

Odor Annoyance and Level of Information about Local Industries: A Comparative Study of Public Perception

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This study analyzes the evolution of community opinions regarding odor pollution and the level of information about local industries in an urban-industrial region in Southeast Brazil. To ensure comparability between the two periods (2019 and 2024), data collection was conducted under similar or proximal meteorological conditions. The variables related to public perception and information were organized into three dimensions: (1) Governance and Management, encompassing satisfaction with citizen involvement, transparency in decision-making, and adequacy of risk information; (2) Regional Value, focusing on the industry's importance to the region; and (3) Environmental and Personal Impact, addressing general environmental impact, personal concern, and effects on social life. Statistical tests, including Chi-square and Fisher's Exact Test, were applied to associate these perception variables with the condition of being "annoyed" or "not annoyed" by odor. Results indicate that annoyance levels were higher in 2024, with odors predominantly described as "rotten eggs," "aggressive," and "burnt plastic." Sewage treatment was identified as a primary odor source, especially in 2024, followed by the steel industry. Regarding the three dimensions, while a persistent majority of respondents felt inadequately informed about risks and excluded from decision-making, there was a positive shift in the Governance and Management dimension; agreement that industries are "well managed" rose from 10% in 2019 to 39% in 2024. In the Environmental and Personal Impact dimension, despite a high and stable recognition of industrial impact on the environment (approximately 80%), personal concern and the perceived impact on social life showed a significant decrease over the five-year period. Finally, the Regional Value dimension remained consistent, with over 80% of the community recognizing the industrial sector as vital for the region in both surveys. The community agreement related to environmental and personal impact, such as personal concern and perceived effects on social life, along with the perception of inefficient industrial management, were significantly associated with being annoyed by odors ($p < 0.05$). The results also reveal that although sensory dissatisfaction persists and residents still report a lack of information and participation, there is a growing recognition of industrial importance and an improvement in the perception of management.

Key-words: Odor annoyance, Community perception, Industrial Governance.