	17	17	50	50
TOTAL	**100**	**100**	**100**	**100**	**100**

Q 1

Govt Schools	Govt Aided
2	**2**
2	**2**
2	**2**
2	**2**

Significant difference betwee

Q 2 (a)

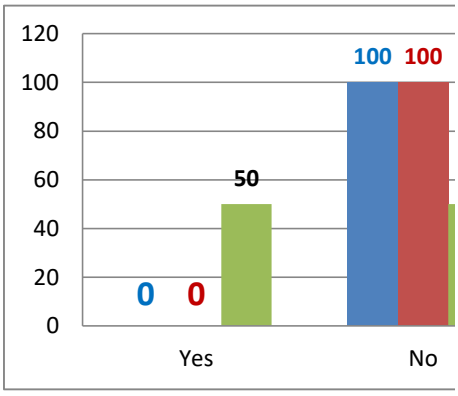
Govt Schools	Govt Aided
2	1
2	2
2	1
2	2

Significant difference betwee

Q 3(a)

Govt Schools	Govt Aided	Private Schoc
2	2	1
2	2	2
2	2	2
2	2	1
		1
		2

No significant difference between group averages



Q 5

Govt Schools	Govt Aided	Private Schoo
2	2	2
2	2	2
2	2	2
2	2	1
		2
		1

No significant difference between group averages

Q 6(a)

Govt Schools	Govt Aided	Private Schoo
2	2	2
2	2	2
2	2	2
2	2	2
		1
		2

No significant difference between group averages

Q 8(a)

Govt Schools	Govt Aided	Private Schoo
2	2	1
2	2	2
2	1	2
2	2	1
		1
		2

No significant difference between group averages

Q 9(a)

Govt Schools	Govt Aided	Private Schoc
2	2	1
2	1	1
2	1	1
1	2	1
		1
		1

Significant difference between group avera

Q 10(a)

Govt Schools	Govt Aided	Private Schoo
2	1	1
1	1	1
2	1	1
1	1	1
		1
		1

No significant difference between group averages

Q 12

Govt Schools	Govt Aided	Private Schoo
1	2	2
1	1	1
1	1	1
2	2	1
		1
		1

No significant difference between group averages

Q 13

Govt Schools	Govt Aided	Private Schoo
1	2	2
1	1	1
2	1	1
2	1	1
		2
		1

No significant difference between group averages

Q 14(a)

Govt Schools	Govt Aided	Private Schoo
2	2	1
2	2	1
2	1	1
2	1	1
		1
		1

Significant difference between group avera

Q 16

Govt Schools	Govt Aided	Private Schoo
1	2	1
1	1	1
1	1	1
1	2	1
		1
		1

No significant difference between group averages

Q 17

Govt Schools	Govt Aided	Private Schoo
1	1	2
2	1	2
1	2	1
2	2	2
		1
		1

No significant difference between group averages

Q 19

Govt Schools	Govt Aided	Private Schoo
2	2	2
2	2	2
2	2	2

2	**2**	**2**
		2
		2

No significant difference between group averages

INTERVIEW SCH

Q.4	Q.5	Q.6	Q.6(a)	Q.7		Q.8	
1	2	2	2	2		2	
2	2	2	2	2		2	
2	2	2	2	2		2	
2	2	2	2	2		2	
1	0	0	0	0		0	
3	4	4	4	4		4	
4	4	4	4	4		4	
25	0	0	0	0		0	
75	100	100	100	100		100	
100	100	100	100	100		100	

2	2	2	2	1		2	
2	2	2	2	2		2	
2	2	2	2	2		1	
2	2	2	2	2		2	
0	0	0	0	1		1	
4	4	4	4	3		3	
4	4	4	4	4		4	
0	0	0	0	25		25	
100	100	100	100	75		75	
100	100	100	100	100		100	

2	2	2	2	2		2	
1	2	2	2	2		2	
2	2	2	2	2		2	

1	**1**	**1**	**2**	**2**		**1**	
2	**2**	**1**	**1**	**1**		**2**	
1	**1**	**2**	**2**	**1**		**2**	
3	2	2	1	2		1	
3	4	4	5	4		5	
6	**6**	**6**	**6**	**6**		**6**	
50	33	33	17	33		17	
50	67	67	83	67		83	
100	**100**	**100**	**100**	**100**		**100**	

Private Schools

2
2
1
1
1
1

Anova: Single Factor

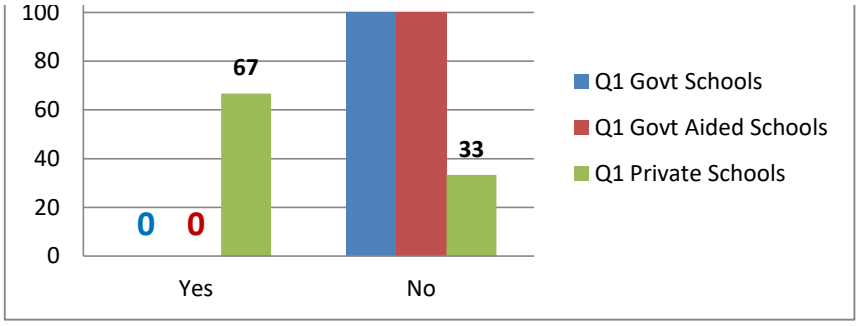
SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Govt Schools	4	8	2	0
Govt Aided	4	8	2	0
Private Schoo	6	8	1.3333333	0.2666667

ANOVA

Source of Variati	*SS*	*df*	*MS*	*F*	*P-value*
Between Grc	1.5238095	2	0.7619048	6.2857143	0.0151195
Within Grou	1.3333333	11	0.1212121		
Total	2.8571429	13			

n group averages



Private Schools

1
2
1
1
1
1

Anova: Single Factor

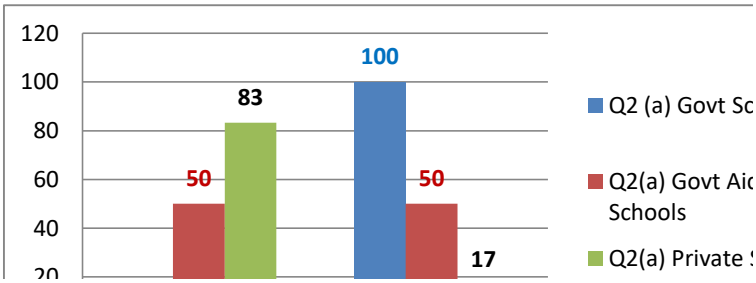
SUMMARY

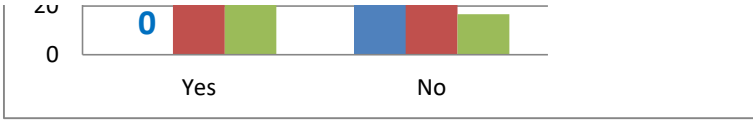
Groups	*Count*	*Sum*	*Average*	*Variance*
Govt Schools	4	8	2	0
Govt Aided	4	6	1.5	0.3333333
Private Schoo	6	7	1.1666667	0.1666667

ANOVA

Source of Variati	*SS*	*df*	*MS*	*F*	*P-value*
Between Grc	1.6666667	2	0.8333333	5	0.02854
Within Grou	1.8333333	11	0.1666667		
Total	3.5	13			

n group averages





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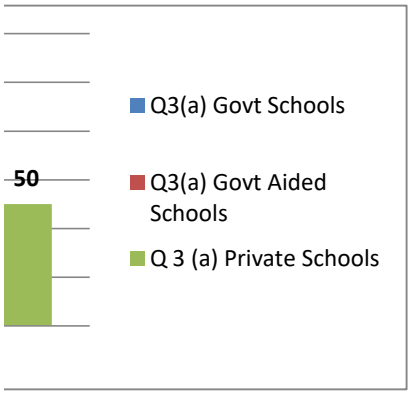
Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Govt Schools	4	8	2	0
Govt Aided	4	8	2	0
Private Scho	6	9	1.5	0.3

ANOVA

Source of Variat	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Grc	0.8571429	2	0.4285714	3.1428571	0.0832491	3.982298
Within Grou	1.5	11	0.1363636			
Total	2.3571429	13				



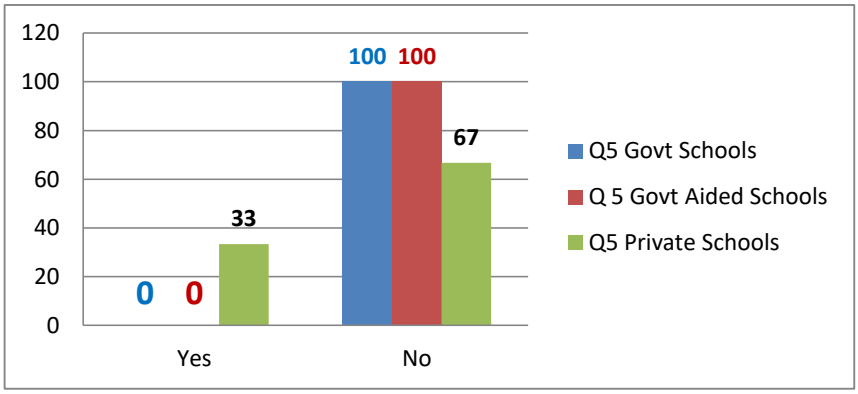
ols Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Govt Schools	4	8	2	0
Govt Aided	4	8	2	0
Private Scho	6	10	1.6666667	0.2666667

ANOVA

Source of Variat	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Grc	0.3809524	2	0.1904762	1.5714286	0.2510183	3.982298
Within Grou	1.3333333	11	0.1212121			
Total	1.7142857	13				



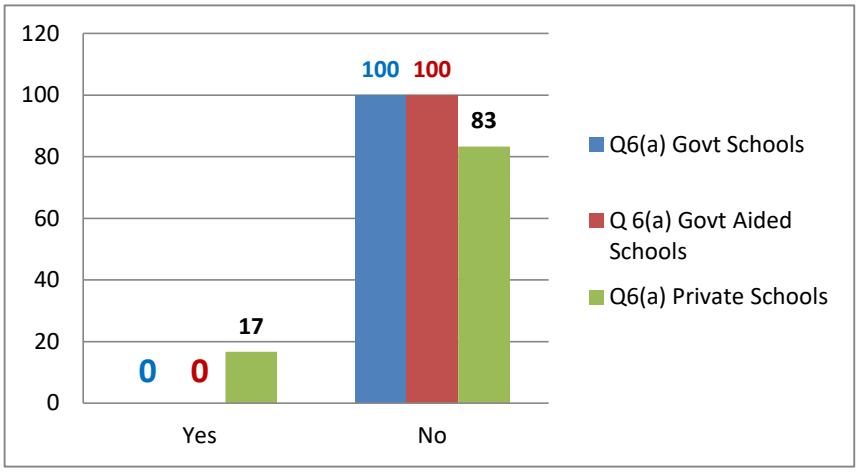
ols Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Govt Schools	4	8	2	0
Govt Aided	4	8	2	0
Private Scho	6	11	1.8333333	0.1666667

ANOVA

Source of Variat	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Grc	0.0952381	2	0.047619	0.6285714	0.5514662	3.982298
Within Grou	0.8333333	11	0.0757576			
Total	0.9285714	13				



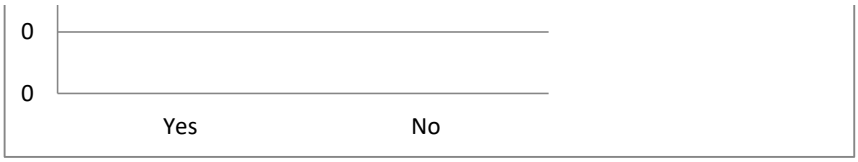
ɔls Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Govt Schools	4	8	2	0
Govt Aided	4	7	1.75	0.25
Private Scho	6	9	1.5	0.3

