SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	**Journal of Engineering Research and Reports**
Manuscript Number:	**Ms_JERR_121791**
Title of the Manuscript:	**Investigation of Noise Pollution from Different Petrol Generators in Nigeria**
Type of Article :	**Original Research Article**

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	**Authors' response to final evaluator's comments**
1. **In Line 1 of the abstract section, please correct to 'Irregular and epileptic power supply in Nigeria, parts of Africa.'** 2. **In Line 3 of the abstract section, correct to "These generators produce noise pollution in the environment."** 3. **In lines 5-7 of the abstract section, please replace "noise production" with "noise generated" for better clarity and flow.** 4. **In lines 11-12 of the abstract section, please delete "at" before "(α = 0.05)"** 5. **In lines 13-14 of the abstract section, please revise "at age 1" to "of age 1"** 6. **In lines 15-18 of the abstract section, please specify that the noise levels are "A-weighted" (dB(A)). Apply correction throughout the paper.** 7. **In lines 15-18 of the abstract section, please replace 'noise level' with 'sound level,' as the instrument measures sound.** 8. **In lines 18-22 of the abstract section, revised sentence as follows: 'The study showed that sound levels from generators increased as they aged. The sound levels from all the generators indicate noise pollution, as they are, on average, above the World Health Organization's specified limits of 30 and 70 decibels for indoor and outdoor environments, respectively. Consequently, the sound generated by various petrol generators is a significant source of noise pollution.** 9. **Suggested keywords: Petrol-powered electricity generators; electricity generators; sound levels; noise pollution; World Health Organization (WHO) limits.** 10. **In lines 1-2 of the background section, consider revising the sentence as follows: "Mechanical power required in supplying most of the energy needed for global industrialization and motorization is supplied by fossil fuels."** 11. **In line 3 of the background section, the statement 'Most of the earth's energy comes in the form of mechanical or electrical energy' is inaccurate. In reality, most of the world's energy initially comes in the form of chemical energy, which is then converted into more useful forms such as mechanical and electrical energy. Please revise this for accuracy.** 12. **In lines 3-6 of the background section, consider revising as follows: 'The socio-economic development and standard of living of any nation are influenced by its energy generation capacity and per capita power consumption.' This combines the two ideas into one concise statement.** 13. **In line 11 of the background section, niobium is incorrectly listed as an energy source. Niobium is a metal used in steel production and superconducting materials, not an energy source. Consider removing niobium or replacing it with a more appropriate energy source like 'hydrogen' or 'geothermal.** 14. **In line 12 of the background section, revise it to 'Babatunde *et al.* [5]'.** 15. **In lines 13-14 of the background section, please revise 'incessant collapse of grid' to 'incessant collapse of the grid'** 16. **In lines 14-15 of the background section, please revise 'to satisfy their energy need' to 'to satisfy their energy needs'**	

17. In page 2, lines 4-5 of the background section, the statement 'The pressure wave that results from alternating air pressure pulses of high and low pressure is known as sound' appears to be a definition and must be cited from a reliable source.
18. In line 1-2 of section 1.2 Noise Pollution, consider revising it to: 'Sound, according to Amos *et al.* [12], is the result of an object vibrating in open air and emitting pressure waves into the air.'
19. In lines 2-3 of section 1.2 Noise Pollution, the sentence 'The decibel (dB) scale defines the level of sound from 80 to 100 dB as (very loud), 100 to 125 dB (uncomfortable) and 140 dB (threshold of pain)' does not mention the lower decibel range for 'loud' sound levels, typically between 70 to 80 dB. Please include the appropriate range and provide a citation.
20. In lines 3-4 of section 1.2 Noise Pollution, please provide the source for this definition to ensure proper attribution.
21. In lines 4-5 of section 1.2 Noise Pollution, please revise the sentence to: 'Pressure waves are produced in IC engines by the recurrent opening and closing of the exhaust valves' for grammatical accuracy and clarity.
22. In lines 5-7 of section 1.2 Noise Pollution, please revise the sentence to: 'As a result, sound waves are created by the rapid fluctuations in pressure due to the exhaust gases. These pressure pulses form the noise that is produced by the engine.'
23. In lines 5-7 of section 1.2 Noise Pollution, please provide the appropriate reference, as this information likely comes from existing research or literature.
24. In lines 8-9 of section 1.2 Noise Pollution, please revise 'man and animal' to 'man and animals'
25. In lines 12-14 of section 1.2 Noise Pollution, please revise 'electric power generator' to 'electric power generators'
26. In lines 14-16 of section 1.2 Noise Pollution, please revise to: 'Babatunde *et al.* [5] estimated the importation of about 60 million generators of varying sizes into Nigeria, used massively in offices, business premises, homes, schools, churches, and others.'
27. In lines 16-17 of section 1.2 Noise Pollution, please revise the sentence for clarity. A suggested revision is: 'Shopping or commercial centers are particularly affected, where several units operate simultaneously to run businesses.'
28. In lines 17-18 of section 1.2 Noise Pollution, please revise to: 'Unmuffled gasoline and diesel engines produce exhaust noise in the range of 85-100 and 100-125 decibels (dB), respectively.' Please provide the appropriate citation.
29. In line 19 of section 1.2 Noise Pollution, the statement 'The human ear has the ability to tolerate noise from 0-140 dB' is incorrect. While the human ear can perceive sounds in this range, it cannot 'tolerate' noise up to 140 dB without harm. Please revise this statement for accuracy and include a citation and consider redistributing the citations [11; 13] throughout the paragraph to support the claims made.
30. In lines 1-2 of section 1.3 Effects of Noise Pollution, the statement 'Photosynthetic process can be disrupted by high decibels leading to reduced plant production [14]' is not supported by the cited paper [14]. After reviewing the source, this specific claim was not found. Please either provide a more appropriate reference or revise the statement to accurately reflect the content of the cited source.
31. In lines 2-4 of section 1.3 Effects of Noise Pollution, the citation of Barberousse should be corrected. Barberousse is cited as [6], but in the reference list, it is actually [15]. Please revise the citation to reflect the correct reference number and ensure that all in-text citation numbers correspond accurately with the numbers in the reference list throughout the paper.
32. In lines 4-6 of section 1.3 Effects of Noise Pollution, revise to: 'Some species of plants also depend on definite acoustic signals for seed pollination. Excessive noise can disrupt this process, leading to interruptions in ecological interactions and biodiversity.'
33. In lines 9-10 of section 1.3 Effects of Noise Pollution, revise to: 'Excessive noise can disrupt the conveyance of vital signals to animals that rely on acoustic communication for mating, territorial defense, or parental care.'
34. In lines 11-13 of section 1.3 Effects of Noise Pollution, the statement 'noise levels above

