Data Article

Data analysis on the level of exposure to pollutions in industrial zone: A case study of Ewekoro and Ota Township

G.U. Fayomi, O. Wusu, S.E. Mini, O.S.I. Fayomi, O. Kilanko

This study focused on a comparative analysis of exposure to pollution in Ota and Ewekoro Township where we have concentration of industries that emits pollutant to the air. This was with a view to proffer solution to the negative effects of industrial activities on residents within industrial location. The study involved empirical observation and interview of residents. About 652 questionnaires were administered randomly on the residents. Analysis involved descriptive statistical tools including chi-square techniques. The results suggest that air pollution was most frequently reported in Ewekoro and Ota and this can help in the prediction of stringent factor in which industrial activities could pose to society.

© 2018 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).
| **Subject area** | Environmental Science and Engineering |
|------------------|--------------------------------------|
| **More specific subject area** | Pollution and urban system |
| **Type of data** | Table, image |
| **How data was acquired** | For the purpose of these research works, a systematic sampling technique was used. This involved selecting every 10 houses in Major Street and every 5 houses in Minor Street. In Ota, 20 major street and 13 minor street was selected making a total of 320 for Ota and 332 questionnaire administered for Ewekoro township. |
| **Data format** | Raw, Analyzed |
| **Experimental factors** | A number of 68 streets were surveyed in the two study area where every 10 houses were selected at random in long streets and 5 houses in short street to make a total of 652 houses as the sample size. |
| **Experimental features** | The primary sources of data collection in this study involves the use of various methods of data collection of information such as the use of questionnaire, direct interviews, personal observation and the use of photographs. The data sources were utilized to ensure comprehensive exploration of this study. |
| **Data source location** | Ewekoro and Ota industrial zone |
| **Data accessibility** | Data are available within this article |

### Value of the data

- The given data will show author in the field of environmental management and urban renewal the trend of pollution as it relate to industrial activities.
- The data obtained can be used as inference to understand clearly the percentage distribution of respondents by socio-economic and physical characteristics.
- The data can be used to examine the relationship between the different levels of disposition to various environmental hazards.

### 1. Data

In an attempt at appreciating the respondents perception on pollution generated from the industries, residents were asked to indicate their perceived causes in the study settings. Table 1 shows the percentage distribution of respondents by selected characteristics as reported by Refs. [1–3]. This include percentage distribution of respondent by age, sex, religion, educational qualification, average monthly income, type of property occupied and approximate distance between the factory site and individual houses. Age group 25–29 years has the highest proportion of the respondents in Ota (22%) and Ewekoro (31%). While male respondents were in majority in Ota (59%) female were in majority in Ewekoro (53%).

More so analysis shows that 89% of the respondents reported industrial causes as the major sources of pollution within their neighborhood while 7% of the study sample indicated other causes as presented in Tables 2 and 3. Respondents were asked to rate the various types of pollution in an attempt to confirm the different levels of disposition to various environmental hazards. The analysis in Table 4 shows that air pollution rated high prevalence with 50% in Ota and 54% in Ewekoro compared to noise pollution with 36% and 22% high prevalence. Water pollution has low rate with 5% in Ota and 11% in Ewekoro. The photo view of the rapid industrialised activities within the region is presented in Figs. 1 and 2.
Table 1
Data on percentage distribution of respondents by socio-economic and physical characteristics.