ANOVA

Source of Variat	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Grc	0.6071429	2	0.3035714	1.484127	0.2687683	3.982298
Within Grou	2.25	11	0.2045455			
Total	2.8571429	13				



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Anova: Single Factor

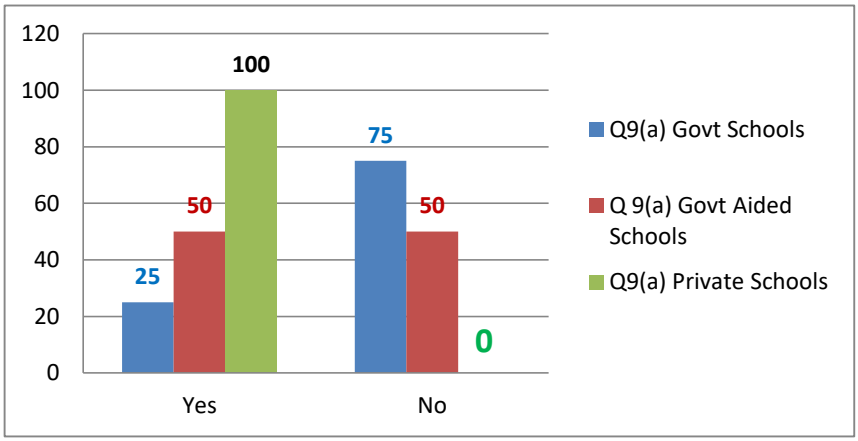
SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Govt Schools	4	7	1.75	0.25
Govt Aided	4	6	1.5	0.3333333
Private Schoo	6	6	1	0

ANOVA

Source of Variat	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Grc	1.4642857	2	0.7321429	4.6020408	0.0352976	3.982298
Within Grou	1.75	11	0.1590909			
Total	3.2142857	13				

ages



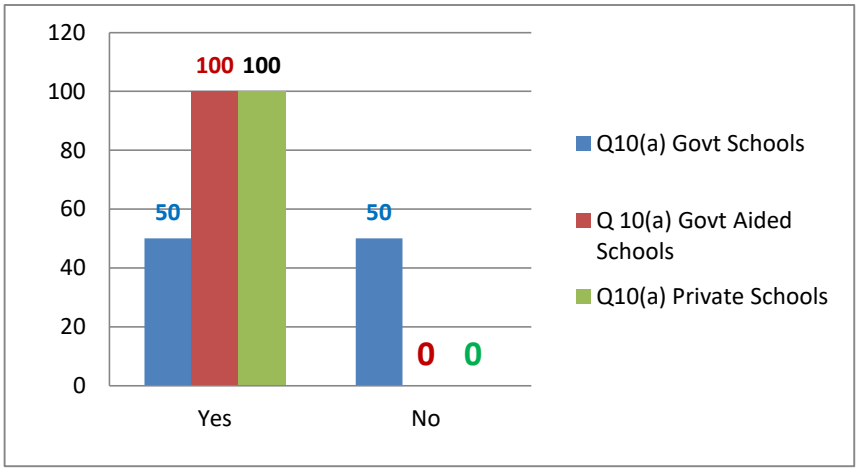
ols Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Govt Schools	4	6	1.5	0.3333333
Govt Aided	4	4	1	0
Private Scho	6	6	1	0

ANOVA

Source of Variat	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Grc	0.7142857	2	0.3571429	3.9285714	0.0515872	3.982298
Within Grou	1	11	0.0909091			
Total	1.7142857	13				



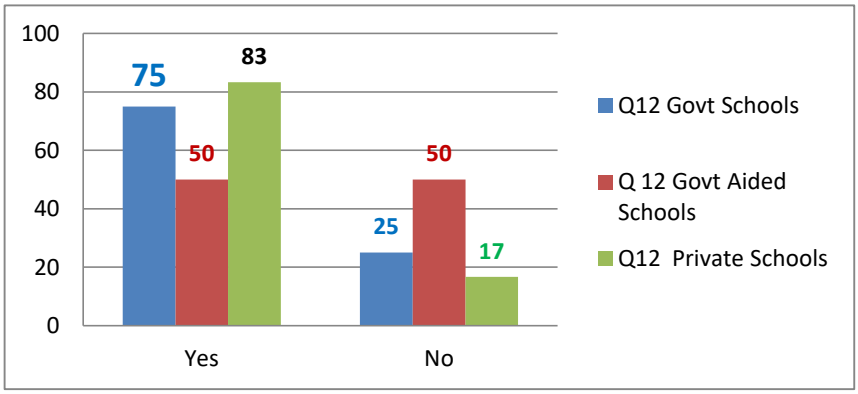
ols Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Govt Schools	4	5	1.25	0.25
Govt Aided	4	6	1.5	0.3333333
Private Scho	6	7	1.1666667	0.1666667

ANOVA

Source of Variat	SS	df	MS	F	P-value	F crit
Between Grc	0.2738095	2	0.1369048	0.5829493	0.5746014	3.982298
Within Grou	2.5833333	11	0.2348485			
Total	2.8571429	13				



ols

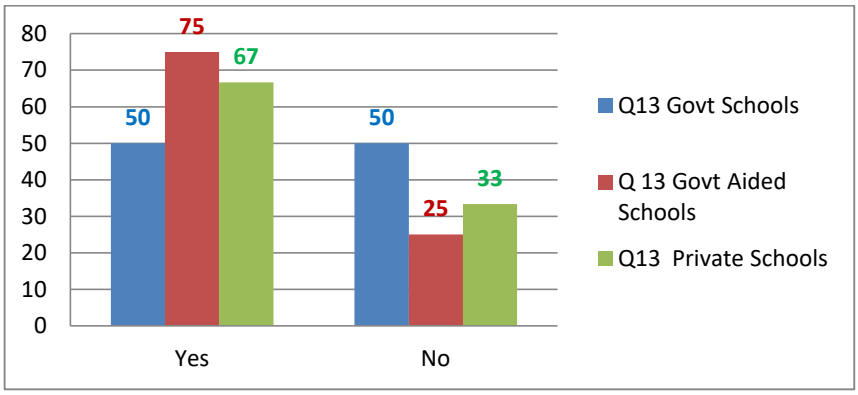
Anova: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
Govt Schools	4	6	1.5	0.3333333
Govt Aided	4	5	1.25	0.25
Private Scho	6	8	1.3333333	0.2666667

ANOVA

Source of Variat	SS	df	MS	F	P-value	F crit
Between Grc	0.1309524	2	0.0654762	0.2335907	0.7955143	3.982298
Within Grou	3.0833333	11	0.280303			
Total	3.2142857	13				



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Anova: Single Factor

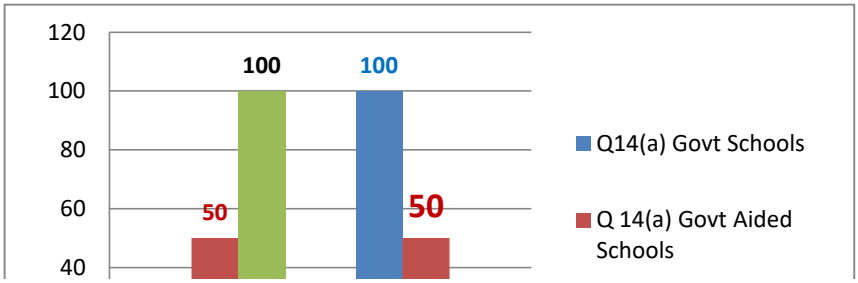
SUMMARY

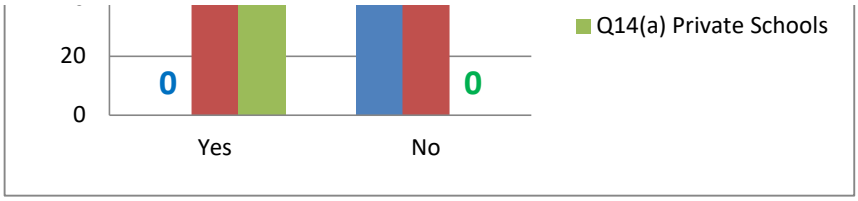
Groups	*Count*	*Sum*	*Average*	*Variance*
Govt Schools	4	8	2	0
Govt Aided	4	6	1.5	0.3333333
Private Scho	6	6	1	0

ANOVA

Source of Variat	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Grc	2.4285714	2	1.2142857	13.357143	0.0011399	3.982298
Within Grou	1	11	0.0909091			
Total	3.4285714	13				

ages





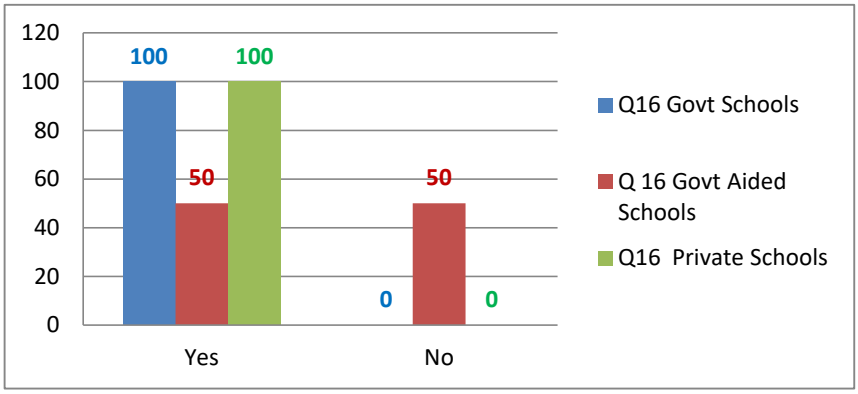
ols Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Govt Schools	4	4	1	0
Govt Aided	4	6	1.5	0.3333333
Private Schoo	6	6	1	0

ANOVA

Source of Variat	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Grc	0.7142857	2	0.3571429	3.9285714	0.0515872	3.982298
Within Grou	1	11	0.0909091			
Total	1.7142857	13				



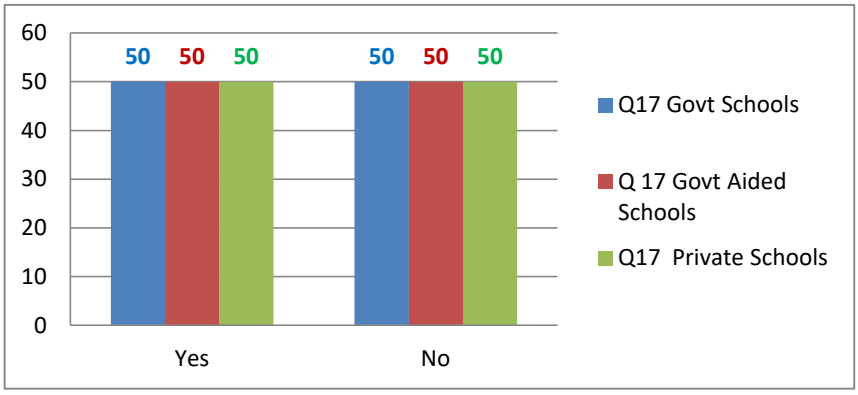
ols Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Govt Schools	4	6	1.5	0.3333333
Govt Aided	4	6	1.5	0.3333333
Private Scho	6	9	1.5	0.3

ANOVA

Source of Variat	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Grc	0	2	0	0	1	3.982298
Within Grou	3.5	11	0.3181818			
Total	3.5	13				



ols Anova: Single Factor

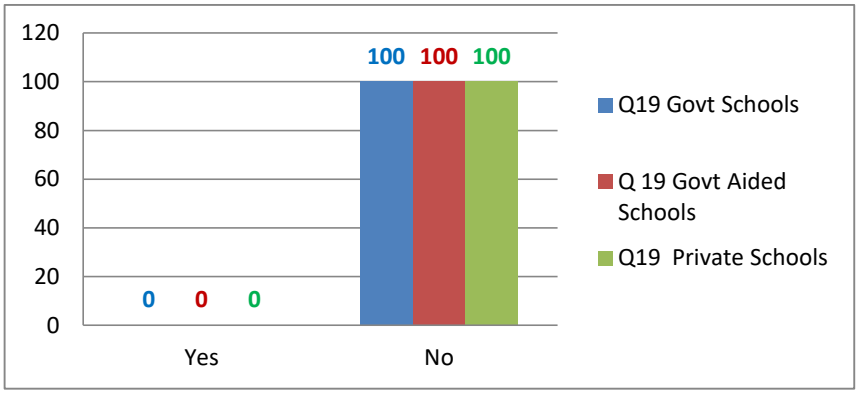
SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*