the 70-75 dB recommended World Health Organization's (WHO) threshold can be linked to conditions such as hypertension, aberrant foetal development, intense emotions, and inappropriate behaviour' is not supported by the cited paper (Brumm and Slabbekoorn [16]). This is a serious misrepresentation of the source. Please either provide an accurate citation that directly supports these claims or remove the statement entirely to maintain academic integrity. **35. In lines 16-17 of section 1.3 Effects of Noise Pollution, the statement 'According to studies, high decibel sound has been linked to a sharp increase in blood pressure, since it narrows blood vessels and interferes with blood flow' is vague and lacks proper citation. Please provide specific references for these 'studies' to substantiate the claim or remove the statement if no source can be cited.** **36. In line 16 of section 1.3 Effects of Noise Pollution, the phrase 'According to studies' must be accompanied by citations of the specific studies being referred to.** **37. In lines 16-19 of section 1.3 Effects of Noise Pollution, the claims about high decibel sound increasing blood pressure and heart rates in children living in noisy environments are not supported by the cited paper (Bisong et al. [17]). The cited paper focuses on hearing acuity loss among food grinding machine operators and does not discuss these health conditions. Please either provide the correct source for these claims or remove the statements to maintain the accuracy of the paper.** **38. In lines 21-23 of section 1.3 Effects of Noise Pollution, please replace the semi-colon with a comma in the sentence: '...which has a damaging impact on the environment, human, animal, and plant health.'** **39. In lines 24-25 of section 1.3 'Effects of Noise Pollution,' please remove the semicolon after 'include.' The correct punctuation should be a colon: 'Effects of noise on humans include: irritation, interference with communication, distraction or loss of concentration, insomnia, and high blood pressure.'** **40. In lines 1-3 of page 3, the claim 'Noise-Induced Hearing Loss (NIHL), a progressive and seemingly undetectable decrease in hearing sensitivity, can be brought on by prolonged exposure to less powerful yet harmful sounds [18; 19]' is not supported by the cited references [18] (Mbamali et al.) and [19] (Olayinka). Neither of these papers discusses NIHL. I recommend citing a more appropriate and recent reference, such as 'Orikpete et al. (2024), Advancing noise management in aviation: Strategic approaches for preventing noise-induced hearing loss, or provide another accurate source.** **41. In lines 3-4 of page 3, the statement 'The range of noise level of a normal electric generator is between 80-105 dB at 6.4 m' lacks a citation. On whose authority is this claim being made? Please provide a credible source to support this specific noise level range or revise the statement to reflect properly referenced data.** **42. The statement in lines 6-8 of Page 3, "In the United States, for instance, laws and regulations usually permit noise levels in residential homes to not exceed 67 dB, and in industrial locations not exceed 72 dB [20]," is unsupported by the cited reference. Please provide an accurate source that substantiates these decibel limits, or revise the statement to align with the available literature on U.S. noise regulations.** **43. The current form of sections 1.1, 1.2, and 1.3 reads more like a thesis, which is not suitable for a journal article. I recommend collapsing these into a single 'Introduction' section. This will help streamline the content, make it more concise, and improve the flow.** **44. In lines 8-9 of section 2 'Materials and Methods,' please revise the sentence to 'The experiment was carried out in three replications,' as there is only one experiment being conducted.** **45. The content in section 2.2 'Sound Producing Machines and Measuring Techniques' seems out of place for a 'Materials and Methods' section, as it discusses general noise suppression solutions, noise mapping, and other topics not directly related to the experiment itself. It would be more appropriate to move this section to the Discussion section, where it can be contextualized with the study's findings.** **46. In page 4, line 4, and wherever else it appears, the significance level in the ANOVA should be corrected from α = 0.5 to α = 0.05. A significance level of 0.5 is too high and not**	

meaningful in most statistical analyses. Please revise accordingly. **47. When referencing figures in the Results and Discussion section, rather than simply listing the figures (e.g., Figs. 1-5), provide a brief description of the trends or key insights from each figure. E.g., 'As shown in Fig. 1, noise intensity decreased significantly as the distance from the 2 kVA generator increased.** **48. In the conclusion section, the statement that 'noise intensity decreased as distance from the generators increased' simply restates the inverse square law, which is a well-established physical principle. Instead of reiterating this known law, focus on the broader implications of your findings, such as how the noise levels compare to health or environmental regulations, or how they contribute to the current understanding of noise pollution from generators in real-world applications.** **49. The conclusion section currently reads more like a repeat of the abstract. Conclusions should be a concise summary of your findings and their implications, without restating detailed results or methodology. I suggest reworking this section to focus on the key takeaways from your study and the broader implications of your findings, without excessive detail or repetition.**	

Reviewer Details:

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