|                      | Ota | %  | Ewekoro | Total | Percentage |
|----------------------|-----|----|---------|-------|------------|
| **Age distribution** |     |    |         |       |            |
| 15–19                | 20  | 6  | 19      | 39    | 6          |
| 20–24                | 54  | 17 | 43      | 97    | 15         |
| 25–29                | 66  | 22 | 102     | 168   | 26         |
| 30–34                | 57  | 18 | 83      | 140   | 21         |
| 35–39                | 26  | 8  | 32      | 58    | 9          |
| 40–44                | 31  | 9  | 15      | 46    | 7          |
| 45+                  | 45  | 14 | 11      | 56    | 8          |
| No response          | 21  | 6  | 27      | 48    | 7          |
| Total                | 320 | 100| 332     | 652   | 100        |
| **Sex distribution** |     |    |         |       |            |
| Male                 | 191 | 59 | 141     | 345   | 53         |
| Female               | 118 | 36 | 175     | 293   | 45         |
| No response          | 11  | 4  | 3       | 14    | 2          |
| Total                | 320 | 100| 329     | 652   | 100        |
| **Religion**         |     |    |         |       |            |
| Catholic Christians  | 124 | 38 | 199     | 323   | 50         |
| Non Catholic Christians | 162  | 51 | 60      | 222   | 34         |
| No response          | 34  | 11 | 73      | 107   | 16         |
| Total                | 320 | 100| 332     | 652   | 100        |
| **Educational qualification** |     |    |         |       |            |
| SSCE                 | 111 | 35 | 91      | 202   | 31         |
| Tertiary Education   | 181 | 56 | 227     | 408   | 63         |
| No response          | 28  | 8  | 14      | 42    | 6          |
| Total                | 320 | 100| 332     | 652   | 100        |
| **Monthly income**   |     |    |         |       |            |
| 5000–15,000          | 49  | 15 | 24      | 73    | 11         |
| 16,000–25,000        | 69  | 22 | 80      | 149   | 23         |
| 26,000–35,000        | 67  | 21 | 75      | 142   | 22         |
| 36,000–45,000        | 34  | 11 | 55      | 89    | 14         |
| 46,000–55,000        | 16  | 5  | 24      | 40    | 6          |
| 56,000–65,000        | 8   | 3  | 5       | 13    | 2          |
| 66,000+              | 37  | 12 | 26      | 63    | 9          |
| No response          | 40  | 13 | 43      | 83    | 13         |
| Total                | 320 | 100| 332     | 652   | 100        |
| **Type of property** |     |    |         |       |            |
| Tenement apartment   | 135 | 42 | 199     | 334   | 52         |
| 2b/r flat            | 88  | 27 | 109     | 197   | 31         |
| Others               | 77  | 24 | 20      | 97    | 14         |
| No response          | 20  | 6  | 4       | 22    | 3          |
| Total                | 320 | 100| 332     | 652   | 100        |
| **Approximate distance in metre** |     |    |         |       |            |
| Less than 100 m      | 79  | 29 | 57      | 136   | 21         |
| 100–549 m            | 140 | 44 | 168     | 316   | 48         |
| 550–999 m            | 32  | 10 | 29      | 61    | 9          |
| 1 km+                | 50  | 16 | 63      | 113   | 17         |
| No response          | 19  | 6  | 15      | 34    | 5          |
| Total                | 320 | 100| 332     | 652   | 100        |
2. Experimental design, materials and methods

Quantitative data collection method was used for this study. This strategy includes the use of questionnaire, direct interviews, personal observation and the use of photographs [3]. The data sources were utilized to ensure comprehensive exploration of the investigation. All the data collected for the purpose of this study were analysed using statistical techniques such as tabulations, bar-charts and histogram, frequency polygon, cross tabulations and photographs at univariate and bivariate
levels of analyses was employed during the process of data analysis and presentation [4,5]. Chi square was used to determine the association between the perceived level of exposure and health conditions of the inhabitants as stated in the hypothesis. The study population include men and women aged 18 years and above in Ota and Ewekoro township.

Acknowledgement

The authors acknowledged Covenant University on the provision of software for analysis and research support received from CUCRID, Covenant University Ota.

Transparency document. Supporting information

Transparency data associated with this article can be found in the online version at https://doi.org/10.1016/j.dib.2018.05.078.
References

[1] A.A. Oketola, O. Osibanjo, Estimating sectorial pollution load in Lagos by Industrial Pollution Projection System (IPPS), Toxicol. Environ. Chem. 91 (2010) 799–818.
[2] A.B. Oketola, A.A. Adetula, O. Osibanjo, Estimating sectorial pollution load in Lagos, Nigeria using data mining techniques, Int. J. Comput. Sci. 91 (2012) 799–818.
[3] A.O. Babatunde, Y.O. Zhao, M. Oneil, Constructed wetlands for environmental pollution control: a review of developments, research and practice in Ireland, Environ. Int. 34 (2008) 116–126.
[4] J.G. Wilson, S Kingham, J. Peace, Air pollution and restricted activity days among New Zealand school children and staff, Int. J. Environ. Pollut. 41 (2010) 2–13.
[5] S. Baby, N.A. Singh, P. Shrivastava, S.R. Nath, S.S. Kumar, D. Singh, K. Vivek, Impact of dust emission on plant vegetation of vicinity of cement plant, Environ. Eng. Manag. J. 7 (1) (2008) 31–35.