Govt Schools	4	8	2	0
Govt Aided	4	8	2	0
Private Scho	6	12	2	0

ANOVA

Source of Variat	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Grc	0	2	0	65535	#NUM!	3.982298
Within Grou	0	11	0			
Total	0	13				



IEDULE : PRINCIPAL

Q.9	9(a)	Q.10	Q.10(a)	Q.11	Q.12	Q.12(a)	Q.13
1	2	1	2	2	1	2	1
1	2	1	1	2	1	2	1
2	2	1	2	1	1	2	2
1	1	1	1	1	2	2	2
3	1	4	2	2	3	0	2
1	3	0	2	2	1	4	2
4	4	4	4	4	4	4	4
75	25	100	50	50	75	0	50
25	75	0	50	50	25	100	50
100	100	100	100	100	100	100	100

2	2	1	1	1	2	2	2
1	1	1	1	1	1	2	1
1	1	1	1	1	1	1	1
1	2	1	1	1	2	2	1
3	2	4	4	4	2	1	3
1	2	0	0	0	2	3	1
4	4	4	4	4	4	4	4
75	50	100	100	100	50	25	75
25	50	0	0	0	50	75	25
100	100	100	100	100	100	100	100

1	1	1	1	2	2	2	2
1	1	1	1	1	1	2	1
1	1	1	1	1	1	1	1

1	**1**	**1**	**1**	**1**	**1**	**1**	**1**
1	**1**	**1**	**1**	**1**	**1**	**1**	**2**
1	**1**	**1**	**1**	**1**	**1**	**1**	**1**
6	6	6	6	5	5	4	4
0	0	0	0	1	1	2	2
6	**6**	**6**	**6**	**6**	**6**	**6**	**6**
100	100	100	100	83	83	67	67
0	0	0	0	17	17	33	33
100	**100**	**100**	**100**	**100**	**100**	**100**	**100**

ANOVA TEST

Q 2

Govt Schools	Govt Aided	Private Schools
2	**2**	**1**
1	**1**	**2**
2	**1**	**1**
2	**1**	**1**
		1
		1

Sou

F crit
3.982298

No significant difference between group averages

Q 3

Govt Schools	Govt Aided	Private Schools
2	2	1
2	2	2
2	1	2
2	2	1
		1
		2

F crit
3.982298

No significant difference between group averages

Sou

chools

ded

Schools

Q 4

Govt Schools	Govt Aided	Private Schools
1	2	2
2	2	1
2	2	2
2	2	1
		2
		1

No significant difference between group averages

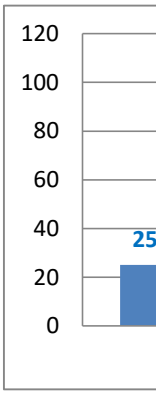
Anova: Single

SUMMARY

Groups
Govt Schools
Govt Aided
Private Schoo

ANOVA

Source of Variati
Between Gro
Within Group
Total



Q 6

Govt Schools	Govt Aided	Private Schools
2	2	2
2	2	2
2	2	2
2	2	1
		1
		2

Anova: Single

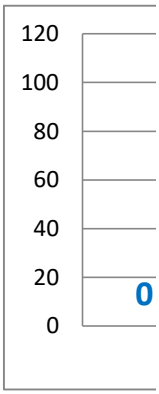
SUMMARY

Groups
Govt Schools
Govt Aided
Private Schoo

ANOVA

Source of Variat
Between Gro
Within Grou
Total

No significant difference between group averages



Q 7

Govt Schools	Govt Aided	Private Schools
2	1	2
2	2	2
2	2	2
2	2	2
		1
		1

Anova: Single

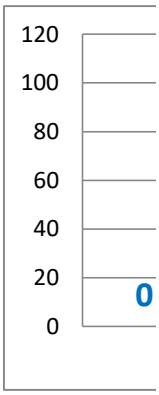
SUMMARY

Groups
Govt Schools
Govt Aided
Private Schoo

No significant difference between group averages

ANOVA

Source of Variat
Between Grc
Within Grou
Total



Q 8

Govt Schools	Govt Aided	Private Schools
2	**2**	**2**
2	**2**	**2**
2	**1**	**2**
2	**2**	**1**
		2
		2

Anova: Single

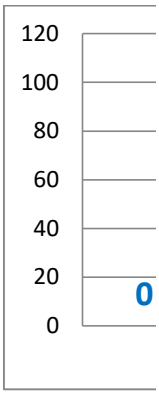
SUMMARY

Groups
Govt Schools
Govt Aided
Private Schoo

ANOVA

Source of Variat
Between Grc
Within Grou
Total

No significant difference between group averages



Q 9

Govt Schools	Govt Aided	Private Schools
1	2	1
1	1	1
2	1	1
1	1	1
		1
		1

No significant difference between group averages

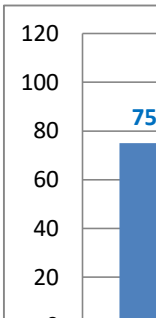
Anova: Single

SUMMARY

Groups
Govt Schools
Govt Aided
Private Schoo

ANOVA

Source of Variat
Between Gro
Within Grou
Total



Q 10

Govt Schools	Govt Aided	Private Schools
1	1	1
1	1	1
1	1	1
1	1	1
		1
		1

Anova: Single

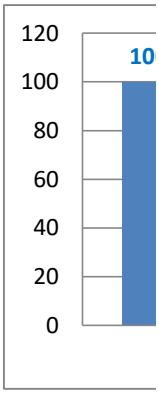
SUMMARY

Groups
Govt Schools
Govt Aided
Private Schoo

ANOVA

Source of Variat
Between Gro
Within Grou
Total

No significant difference between group averages



Q 11

Govt Schools	Govt Aided	Private Schools
2	1	2
2	1	1
1	1	1
1	1	1
		1
		1

Anova: Single

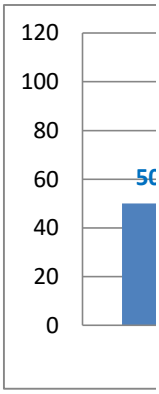
SUMMARY

Groups
Govt Schools
Govt Aided
Private Schoo

ANOVA

Source of Variat
Between Gro
Within Group
Total

No significant difference between group averages



Q 12(a)

Govt Schools	Govt Aided	Private Schools
2	2	2
2	2	2
2	1	1
2	2	1
		1
		1

Anova: Single

SUMMARY

Groups
Govt Schools
Govt Aided
Private Schoo

ANOVA

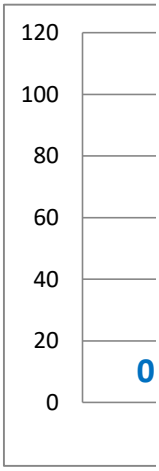
Source of Variat

No significant difference between group averages

Between Grc

Within Grou

Total



Q 14

Govt Schools	Govt Aided	Private Schools
1	1	1
1	1	1
1	1	1
2	1	1
		1
		1

Anova: Single

SUMMARY

Groups
Govt Schools
Govt Aided
Private Schoo

ANOVA

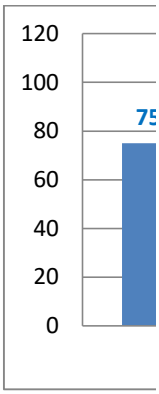
Source of Variat

No significant difference between group averages

Between Grc

Within Grou

Total



Q 15

Govt Schools	Govt Aided	Private Schools
2	2	2
2	2	2
2	2	2
2	2	2
		2
		2

No significant difference between group averages

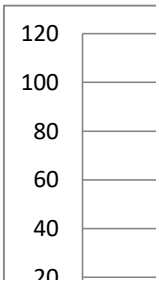
Anova: Single

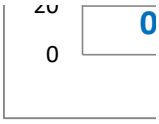
SUMMARY

Groups
Govt Schools
Govt Aided
Private Schoo

ANOVA

irce of Variat
Between Gro
Within Grou
Total





Q 16(a)

Govt Schools	Govt Aided	Private Schools
2	2	1
1	1	1
1	1	1
1	2	1
		1
		1

No significant difference between group averages

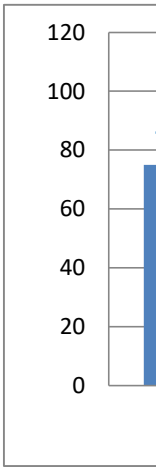
Anova: Single

SUMMARY

Groups
Govt Schools
Govt Aided
Private Schoo

ANOVA

Source of Variati
Between Grc
Within Grou
Total



Q 18

Govt Schools	Govt Aided	Private Schools
2	1	2
2	1	2
1	2	1
2	2	2
		1
		1

No significant difference between group averages

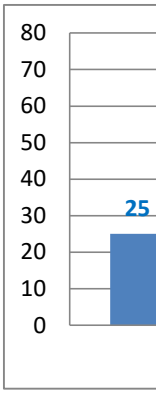
Anova: Single

SUMMARY

Groups
Govt Schools
Govt Aided
Private Schoo

ANOVA

Source of Variati
Between Gro
Within Group
Total



Q 19(a)

Govt Schools	Govt Aided	Private Schools
2	2	2
2	2	2
2	2	2

Anova: Single

SUMMARY

Groups

2	**2**	**2**
		2
		2

Govt Schools
Govt Aided
Private Schoo

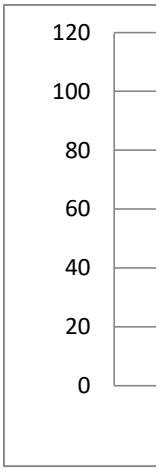
ANOVA

Source of Variat

Between Gro
Within Group

Total

No significant difference between group averages



Q.14	14(a)	Q.15	Q.16	Q.16(a)	Q.17	Q.18	Q.19
1	2	2	1	2	1	2	2
1	2	2	1	1	2	2	2
1	2	2	1	1	1	1	2
2	2	2	1	1	2	2	2
3	0	0	4	3	2	1	0
1	4	4	0	1	2	3	4
4	4	4	4	4	4	4	4
75	0	0	100	75	50	25	0
25	100	100	0	25	50	75	100
100	100	100	100	100	100	100	100

1	2	2	2	2	1	1	2
1	2	2	1	1	1	1	2
1	1	2	1	1	2	2	2
1	1	2	2	2	2	2	2
4	2	0	2	2	2	2	0
0	2	4	2	2	2	2	4
4	4	4	4	4	4	4	4
100	50	0	50	50	50	50	0
0	50	100	50	50	50	50	100
100	100	100	100	100	100	100	100

1	1	2	1	1	2	2	2
1	1	2	1	1	2	2	2
1	1	2	1	1	1	1	2

1	**1**	**2**	**1**	**1**	**2**	**2**	**2**
1	**1**	**2**	**1**	**1**	**1**	**1**	**2**
1	**1**	**2**	**1**	**1**	**1**	**1**	**2**
6	6	0	6	6	3	3	0
0	0	6	0	0	3	3	6
6	**6**	**6**	**6**	**6**	**6**	**6**	**6**
100	100	0	100	100	50	50	0
0	0	100	0	0	50	50	100
100	**100**	**100**	**100**	**100**	**100**	**100**	**100**

