7.3 Provide the details of the performance of the institution in one area distinctive to its vision, priority and thrust. Provide the web link of the institution in not more than 500 words.

"Research Studies on Unknown Foul Odour of Indore City-2019"

Aim and Objectives :

Aim: To investigate the foul odour reported in Indore city and to find its probable reasons.

Objectives:

i. To perform survey of affected localities to know the details of foul odour.
ii. To get Questionnaires filled from local residents to get their views on foul odour.
iii. To visit the affected regions of the city.
iv. To perform Sampling of soil from affected regions and its analysis.
v. To perform Sampling of water from Khan river from affected region and its analysis.
vi. To perform Microbiological analysis of air of affected region.
vii. To observe of wind flow directions during hours of foul odour.
viii. To interpret the data for probable reasons of foul odour.

The Context: Indore city has been awarded with the title of "the cleanest city of India" for the last three successive years. City is well known for its cleanness and waste management. The Indore Municipal Corporation (IMC) has worked hard for the maintenance of cleanness and their efforts have led to the way for the cleanest city in the country for three consequent years. During the late months of 2019 the residents of Indore reported a foul smell in some areas of the city specially in evening hours. They claimed that the smell was very intense and unbearable.

Department of Microbiology, Govt. Holkar Science college, Indore had taken initiative to deal with this problem as their social responsibility. The Head of the department Dr. Sanjay Vyas along with four professors of the department Dr. Shweta Hardia, Dr.Anita Mukati, Dr. Deepti Khare & Asst. Prof. Anuja Sharma and about 16 students of the department have worked and produced the report.

The Practice: Studies had been performed at different levels. At first local survey was done around 20 different sites from where foul smell was reported. This survey was done with the help of questionnaire and the result of the survey showed that local residents of certain areas are continuously facing this problem since last 1.5 months. As per residents, the smell was similar to decomposition or fermentation. The smell usually came in the evening hours around 6-10 pm. Residents also complained health problems like headache, vomiting and eye disorders due to the smell. Residents residing in Devguradia and near by places suspected that the smell might be coming from trenching ground.

Team had done studies on airflow, which showed change in air direction responsible for foul smell in different areas. Studies were done with the help of "wind finder application" and had shown that when the wind direction was toward south-east, the eastern regions of the city were affected while when the direction was towards south-west, the western regions where affected. It was observed that no foul smell was felt when the wind direction was south-north. This indicate that cause of the foul smell may be in southern parts of the city.

In the second level of studies, sampling was done from 06 different of suspected locations. Water and soil samples were collected from Kahn river which was suspected as a possible waste disposing area resulting in foul smell.

Evidence of Success: Different tests were performed with water such as temperature, pH, Alkalinity, BOD, TDS, Chloride, Hydrogen Sulphide and ammonia content. It was analysed that all the samples had not shown any unusual results regarding above parameters. The samples taken from bore well of trenching ground showed very high content of ammonia and fluoride. Microbial analysis suggested normal contamination of sewage water like faecal coliforms and faecal Streptococci. Soil was analysed for physical parameters and microbial contamination and results does not showed any suspects regarding cause of foul smell. Microbial examination of air flora was done which showed presence of normal contaminants like Bacillus, Streptococci, Aspergillus, Penicillium, Alternaria, Rhizopus, Candida, Micrococcus etc. these studies showed that none of the microbial species was related with the possible reasons for foul smell.

The report helps in concluding that soil and water were not the possible cause for foul odour in affected areas.

Problems Encountered and Resources Required: The team had to travel to different locations to collect survey data from the local population. The sampling kits for soil and water analysis were required to collect samples from most affected areas.

IQAC Coordinator
Govt. Holkar Science College, Indore

Principal
Govt. Holkar Science College, Indore

PRINCIPAL
Govt. Model Autonomous
Holkar Science College
Indore (M.P.)