

**“Study on Environment, Health and Safety Conditions in Moolji Jaitha
College of Jalgaon City, Maharashtra”**

Kiran Pawar¹, Gauri Rane², Akash Patil³, and Nilay Modak³

^{1,3}Post Graduate Department of Environmental Sciences, Moolji Jaitha College, Jalgaon, India.

²Principal, Dr. Annasaheb G. D. Bendale Mahila Mahavidyalaya, Jalgaon, India.

Abstract

The issue of environment, health and safety (EHS) is receiving more attention as an increasing fraction of the world's population are now living in urban centers and are demanding a cleaner environment. Disaster like fire, air and water pollution, noise intensity, heat trouble is considered as the most important contributing factor for human health. The growth and development of any educational institute is depends on student, so the main responsibility of institute is to maintain safe working environmental conditions in their premises for students and staff. To keep this thing in mind, the present study was carried out at one of the most reputed educational institute of Jalgaon city, Maharashtra. This study shows the risk and chances of the simple/electrical/chemical fire in educational institute with awareness among the administrations, staff and key point i.e. student. This study was assess ambient/workplace air and noise quality, drinking water quality, light intensity within the college campus to show this parameter will within permissible limit or not. This study also gives information about the environment, health and safety of staff and students within the college campus.

Key words: EHS, disaster, education institute, safe working, risk, awareness, campus.

Introduction

- The issue of environment, health and safety (EHS) is receiving more attention as an increasing fraction of the world's population are now living in urban centers and are demanding a cleaner environment.
- Disaster like fire, air and water pollution, noise intensity, heat trouble is considered as the most important contributing factor for human health.
- The growth and development of any educational institute is depends on student, so the main responsibility of institute is to maintain safe working environmental conditions in their premises for students and staff.
- To keep this thing in mind, the present study was carried out at one of the most reputed educational institute of Jalgaon city, Maharashtra.

Objectives

- To study the unsafe conditions in Educational Institutes.
- To evaluate the risk associated with unsafe conditions.
- To prepare the report regarding EHS conditions.

Hypothesis

- EHS study will assess the risk factor (fire) and critical study on community health management (Environment measure: Air/Drinking Water/Noise Quality) at various locations in selected Educational Institute due to unsafe working conditions and its effect on staff/students and other residential peoples in the vicinity of these areas.

Material and Methodology

| Parameter | Methods |
|---|----------------------|
| Fire Risk | Survey |
| Ambient and Workplace Air Quality Monitoring and Assessment | By RDS Sampler |
| Water Quality Assessment | By APHA-1998 Method |
| Monitoring and Assessment of Noise | By Noise Level Meter |
| Monitoring and Assessment of Light Intensity | By Lux Meter |

Result & Discussions

Fire Risk



Unsafe LPG Tube



Unsafe Open Electric



Unsafe Condition

Ambient and Workplace Air Quality Monitoring and Assessment

| Location Code | Locations | Parameters | | |
|---------------|--------------|-----------------|-----------------|-------|
| | | SO _x | NO _x | SPM |
| L-1 | Main Gate | 22.98 | 65.42 | 201.8 |
| L-2 | Entrance - 1 | 24.49 | 61.98 | 203.7 |
| L-3 | Entrance – 2 | 24.86 | 59.82 | 178.8 |
| L-4 | Back side | 21.62 | 57.72 | 152.2 |
| L-5 | Back side | 23.48 | 41.07 | 144.7 |
| NAAQS Limits | | 80 | 80 | 200 |

Table 2: Status of Ambient Air Quality within the premises of Institute

Conclusions

- From the study of Fire & Fire Risk, it was conclude that some science faculties laboratory were not followed the practical manual procedures. In some laboratories there was some unsafe conditions and unsafe practices which cure by CAPA (Corrective and Preventive actions)
- Some laboratories follows good practices like separate collections of solid waste, display of MSDS sheet, display of Safety rules, display of Emergency contact numbers etc.
- From the study of ambient air monitoring data, it was concluding that the observed ambient air quality was high at Main gate, and Parking Area of the college campus beyond the National Ambient Air Quality Standards. The maximum concentration of SPM was found at parking area i. e. 244.8 $\mu\text{g}/\text{m}^3$. With this reasons the vehicular traffic is high at all times in this area including all types of vehicles which leads to increase the concentration of SPM. For this reason, College authority plants more trees around the boundary level of college premises.
- The analytical results of collected water samples were evaluated by using standard APHA (1998) methods. The obtained results were compared with standards given by Bureau of Indian Standards (BIS) for drinking water. The obtained result of drinking water quality was within permissible limits given by BIS.
- The ambient and workplace quality was monitored and it was conclude that the ambient Noise quality was exceeding the permissible limits given by MPCB for silent zones. The

observations shows the Noise Level exceed the permissible limit at Main Entrance (Gate No. 1) and Second Entrance (Gate No. 2). The recorded noise level at Main Entrance (Gate No. 1) during day time and night time was **105.1 & 68.7 dB** respectively, while at Second Entrance (Gate No. 2) it was **60.8 dB** during day time and **44.1 dB** during night time. According to MPCB standard of Noise Level, the observed values at respective areas exceed the permissible limit. This is because of the vehicles like buses, trucks, tractors, motorcycles; delivery vans etc. running on the roads and generators during power cut hours. The bad condition of the vehicles especially tractors metallic body and their vibration produce much noise. The bad condition of roads and the drivers' behavior of using horn add more noise to respective locations.

- The illumination levels at all locations were found good according to standards.

References

1. Adams K.F. and Hyde H.A., (1965) Pollen grains and fungal spores indoor and outdoor at Cardiff, *Journal of Palynology*, **1**, 67– 69.
2. Agrawal M, Nandi P K and Rao D N, (1982) *Water, Air Soil Pollut.*, 18, 449-454
3. Agrawal M. (2005). Effects of air pollution of periurban agriculture: An issue of national concern. *Natl. Acad. Sci. Lett.*, **28**(3&4), 93-105.
4. Aneja VP, Agarwal A, Roelle PA, Phillip SB, Tong Q, Watkins N, Yablonsky R. (2001). Measurements and analysis of criteria pollutants in New Delhi, India. *Environ Int* (**27**), 35-42.