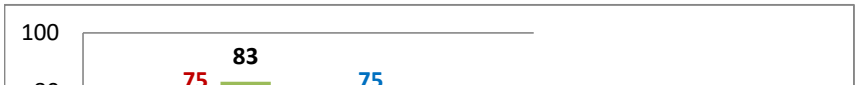
Anova: Single Factor

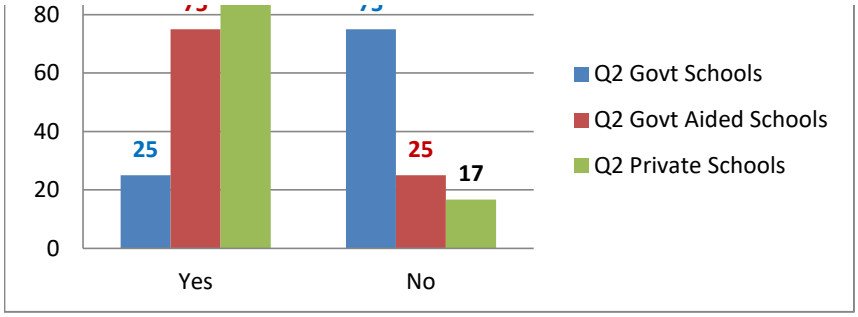
SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Govt Schools	4	7	1.75	0.25
Govt Aided	4	5	1.25	0.25
Private Schoo	6	7	1.1666667	0.1666667

ANOVA

ırce of Variat	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Grc	0.8809524	2	0.4404762	2.0765306	0.1717543	3.982298
Within Grou	2.3333333	11	0.2121212			
Total	3.2142857	13				





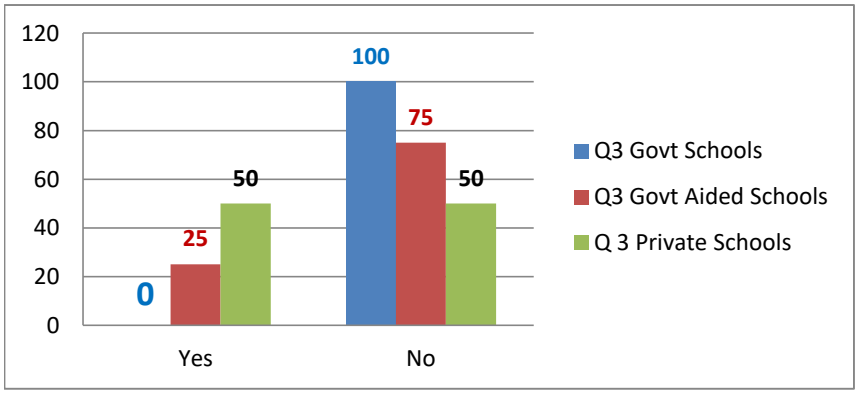
Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Govt Schools	4	8	2	0
Govt Aided	4	7	1.75	0.25
Private Schoo	6	9	1.5	0.3

ANOVA

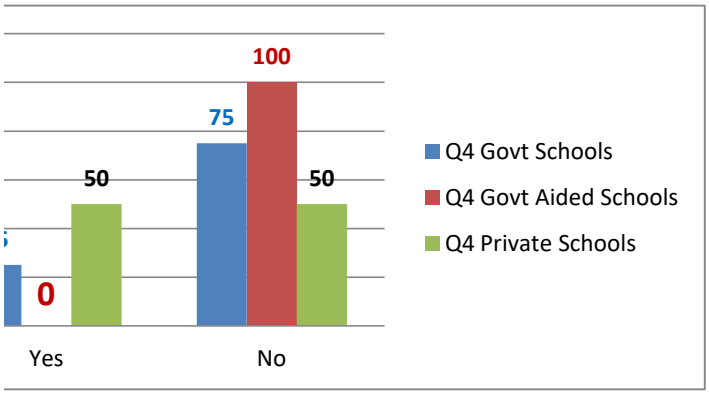
ırce of Variat	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Grc	0.6071429	2	0.3035714	1.484127	0.2687683	3.982298
Within Grou	2.25	11	0.2045455			
Total	2.8571429	13				



e Factor

Count	*Sum*	*Average*	*Variance*
4	7	1.75	0.25
4	8	2	0
6	9	1.5	0.3

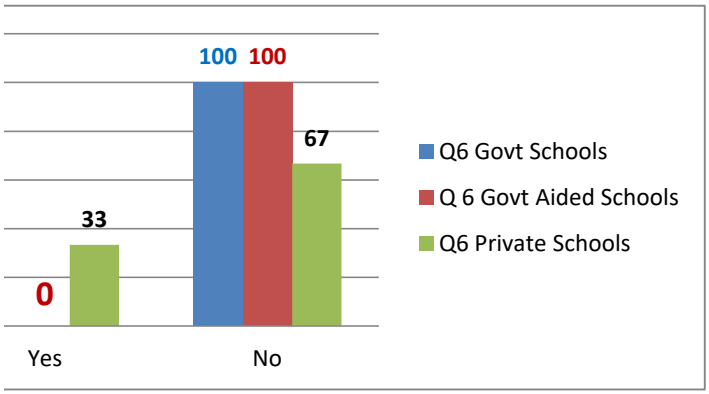
SS	*df*	*MS*	*F*	*P-value*	*F crit*
0.6071429	2	0.303571429	1.484127	0.2687683	3.982298
2.25	11	0.204545455			
2.8571429	13				



ɛ Factor

Count	*Sum*	*Average*	*Variance*
4	8	2	0
4	8	2	0
6	10	1.666666667	0.2666667

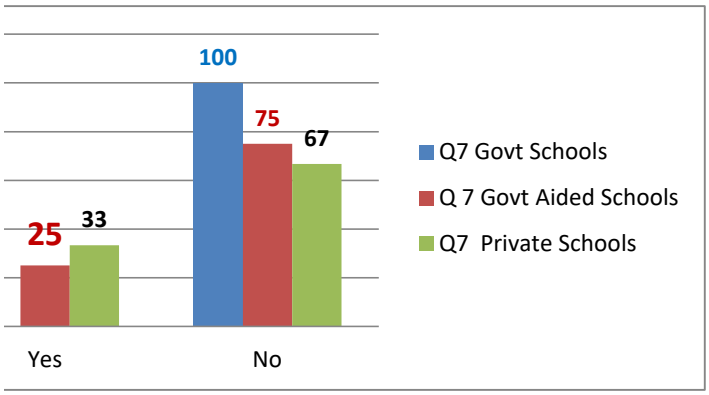
SS	*df*	*MS*	*F*	*P-value*	*F crit*
0.3809524	2	0.19047619	1.5714286	0.2510183	3.982298
1.3333333	11	0.121212121			
1.7142857	13				



ɛ Factor

Count	*Sum*	*Average*	*Variance*
4	8	2	0
4	7	1.75	0.25
6	10	1.666666667	0.2666667

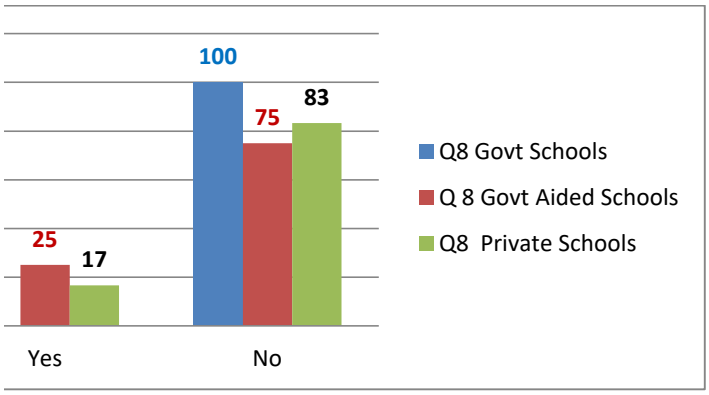
SS	*df*	*MS*	*F*	*P-value*	*F crit*
0.2738095	2	0.136904762	0.7228571	0.5070499	3.982298
2.0833333	11	0.189393939			
2.3571429	13				



ɛ Factor

Count	*Sum*	*Average*	*Variance*
4	8	2	0
4	7	1.75	0.25
6	11	1.833333333	0.1666667

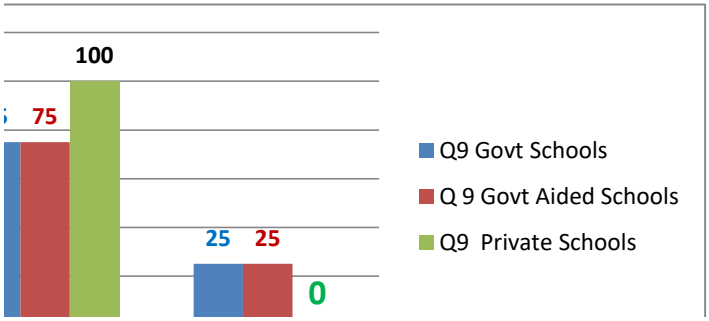
SS	*df*	*MS*	*F*	*P-value*	*F crit*
0.1309524	2	0.06547619	0.4548872	0.6459372	3.982298
1.5833333	11	0.143939394			
1.7142857	13				



e Factor

Count	*Sum*	*Average*	*Variance*
4	5	1.25	0.25
4	5	1.25	0.25
6	6	1	0

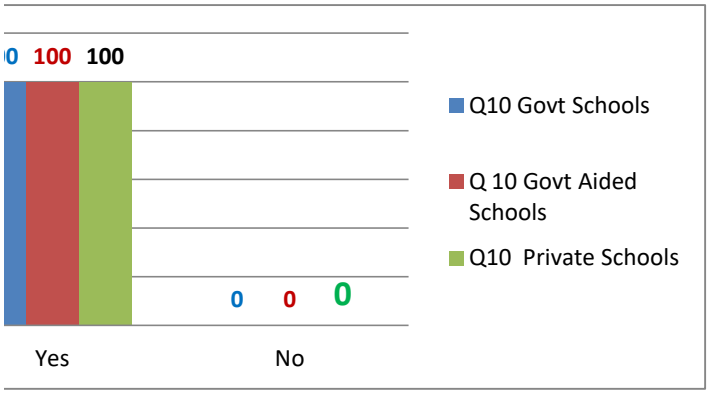
SS	*df*	*MS*	*F*	*P-value*	*F crit*
0.2142857	2	0.107142857	0.7857143	0.4797824	3.982298
1.5	11	0.136363636			
1.7142857	13				



e Factor

Count	*Sum*	*Average*	*Variance*
4	4	1	0
4	4	1	0
6	6	1	0

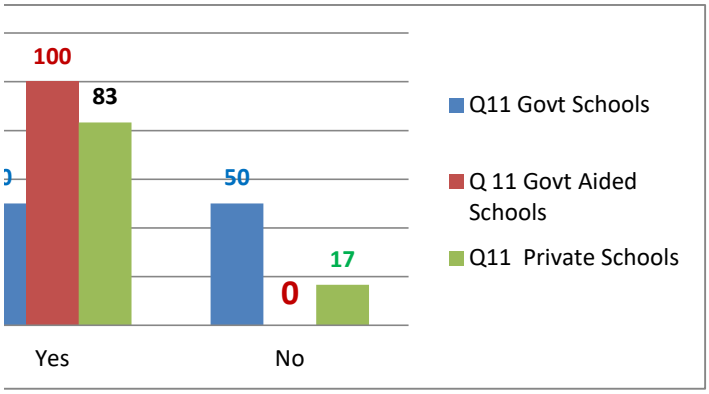
SS	*df*	*MS*	*F*	*P-value*	*F crit*
0	2	0	65535	#NUM!	3.982298
0	11	0			
0	13				



ɛ Factor

Count	*Sum*	*Average*	*Variance*
4	6	1.5	0.3333333
4	4	1	0
6	7	1.166666667	0.1666667

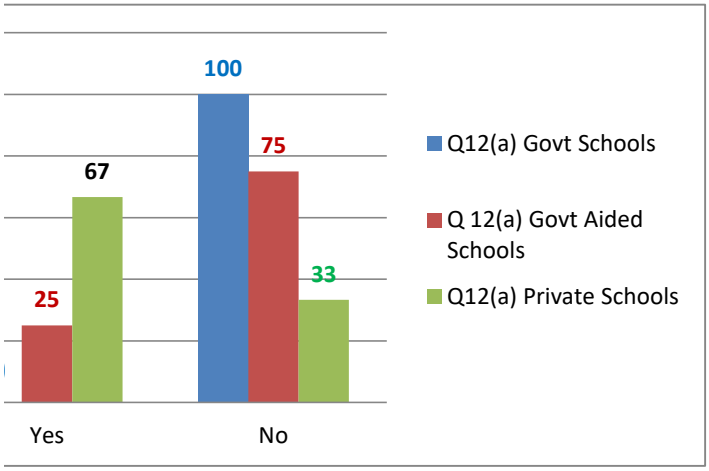
SS	*df*	*MS*	*F*	*P-value*	*F crit*
0.5238095	2	0.261904762	1.5714286	0.2510183	3.982298
1.8333333	11	0.166666667			
2.3571429	13				



ɛ Factor

Count	*Sum*	*Average*	*Variance*
4	8	2	0
4	7	1.75	0.25
6	8	1.333333333	0.2666667

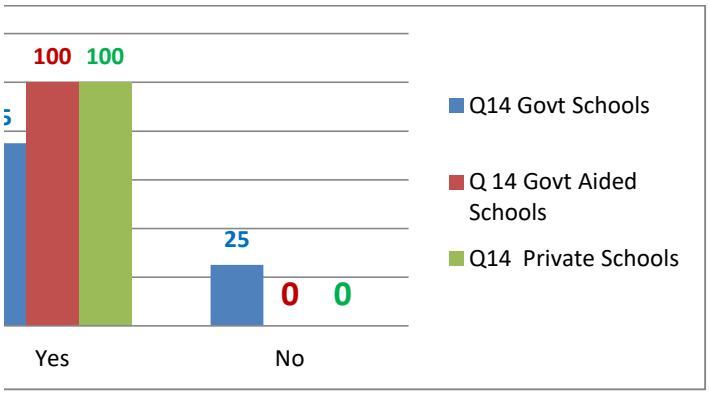
SS	df	MS	F	P-value	F crit
1.1309524	2	0.56547619	2.9857143	0.0920892	3.982298
2.0833333	11	0.189393939			
3.2142857	13				



e Factor

Count	Sum	Average	Variance
4	5	1.25	0.25
4	4	1	0
6	6	1	0

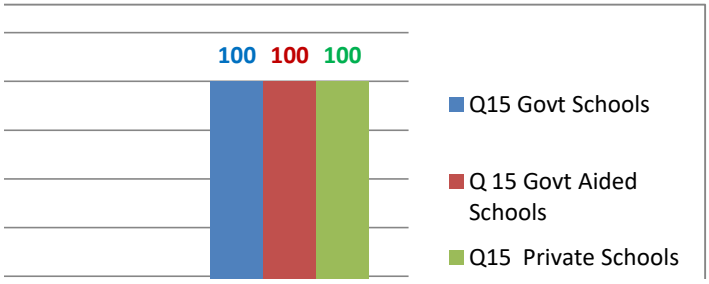
SS	df	MS	F	P-value	F crit
0.1785714	2	0.089285714	1.3095238	0.3089248	3.982298
0.75	11	0.068181818			
0.9285714	13				

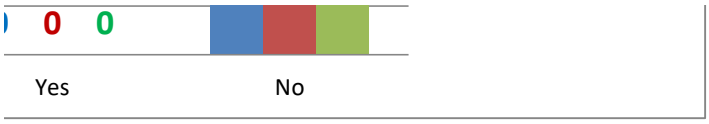


e Factor

Count	*Sum*	*Average*	*Variance*
4	8	2	0
4	8	2	0
6	12	2	0

SS	*df*	*MS*	*F*	*P-value*	*F crit*
0	2	0	65535	#NUM!	3.982298
0	11	0			
0	13				

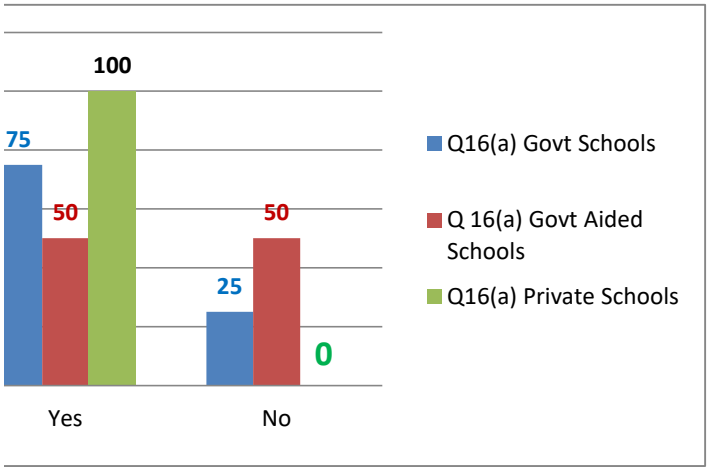




e Factor

Count	*Sum*	*Average*	*Variance*
4	5	1.25	0.25
4	6	1.5	0.3333333
6	6	1	0

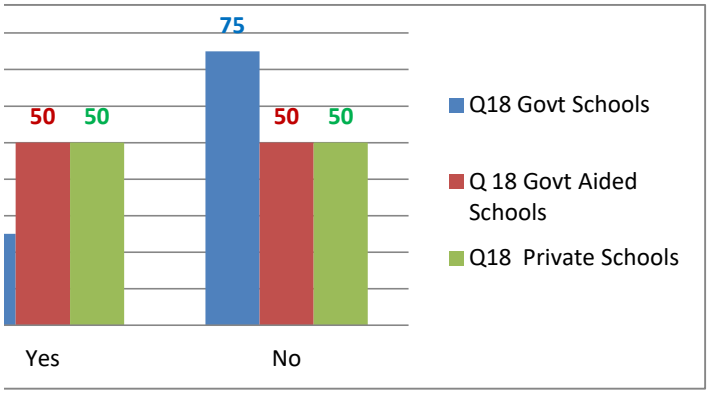
SS	*df*	*MS*	*F*	*P-value*	*F crit*
0.6071429	2	0.303571429	1.9081633	0.194351	3.982298
1.75	11	0.159090909			
2.3571429	13				



ɛ Factor

Count	*Sum*	*Average*	*Variance*
4	7	1.75	0.25
4	6	1.5	0.3333333
6	9	1.5	0.3

SS	*df*	*MS*	*F*	*P-value*	*F crit*
0.1785714	2	0.089285714	0.3021978	0.7451366	3.982298
3.25	11	0.295454545			
3.4285714	13				

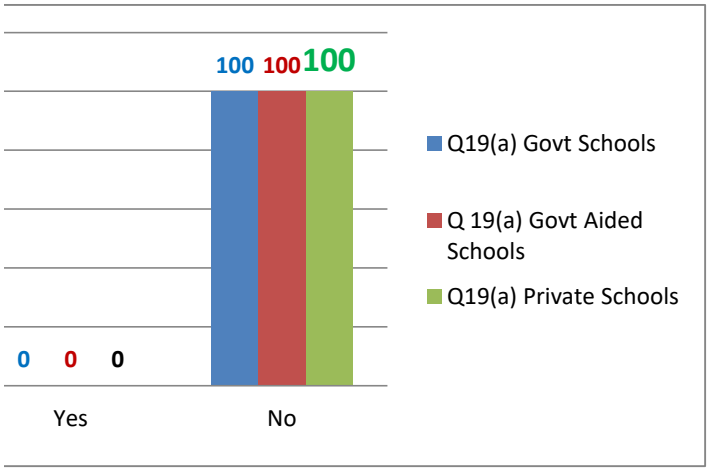


ɛ Factor

Count	*Sum*	*Average*	*Variance*

4	8	2	0
4	8	2	0
6	12	2	0

SS	*df*	*MS*	*F*	*P-value*	*F crit*
0	2	0	65535	#NUM!	3.982298
0	11	0			
0	13				



19(a)
2
2
2
2

0

4

4

0

100

100

2
2
2
2

0

4

4

0

100

100

2
2
2

2
2
2

0
6
6

0
100
100

APPENDIX C: QUESTIONNAIRE - STUDENTS

(Refers to Para No.3.5)

STUDENT, S NAME ---------- AGE ----------
CLASSS---------
Nk= dk uke ---------- vk;q ---------- d{kk ----------
SCHOOL'S NAME ----------
Ldwy dk uke ----------

1. Do you find your toilets clean during the recess?
   (a) Yes
   (b) No

01- D;k fjlsl ds le; vki vius Ldwy ds VkW;ysV LoPN ikrs gSa \

¼v½ gka ¼c½ ugha

2. Do you find that Phenyl is used every time whenever the toilet is cleaned?
   (a) Yes
   (b) No

02- tc Hkh VkW;ysV dh lQkbZ gksrh gS rks fQuk;y dk mi;ksx fd;k tkrk gS ;k ugha \

¼v½- gka ¼c½ ugh

3. Do you play in other than the games periods also
   (a) Yes
   (b) No

03- D;k vki [ksy ds ihfj;M ds vykok Hkh vU; fdlh ihfj;M esa [ksyrs gSa \

¼v½- gka ¼c½ ugha

4. Does the sports teacher always supervise you or standing nearby you whenever you play other than the games period (Yes-1, No-2, Some Times-3)
   (a) Yes
   (b) No
   (c) Sometimes

04- tc vki [ksy ds ihfj;M ds vykok vU; ihfj;M esa [ksyrs gSa rc D;k vkids dzhM+k f"k{kd ogka mifLFkr jgrs gSa \

¼v½ gka ¼c½ ugha ¼l½ dHkh&dHkh

5. Is the first aid box always available with sports teacher whenever you play? (Yes-1, No-2, Some Times-3)
   (a) Yes
   (b) No

(c) Sometimes

05- tc vki [ksyrs gSa rks D;k vkids dzhM+k f"k{kd ds ikl izkFkfed fpfdRlk isVh miyC/k jgrh gS \

¼v½ gka ¼c½ ugha ¼l½ dHkh&dHkh

6. Do you often suffer from mosquito bite in the class? ? (Yes-1, No-2, Some Times-3)

(a) Yes
(b) No
(c) Sometimes

06- D;k vkidks d{kk esa vDlj ePNj dkVrs jgrs gSa \

¼v½ gka ¼c½ ugha ¼l½ dHkh&dHkh

7. Are all the ceiling fans serviceable in the class.
(a) Yes
(b) No

07- D;k d{kk esa yxs gq, lHkh lhfyax ia[ksa pkyw gkyr esa gSa ;k ugha \

¼v½ gka ¼c½ ugha

8. How often do you face electric supply failure for more than 20 minutes
(a) Every Day (1)
(b) Every Second Day (2)
(c) Once in a week (3)

08- Ldwy esa fdruh ckj 20 feuV ls vf/kd ds fy, fo|qr vkiwfrZ can gksrh gS \

¼v½ izfrfnu ¼c½ izfr nwljs fnu ¼l½ lIrkg esa ,d ckj

9. How often the Mock Drills for emergency are conducted in the school
(a) Every Month (1)
(b) Once in Three Months(2)
(c) Once in Six Months(3)
(d) I don't know(4)

09- vkikrdkyhu fLFkfr ds fy, Ldwy esa dc&dc bejtsalh ekWd fMªy vk;ksftr dh tkrh gS \

¼v½ izfrekg¼c½ izfr rhu ekg esa

¼l½ izfr N% ekg esa ¼n½ ugha ekywe

10 . Duck, cover and hold is used during (Knows – 1, Does not Know -2)(B1-36)
(a) Earthquake
(b) Fire
(c) Both of above
(d) None of the above

10- Md] doj vkSj jksy Ldwy esa dc mi;ksx fd;s tkrs gSa \

¼v½ HkwdEi ds le; ¼c½ vkx yxus ij

¼l½ nksuksa fLFkfr;ksa esa ¼n½ buesa ls dksbZ Hkh ugha

11. How are you notified about emergency by school during the mock drill ?
(a) By Alarm Bell (1)
(b) By Loud Speaker(2)
(c) By hand Bell(3)
(d) Somebody shouts(4)
(e) All of the above(5)

11- vH;kl fMªy vk;ksftr gksus ds nkSjku vkidks vkikrdky dh lwpuk dSls nh tkrh gS \

¼v½ vykeZ ?kaVh ctkdj ¼c½ ykmMLihdj ls

¼l½ gkFk dh ?kaVh ctkdj ¼n½ fpYykdj ¼b½ mi;ZqDr lHkh

12. Where do you assemble during the mock drill
(a) In the Corridor (1)
(b) In the assembly Ground or play ground (2)
(c) In the school Hall (3)
(d) I don't Know (4)

12- vH;kl fMªy ds nkSjku vki lc dgka bdV~Bs gksrs gSa \

¼v½ cjkens esa ¼c½ vlsEcyh vFkok [ksy ds eSnku esa

¼l½ Ldwy ds gkWy esa ¼n½ eSa ugha tkurk

13. What does the teacher or teachers do when you assemble during the mock drill?
(a) Explains the purpose, method or debrief of mock drill (1)
(b) The class teacher takes attendance (2)
(c) The class teacher takes attendance as well as conducts debrief (3)
(d) Tell you to go back to the class without doing any thing (4)
(e) I don't know (5)

13- vH;kl fMªy ds nkSjku tc vki ,df=r gksrs gSa rc vkids f"k{kd D;k djrs gSa\

¼v½ vH;kl fMªy dk rjhdk vkSj mn~ns"; crykrs gSa

¼c½ d{kk f"k{kd vkidh mifLFkfr ntZ djrs gSa

¼l½ d{kk f"k{kd mifLFkfr ugha ysrs dsoy le>krs gSa

¼n½ dqN u djrs gq, vkidks d{kk esa okfil pys tkus gsrq dgrs gSa

¼b½ eSa ugha tkurk

14. Stop, drop and roll is used during (Knows – 1, Does not Know -2)(b1-36)
(a) During the Game or exercise
(b) During Fire
(c) During Earthquake
(d) None of the above

14- :dks] ysVks vkSj yq<+dks dc mi;ksx fd;k tkrk gS \

¼v½ [ksy vFkok vH;kl ds nkSjku ¼c½ vkx yxus ij

¼l½ HkwdEi ds le; ¼n½ buesa ls dksbZ Hkh ugha

15. Have you seen Rats in your school?
(a) Yes
(b) No

15- D;k vkius Ldwy esa pwgs ns[ks gS \

¼v½ gka ¼c½ ugh

16. How often do you use gas stoves during Chemistry Practical?
(a) Very Often (1)
(b) Some times (2)
(c) As per the requirement (3)

16- vki vius dsesLVªh izsfDVdy esa xSl LVkso dk dc&dc mi;ksx djrs gSa \

¼v½ vDlj ¼c½ dHkh&dHkh ¼l½ vko";drk iM+us ij

17. How many children attend Chemistry Practical at a time?
(a) Full Class (1)
(b) Half the Class (2)
(c) Ten of You (3)
(d) No idea (4)

17- ,d le; esa fdrus Nk= dsesLVªh izsfDVdy djrs gSa \

¼v½ iwjh d{kk ¼c½ vk/kh d{kk ¼l½ 10 Nk=

¼n½ irk ugha

18. Fire is classified into how many groups (Classification of fire) (Knows – 1, Does not Know -2)

(a) Two
(b) Three
(c) Four
(d) Five
(e) Don't know

18- vkx dk oxhZdj.k fdrus Jsf.k;ksa esa fd;k tkrk gS \

¼v½ nks ¼c½ rhu ¼l½ pkj ¼n½ ikap ¼b½irk ugh

19. Class C fire pertains to (Knows – 1, Does not Know -2)
(a) Wooden Table, wooden Chair , Plastic Chair, Wooden Almirah
(b) Computer Fax machines, Physics Electrical equipment and UPS etc.
(c) LPG fire in Chemistry Lab or Kitchen
(d) None of the above

19- C Js.kh dh vkx fdlls lacaf/kr gS &

¼v½ ydM+h dh Vsfcy] ydM+h dh dqlhZ] lykfLVd dh dqlhZ] ydM+h dh vkyekjh

¼c½ dEI;wVj] QSDl e"khu] HkkSfrd"kkL= ds fctyh midj.k] ;wih,l vkfn

¼l½ fdpu vFkok dSesLVªh ySc esa ,y-ih-th- dh vkx

¼n½ buesa ls dksbZ Hkh ugha

20 Which one is the most Used fire Extinguisher in case of electrical fire? (Knows – 1, Does not Know -2)

(a) AFFF FOAM
(b) CARBON DIOXIDE (CO2)
(c) ABC POWDER.
(d) WET CHEMICAL
(e) Both (b) or (c)
(f) None of the above

20- fctyh ls lacaf/kr vkx yxus ij buesa ls fdl vfXu"keu iz.kkyh dk mi;ksx fd;k tkrk gS \

¼v½ ,,Q,Q,Q >kx ¼c½ dkcZu&MkbvkWDlkbM

¼l½ ,chlh ikmMj ¼n½ xhyk jlk;u ¼b½v ,oa c

¼bZ½ buesa ls dksbZ ugha

APPENDIX D : QUESTIONNAIRE – PARENTS

(Refers to Para No.3.5)

Name of My Child ---------- Age ---------- Name of the School -------

Nk= dk uke ---------- vk;q ---------- Ldwy dk uke ----------

Father'sName…….Mother'sName ……..

firk dk uke ---------- ekrk dk uke ----------

Govt Servant/Private Company/Private business …….

"kkldh; deZpkjh@izkbosV daiuh@Lo;a dk O;olk; ----------

Monthly Income--------ekfld vk; ----------

1. Are you aware of the safety measures available at your ward's school?
   (a) Yes
   (b) No

1- D;k vkidks vius iq=@iq=h ds fo|ky; esa miyC/k lqj{kk O;oLFkk dh tkudkjh gS \

¼v½ gka ¼c½ ugha

2. How often your child has attended the safety programme conducted by Delhi Police or any other Govt Dept. *(Quarterly-1, Every Six Month-2, once in a Year-3, Never-4)*
   (a) Quarterly
   (b) Every Six Month
   (c) Once in a year
   (d) Never

2- vkids iq=@iq=h us fnYyh iqfyl vFkok fdlh vU; "kkldh; foHkkx }kjk vk;ksftr lqj{kk dk;Zdze esa dc&dc Hkkx fy;k gS \

¼v½ izfr rhu ekg ¼c½ izfr N% ekg

¼l½ o'kZ esa ,d ckj ¼n½ dHkh ugha

3. Did your child ever got hurt or felt sick in the school?
   (a) Yes
   (b) No

3- D;k vkidk iq=@iq=h fo|ky; esa dHkh chekj gqvk gS vFkok mls pksV yxh gS \

¼v½ gka ¼c½ ugha

4. If yes, did he/she get first aid or were you informed to take away the child to home?

Received first aid (1), Informed by the school to take away the child (2), none of the above (3)

(a) Received first aid
(b) Informed by the school to take away the child
(c) None of the above

4- ;fn gka] rks D;k mls izkFkfed fpfdRlk fey ikbZ vFkok vkidks lwfpr fd;k x;k fd mls ?kj ys tk;sa \

¼v½ izkFkfed fpfdRlk feyh ¼c½ fo|ky; }kjk ?kj ys tkus gsrq dgk x;k

¼l½ nksuksa esa ls dksbZ ugha

5. The canteen of the school normally sells

(Fresh Roti/Parantha Subzi- 1, Rice with Curry or Rajma-2, Burger, Pizza, Pastry, Patties and coco cola and other cold drinks-3, Idli,Dosa ,Vada , Sambar-4, No canteen in the school-5)

(a) Fresh Roti/Parantha – Subzi
(b) Rice with Curry or Rajma
(c) Burger, Pizza, Pastry, Patties and coco cola and other cold drinks
(d) Idli,Dosa ,Vada , Sambar
(c) NA

5- fo|ky; dh dSaVhu lkekU;r% D;k&D;k csprh gS \

¼v½ rkth jksVh@ijkBk&lCth
¼c½ jktek vFkok djh ds lkFk pkaoy
¼l½ cxZj] fiTtk] isLVªh] iSVh] dksdkdksyk ,oa vU; “khry is;
¼n½ bMyh] Mkslk] oM+k] lkaHkj
¼b½ □□□□ □□□□

6. Does your child use school transport?

(a) Yes
(b) No

6- D;k vkidk iq=@iq=h fo|ky; ds ifjogu dk mi;ksx djrk gS \

¼v½ gka ¼c½ ugha

7. If yes, are the seats of bus comfortable?

(a) Yes
(b) No
(c) NA

7- ;fn gka rks] D;k cl dh lhVsa vkjkenk;d gSa \

¼v½ gka ¼c½ ugha ¼l½ □□□□ □□□□

8. Does the bus seats are fitted with seat belts?

(a) Yes
(b) No
(c) NA

8- D;k cl dh lhV esa lhV csYV yxs gq, gSa \
¼v½ gka ¼c½ ugha ¼l½ □□□□ □□□□

9. Does the school administration provide one attendant in every bus?
(a) Yes (b) No (c) NA

9- D;k fo|ky; iz"kklu izR;sd Ldwy cl esa ifjpkjd dh O;oLFkk j[krk gS \
¼v½ gka ¼c½ ugha ¼l½ □□□□ □□□□

10. How many access roads does the school have adjoining the gate/Gates of the school?
(One-1, two-2, more than two-3, do not know-4)
(a) One
(b) Two
(c) ---- (write the number)
(d) Do not know

10- fo|ky; ds eq[; }kj rd fdrus igqap ekxZ tkrs gSa \
¼v½ ,d ¼c½ nks ¼l½ la[;k fy[kks ¼n½ ugha ekywe

11. The width of each road is
(9mtr or more-1, 12 mtr or more-2, 30 mtr or more-3, 60 mtr or more-4, don't know-5)
(a) 9 mtr or more
(b) 12 mtr or more
(c) 30 mtr or more
(d) 60 mtr or more

11- fo|ky; rd tkus okys igqap ekxZ dh pkSM+kbZ fdruh gS \
¼v½ yxHkx 9 ehVj ¼c½ 12 ehVj vFkok vf/kd
¼l½ 30 ehVj ¼n½ 60 ehVj vFkok vf/kd

12. What is meant by SSC? (Knows-1, Does not know-2)
(a) Senior Secondary Class
(b) School Security Council
(c) School Safety Committee
(d) School Support Committee

12- ,l,llh ls vki D;k le>rs gSa \
¼v½ lhfu;j lsds.Mjh Dykl ¼c½ Ldwy flD;qfjVh Dykl
¼l½ Ldwy ls¶Vh desVh ¼n½ Ldwy liksVZ desVh

13. What do you understand by SSAC? *(Knows-1, Does not know-2)*
(a) School Safety Action Committee

(b) School Support Advisory Council
(c) School Safety Advisory Committee
(d) School Safety Academic Council

13- vki ,l,l,lh ls D;k le>rs gSa \

¼v½ Ldwy ls¶Vh ,D”ku desVh ¼c½ Ldwy liksVZ ,Mok;tjh dkSafly
¼l½ Ldwy ls¶Vh ,Mok;tjh desVh¼n½ Ldwy ls¶Vh ,dsMsfed dkSafly

14. Did you any time receive any published material by NDMA or DDMA?
(a) Yes (b) No

14- D;k vkidks ,uMh,e, vFkok MhMh,e, }kjk izdkf”kr dHkh dksbZ lkexzh feyh gS \

¼v½ gka ¼c½ ugha

15. Has the aspect of SSC been discussed any time by the school during the PTA Meeting?
(a) Yes (b) No

15- D;k fo|ky; }kjk dHkh ihVh, ehfVax esa SSCls lacaf/kr dksbZ ppkZ dh xbZ gS \

¼v½ gka] ¼c½ ugha

16. What do you understand by ABC in the school? *(Knows-1, Does not know-2)*
(a) Abstract Based Class
(b) Assistance Based Children
(c) Anti Bullying Committee
(d) Adaptive Behavior Center

16 fo|ky; esa vki ABC ls D;k le>rs gSa \

¼v½ ,ClVsªDV csLM Dykl ¼c½ vflLVsal csLM fpYMªu
¼l½ ,UVh cqfyf;ax desVh ¼n½ ,MsfIVo fcgsfo;j lsUVj

17. Did you ever made any suggestion to school authority with respect to infrastructural related issues or facilities available with respect to your child’s security/safety in the school
(Yes-1, No-2, Tried but did not get any response from the school-3)
(a) Yes
(b) No
(c) Tried but did not get any response from the school

17- D;k vkius dHkh fo|ky; dh volajpuk ls lacaf/kr vius iq=@iq=h dh lqj{kk@lqfo/kk ds ckjs esa fo|ky; iz”kklu dks dksbZ lq>ko fn;s gSa \

¼v½ gka ¼c½ ugha
¼l½ iz;kl rks fd;k fdUrq fo|ky; ls leqfpr izR;qRrj izkIr ugha gqvk

18. Are you satisfied with the safety measures of school?
(Very Much Satisfied-1, Satisfied To Some Extent-2, Not Satisfied-3)

(a) Very much satisfied

(b) Satisfied to same extent

(c) Not satisfied

18- D;k vki fo|ky; dh lqj{kk&O;oLFkk ls larq’V gSa \

¼v½ cgqr vf/kd ¼c½ dqN lhek rd

¼l½ larq’V ugha

APPENDIX E: QUESTIONNAIRE - OBSERVATION

(Refers to Para No.3.5)

Name of the School- ---------- Name of Board ----------

Govt/ Govt Aided/ Private

-

1. Physical Safety - Which of the following are under vigilance/monitoring through CCTV (YES-1, NO-2)

(a) Boundary wall
(b) Main Gate
(c) Other Gates
(d) Classroom
(e) Corridors
(f) Staircase
(g) Washroom
(h) Play area
(i) Library
(j) Laboratory
(k) Other isolated areas

2. Structural aspects (YES-1, NO-2)

(a) Whether ceiling tiles or plaster hanging from the wall/roof?
(b) Is there any dampness in wall?
(c) Are there any cracks in the school structures?
(d) Cross ventilation in classrooms and library
(e) Iron grills covering the wells (Yes-1, No-2, No Well in School- 3)
(f) Proper Fencing/ gates with lock separating secluded places/lonely area
(g) Staircase with railing
(h) Are the corridors and staircases clear of obstruction? (Y/N)

3. About school facilities? Indicate-
(Good-1, Average-2, Poor-3)

(a) Playground (pots/Material / equipment Sharp edges)
(b)Canteen condition (rates /storage eating material/furniture)
(Good-1, Average-2, Poor-3, No Canteen-4)
(c) Quality of food in the canteen (oily/junk food/soft drinks- coke)
(d) Classroom furniture
(e) Classroom lighting
(f) Blackboard

(g) Laboratory condition (neatly arranged or not)
(h) Laboratory equipment (vintage (p)/relatively old (a) /new (g))
(i) Laboratory ventilation (Cross (g) otherwise (p))
(j) Signage Boards to indicate Emergency Exit (quality/prominence)

4. Observation with respect to fire safety

(a) No of Fire extinguishers- (Sufficient-1, Not Sufficient-2)
(b) How many life expired – (Not A Single One-1, Some-2, All-3)
(c) Whether Chemistry Lab has ABC type fire extinguisher. (Yes-1, No-2)
(d) Whether cooking area/kitchen/ Home science Lab has F type fire extinguisher. (Yes-1, No-2)

5. Lab Safety (Y/N) (Yes-1, No-2)

(a) Is there proper ventilation and exhaust facility in the laboratory?
(b) Do the acid bottles have different color caps?
(c) Whether the bottles are properly labeled
(d) Whether the list of Incompatible Materials prominently displayed
(e) Whether incompatible materials are stored separately (IS 4209 : 2013)

6. Does the school demonstrate the following during the visit? (YES-1, NO-2)

(a) Clean school premises
(b) Clean classrooms
(c) Clean play area
(d) Clean toilets
(e) Clean Kitchen
(f) Hand wash
(g) Sanitizer
(h) Toilet papers
(i) Sanitary napkins
(j) Hand towels
(k) Water purifiers or clean drinking water
(l) Sufficient number of dust bins
(m) Dirty, cracked, scribbled school furniture
(n) Fulltime housekeeping staff
(o) Central Alarm system/PA system
(p) Floor evacuation plan

7. Whether Girls Toilets are having dust bins for disposing waste material. (Y/N) (Yes-1, No-2)

8. Is there running water facility in all the toilets?(Yes-1, No-2)

9. Does any woman attendant stand outside the ladies toilet? (Yes-1, No-2)

10. Is there any team or committee to monitor traffic movement at the time of assembly and dispersal? (Yes-1, No-2)

11. Any high voltage wires / cables/towers in the school premises? (Yes-1, No-2)

12. Is the ID of visitor checked based on valid ID proof such as :- (Yes-1, No-2)

    (a) Aadhar card
    (b) PAN card
    (c) Any other official ID

13. Does school have the following medical facilities? Y/N

    (a) Sick room Y/N
    (b) School clinic Y/N
    (c) First aid tablets Y/N
    (d) Medical equipments (Stethoscope, BP machine, Oxygen mask) Y/N
    (e) In house doctor Y/N
    (f) On call (part-time) doctor Y/N
    (g) Full time nurse Y/N
    (h) Male/female help (maids) Y/N
    (i) School ambulance Y/N

APPENDIX F: LIST OF MASTER TRAINERS- DELHI AREA

(Refers to Para No.4.36,5.1.1)

SOURCE: https://ndma.gov.in/images/pdf/school_safety/particpnats.pdf

Sh. Charan Singh Yadav	Nodal Officer	DDE, SW-B	9868489393
Sh. U.K. Tanti	PGT	Dept. of Education,DDE, SW-B	9868374217
Sh. Ram Chander,	District Project Officer	District Disaster Management Authority	9971975737
Sh. Sanjay Kumar Jha	Project Coordinator	District Disaster Management Authority	9312156998
Ms. Sumedha Goel	District Project Officer	District Disaster Management Authority	9873931566
Sh. Shakti Kumar	Project Coordinator	District Disaster Management Authority	9990772094
Sh. Surinder Kumar	TGT	Dept. of Education	9250172258
Sh. Novil	TGT	Dept. of Education	9990991388
Sh. Rakesh Kumar Tawar	TGT-Maths	Dept. of Education	9868007580

APPENDIX G: LIST OF MASTER TRAINERS: DELHI AREA

(Refers to Para No. 5.12)

The Hon'ble Supreme Court of India, Justice Dalveer Singh in response in response to Writ Petition (Civil) No.483 of 2004, Avinash Mehrotra vs Union of India has laid down the following minimum specifications for school buildings:

SCHOOL BUILDING SPECIFICATIONS

1. The school building shall preferably be "A" construction with /stone masonry wall with RCC roofing. Where it is not possible to provide RCCC roofing only non – combustible fire proof heat resistance material should be used.

2. The nursery and elementary schools should be housed in single storied buildings and the maximum number of floors in school buildings shall be restricted to three including the ground floor

3. The school building shall be free from inflammable and toxic materials, which if necessary should be stored away from the school building

4. The stair cases which act as exits or escape routes, shall adhere to provision specified in the national building code of India 2005 to ensure quick evacuation of children

5. The orientation of the buildings shall be in such a way that proper air circulation and lighting is available with open space all-round the building as far as possible

6. Existing school buildings shall be provided with additional doors in the main entrance s a well as the class room if required

7. The size of the main exit and class room doors shall be enlarged if found inadequate

8. School buildings have to be insured against fir and natural calamities with group insurance of the school pupils

9. Kitchen and other activities involving use of fire shall be carried out in a secure and safe location away from the main school building

10. All school shall have water storage tanks

SALIENT FEATURES OF NATIONAL BUILDING CODE 2005 (NBC 2005)

1. Inclusion of a complete philosophy and direction for successfully accomplishing the building projects through Integrated Multidisciplinary Approach right through conceptual stage to planning, designing, construction, operation and maintenance stagesA series of reforms in building permit process

2. Provisions to ensure and certification of safety of buildings against natural disaster by engineer and structural engineer
.

3. Provision for two stage permit for high rise and special buildings

4. Provision for periodic renewal certificate of occupied buildings from structural, fire and electrical safety point of view

5. Provision for empowering engineers and architects for sanctioning plans of residential buildings up to 500 m2

6. Inclusion of detailed town planning norms for various amenities such as educational facilities, medical facilities, distribution services, police, civil defence and home guards and fire services

7. Revision of parking requirements for metro and mega cities

8. Up-dation of special requirements for low income housing for urban areas

9. Inclusion of special requirements for low income housing rural habitat planning

10 Revision of the provisions for buildings and facilities for physically challenged

11 Fire safety norms completely revamped through detailed provisions on Fire Prevention, Life Safety and Fire Protection

12 Inclusion of new categories of starred hotels, heritage structures and archeological monuments for fire safety provisions

13 Substitution of halon based fire/extinguishers fire fighting system

14 Promotion to new/innovative building materials/technologies

15 Inclusion of latest provisions for earthquake resistant design and construction

16 Inclusion of details on mult-disaster prone districts

17 Inclusion of new chapter on design and construction using bamboo

18 Chapter on prefabricated and composite construction for speedier construction

19 Updation of provision of safety in construction

20 Complete revision of provision on building and plumbing services in line with applicable international practices

21 Provisions on rain water harvesting

22. Inclusion of new chapter to cover landscaping needs

APPENDIX H: SUMMARIZED STATISTICAL ANALYSIS
(Refers to Para No.4.1)

PRINCIPAL QUESTIONNAIRE STATISITICAL ANALYSIS(ANOVA)

Sl.No.	Calculate Value	Critical Value	P Value	Result
1	6.28	3.98	.015	Significant difference between the group averages
2	2.07	3.98	.17	No significant difference between the groups averages
2(a)	5	3.98	.02	Significant difference between the group averages
3	1.48	3.98	.26	No significant difference between the groups averages
3(a)	3.14	3.98	.08	No significant difference between the groups averages
4	1.48	3.98	.26	No significant difference between the groups averages
5	1.57	3.98	.25	No significant difference between the groups averages
6	1.57	3.98	.25	No significant difference between the groups averages
6(a)	0.62	3.98	.55	No significant difference between the groups averages
7	0.72	3.98	.50	No significant difference between the groups averages
8	0.45	3.98	.64	No significant difference between the groups averages
9	0.78	3.98	.47	No significant difference between the groups averages
10	65535	3.98	NUM	No significant difference between the groups averages

11	1.57	3.98	.25	No significant difference between the groups averages
12	0.58	3.98	.57	No significant difference between the groups averages
12(a)	2.98	3.98	.09	No significant difference between the groups averages
13	0.23	3.98	.79	No significant difference between the groups averages
14	1.30	3.98	.30	No significant difference between the groups averages
14(a)	13.35	3.98	.00	Significant difference between the group averages
15	65535	3.98	NUM	No significant difference between the groups averages
16	3.92	3.98	.05	No significant difference between the groups averages
16(a)	1.90	3.98	.19	No significant difference between the groups averages
17	0.00	3.98	1.0	No significant difference between the groups averages
18	0.30	3.98	.74	No significant difference between the groups averages
19	65535	3.98	NUM	No significant difference between the groups averages
19(a)	65535	3.98	NUM	No significant difference between the groups averages

SCHOOL SAFETY FOCAL POINT TEACHER QUESTIONNAIRE STATISITICAL ANALYSIS

Sl.No.	Calculate Value	Critical Value	P Value	Result
1	1.90	3.98	0.19	No significant difference between the groups averages
2	1.30	3.98	0.30	No significant difference between the groups averages
3	1.48	3.98	0.26	No significant difference between the groups averages
4	3.14	3.98	0.80	No significant difference between the groups averages
5	6.28	3.98	0.01	Significant difference between the group averages
6	0.45	3.98	0.64	No significant difference between the groups averages
6(a)	1.23	3.98	0.32	No significant difference between the groups averages
7	0.39	3.98	0.68	No significant difference between the groups averages
7(a)	1.48	3.98	0.26	No significant difference between the groups averages
8	1.57	3.98	0.25	No significant difference between the groups averages
8(a)	0.62	3.98	0.55	No significant difference between the groups averages
9	0.72	3.98	0.50	No significant difference between the groups averages
10	2.98	3.98	0.09	No significant difference between the groups averages
11	1.48	3.98	0.26	No significant difference between the groups

				averages
12	3.14	3.98	0.08	No significant difference between the groups averages
13	1.30	3.98	1.30	No significant difference between the groups averages
13(a)	5	3.98	5.0	Significant difference between the group averages
14	1.90	3.98	1.90	No significant difference between the groups averages
14(a)	5	3.98	.02	No significant difference between the groups averages
15	.73	3.98	.49	No significant difference between the groups averages
16	1.30	3.98	.30	No significant difference between the groups averages
17	1.57	3.98	.25	No significant difference between the groups averages
18	0.23	3.98	.23	No significant difference between the groups averages
19	4.42	3.98	.03	Significant difference between the group averages
20	2.07	3.98	.17	no significant difference between the groups averages
21	4.42	3.98	.03	Significant difference between the group averages
22	.05	3.98	.94	No significant difference between the groups averages
23(a)	6.4	3.98	.01	Significant difference between the group averages
23(b)	65535	3.98	Num	No significant difference between the groups averages
23(c)	65535	3.98	Num	No significant difference between the groups averages

23(d)	65535	3.98	Num	No significant difference between the groups averages
24(a)	65535	3.98	Num	No significant difference between the groups averages
24(b)	65535	3.98	Num	No significant difference between the groups averages
24(c)	65535	3.98	Num	No significant difference between the groups averages
24(d)	65535	3.98	Num	No significant difference between the groups averages
25	3.14	3.98	.08	No significant difference between the groups averages
26	65535	3.98	Num	No significant difference between the groups averages
26(a)	1.15	3.98	.35	No significant difference between the groups averages
27	5.0	3.98	.02	No significant difference between the groups averages
28	2.75	3.98	.10	No significant difference between the groups averages
29	6.28	3.98	.05	Significant difference between the group averages
30	.58	3.98	.57	No significant difference between the groups averages
30(a)	.58	3.98	.57	No significant difference between the groups averages
31	.58	3.98	.57	No significant difference between the groups averages
31(a)	.72	3.98	.50	No significant difference between the groups averages
32	65535	3.98	Num	No significant difference between the groups averages
33	6.28	3.98	0.01	Significant difference between the group

				averages
34	.78	3.98	0.47	No significant difference between the groups averages
34(a)	1.30	3.98	0.30	No significant difference between the groups averages
34(b)	6.40	3.98	0.01	Significant difference between the group averages
34(c)	3.92	3.98	0.05	No significant difference between the groups averages
34(d)	11.78	3.98	0.00	Significant difference between the group averages
34(e)	5.0	3.98	0.02	No significant difference between the groups averages
34(f)	0.39	3.98	0.68	No significant difference between the groups averages
34(g)	6.40	3.98	0.01	Significant difference between the group averages
34(h)	20.16	3.98	0.00	Significant difference between the group averages
34(i)	0.45	3.98	0.64	No significant difference between the groups averages

PARENTS QUESTIONNAIRE STATISITICAL ANALYSIS(Chi Sq)

SL.No.	CALCULATE VALUE	CRITICAL VALUE	Degree of Freedom	RESULT
1	2.83	5.99	(.05,2)	INDEPENDENT
2	7.12	12.59	(.05,6)	INDEPENDENT
3	1.19	5.99	(.05,2)	INDEPENDENT
4	8.81	9.48	(.05,4)	INDEPENDENT
5	81.02	15.50	(.05,8)	DEPENDENT
6	31.89	5.99	(.05,2)	DEPENDENT
7	43.83	9.48	(.05,4)	DEPENDENT
8	40.84	9.48	(.05,4)	DEPENDENT
9	40.84	9.48	(.05,4)	DEPENDENT
10	12.31	9.48	(.05,4)	DEPENDENT
11	23.57	12.59	(.05,6)	DEPENDENT
12	5.64	12.59	(.05,6)	INDEPENDENT
13	23.95	12.59	(.05,6)	DEPENDENT
14	26.07	5.99	(.05,2)	DEPENDENT
15	2.01	5.99	(.05,2)	INDEPENDENT
16	15.83	12.59	(.05,6)	DEPENDENT
17	8.87	9.48	(.05,4)	INDEPENDENT
18	12.57	9.48	(.05,4)	DEPENDENT

STUDENTS STATISITICAL QUESTIONNAIRE ANALYSIS

Sl.No.	CALCULATE VALUE	CRITICAL VALUE	Degree of Freedom	RESULT
1	21.18	5.99	(.05,2)	INDEPENDENT
2	6.74	5.99	(.05,2)	INDEPENDENT
3	0.34	5.99	(.05,2)	INDEPENDENT
4	15.97	9.48	(.05,4)	INDEPENDENT
5	9.96	9.48	(.05,4)	INDEPENDENT
6	21.07	9.48	(.05,4)	INDEPENDENT
7	03.23	5.99	(.05,2)	INDEPENDENT
8	9.67	9.48	(.05,4)	INDEPENDENT
9	65.80	12.59	(.05,6)	INDEPENDENT
10	38.28	12.59	(.05,6)	INDEPENDENT
11	39.90	15.50	(.05,8)	INDEPENDENT
12	14.49	12.59	(.05,6)	INDEPENDENT
13	34.01	15.50	(.05,8)	INDEPENDENT
14	47.41	12.59	(.05,6)	INDEPENDENT
15	35.31	5.99	(.05,2)	INDEPENDENT
16	11.93	9.48	(.05,4)	INDEPENDENT
17	73.93	12.59	(.05,6)	INDEPENDENT
18	43.80	15.50	(.05,8)	INDEPENDENT
19	13.08	15.50	(.05,8)	INDEPENDENT
20	42.54	18.30	(.05,10)	INDEPENDENT

OBSERVATION SCHEDULE STATISITICAL ANALYSIS

Sl.No.	F-CALCULATE VALUE	F-CRITICAL VALUE	P VALUE	RESULT
1(a)	4.90	3.98	0.02	Significant difference between the group averages
1(b)	0.78	3.98	0.47	No significant difference between the groups averages
1(c)	18.07	3.98	0.00	Significant difference between the group averages
1(d)	2.58	3.98	0.12	No significant difference between the groups averages
1(e)	0.78	3.98	0.47	No significant difference between the groups averages
1(f)	6.40	3.98	0.01	Significant difference between the group averages
1(g)	2.98	3.98	0.09	No significant difference between the groups averages
1(h)	1.98	3.98	0.19	No significant difference between the groups averages
1(i)	1.79	3.98	0.21	No significant difference between the groups averages
1(j)	2.75	3.98	0.10	No significant difference between the groups averages
1(k)	7.07	3.98	0.01	Significant difference between the group averages
2(a)	4.6	3.98	0.03	Significant difference between the group averages
2(b)	2.98	3.98	0.09	No significant difference between the groups averages
2(c)	6.40	3.98	0.01	Significant difference

				between the group averages
2(d)	1.30	3.98	0.3	No significant difference between the groups averages
2(e)	1.81	3.98	0.2	No significant difference between the groups averages
2(f)	65535	3.98	-----	No significant difference between the groups averages
2(g)	4.16	3.98	0.04	Significant difference between the group averages
2(h)	0.62	3.98	0.55	No significant difference between the groups averages
2(i)	0.78	3.98	0.47	No significant difference between the groups averages
2(j)	1.48	3.98	0.26	No significant difference between the groups averages
3(a)	2.30	3.98	0.14	No significant difference between the groups averages
3(b)	2.11	3.98	0.16	No significant difference between the groups averages
3(c)	3.05	3.98	0.08	No significant difference between the groups averages
3(d)	3.57	3.98	0.06	no significant difference between the groups averages
3(e)	0.87	3.98	0.44	no significant difference between the groups averages
3(f)	6.70	3.98	0.01	Significant difference between the group averages
3(g)	1.15	3.98	0.35	No significant difference between the groups averages
3(h)	0.35	3.98	0.70	No significant difference between the groups averages
3(i)	0.67	3.98	0.52	No significant difference between the groups averages

3(j)	1.98	3.98	0.18	No significant difference between the groups averages
4(a)	4.60	3.98	0.03	Significant difference between the group averages
4(b)	0.23	3.98	0.79	No significant difference between the groups averages
4(c)	0.78	3.98	0.49	No significant difference between the groups averages
4(d)	3.14	3.98	0.08	No significant difference between the groups averages
5(a)	1.30	3.98	0.03	No significant difference between the groups averages
5(b)	1.48	3.98	0.26	No significant difference between the groups averages
5(c)	2.75	3.98	0.01	No significant difference between the groups averages
5(d)	4.60	3.98	0.03	Significant difference between the group averages
5(e)	15.71	3.98	0.00	Significant difference between the group averages
6(a)	1.30	3.98	0.30	No significant difference between the groups averages
6(b)	65535	3.98	NUM	No significant difference between the groups averages
6(c)	1.30	3.98	0.30	No significant difference between the groups averages
6(d)	6.40	3.98	0.01	Significant difference between the group averages
6(e)	3.53	3.98	0.06	No significant difference between the groups averages
6(f)	0.30	3.98	0.74	No significant difference between the groups averages
6(g)	0.62	3.98	0.55	No significant difference

				between the groups averages
6(h)	65535	3.98	NUM	No significant difference between the groups averages
6(i)	1.15	3.98	0.35	No significant difference between the groups averages
6(j)	1.57	3.98	0.25	No significant difference between the groups averages
6(k)	4.97	3.98	0.02	Significant difference between the group averages
6(l)	4.97	3.98	0.02	Significant difference between the group averages
6(m)	4.60	3.98	0.03	Significant difference between the group averages
6(n)	11.78	3.98	0.00	Significant difference between the group averages
6(o)	0.15	3.98	0.85	No significant difference between the groups averages
6(p)	2.75	3.98	0.10	No significant difference between the groups averages
7	1.30	3.98	0.30	No significant difference between the groups averages
8	65535	3.98	NUM	No significant difference between the groups averages
9	2.75	3.98	0.10	No significant difference between the groups averages
10	2.75	3.98	0.10	No significant difference between the groups averages
11	65535	3.98	NUM	No significant difference between the groups averages
12	2.98	3.98	0.09	No significant difference between the groups averages
13(a)	1.30	3.98	0.30	No significant difference between the groups averages

13(b)	6.40	3.98	0.01	Significant difference between the group averages
13(c)	3.92	3.98	0.05	No significant difference between the groups averages
13(d)	11.78	3.98	0.00	Significant difference between the group averages
13(e)	0.72	3.98	0.50	No significant difference between the groups averages
13(f)	0.72	3.98	0.50	No significant difference between the groups averages
13(g)	6.40	3.98	0.01	Significant difference between the group averages
13(h)	20.16	3.98	0.00	Significant difference between the group averages
13(i)	0.45	3.98	0.64	No significant difference between the groups averages