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| Journal Name: | [**Journal of Applied Life Sciences International**](https://journaljalsi.com/index.php/JALSI) |
| Manuscript Number: | **Ms\_JALSI\_141128** |
| Title of the Manuscript: | **Characterization of Antimicrobial-Resistant Non-Typhoidal Salmonella and Other Bacteria in Integrated Fish Farming Environments in Nyeri County** |
| Type of the Article |  |

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| PART 1: Comments | | |
|  | Reviewer’s comment **Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | **Author’s Feedback** (It is mandatory that authors should write his/her feedback here) |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | **It helps to protect environmental health and biodiversity.**  **It aids in understanding the spread of antimicrobial resistance by tracking the origin and movement of determinants between species of the integrated farming system.**  **It is also important for the assessment of public health risks** |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | **Yes, the title is suitable.** |  |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | **The abstract is comprehensive. It is okay as it is.** |  |
| Is the manuscript scientifically, correct? Please write here. | **Yes, the manuscript is scientifically correct.** |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | **The references are sufficient and most of them are recent.** |  |
| Is the language/English quality of the article suitable for scholarly communications? | **The language of the article is suitable for scholarly communications.** |  |
| Optional/General comments | **The manuscript has potential but needs a major review and editing to be fit for publication. I would suggest it goes for a re-review to make sure the author has effected the changes before it gets published.**  This manuscripts talked about the characterization of antimicrobial resistant bacteria in integrated fish farming environments.  **Introduction**  You provided a very good introduction to the subject but it needs some editing.  Line 36: “With popularization of fresh-water”. Freshwater is a single word (no hyphen).  Line 45: “These increase the risk of horizontal gene transfer of antimicrobial resistance (AMR) genes in fish”. Avoid repetition, delete the ‘gene’ in the sentence.  Line 46: “subsequently in human who are the end consumers”. Make the ‘human’ plural (humans).  You do not add a full stop before the references in brackets, you did that in lines 44, 46, 49, and 55.  Line 62: Non typhoidal *Salmonella* (NTS) should be hyphenated (Non-typhoidal).  Line 63: “(laupland, 2010)”. Always use uppercase for the first letter of your reference name. “is an important enteric pathogens”, this should be pathogen.  **Methods**  Do not start your methods section with “This was a cross-sectional study”. You can say “a cross-sectional study was carried out”.  Please show how you used the Cochran formula to determine your sample size of 78 and the justification for using it.  There was no description of how the samples were collected, type of container, storage conditions before taking them to the laboratory. You only said they were transported to the lab in a coo box without mentioning the temperature and why they were processed within 24 hours of collection.  In the *Salmonella* isolation and identification section, you need to explain why plates with characteristic round black colonies surrounded by a metallic sheen were only considered for molecular characterization. If it is typical of *Salmonella* to display this behavior, you have to say it.  For the molecular characterization of non-typhoidal *Salmonella*, is there a justification for the minor modifications of the manufacturer’s instructions? Please mention why.  Also, you don't need to repeat the full reference for the same piece of equipment every time it is used within the same manuscript.  The methods section also need some editing.  Line 86: You can rephrase the sentence to avoid using a number at the beginning. It makes the writing style inconsistent.  Line 88: “Then 25% formic acid overlay method was used for spotting”. This is vague and is not a complete sentence.  Line 89: “using a sterile microcentrifuge tips”. Correct this statement.  Line 129: Define CLSI when you use it for the first time. There are more errors in this section, read the manuscript again carefully and correct all the errors.  **Results**  The results were well presented with nice graphs and chart but also need some editing.  In the demographics of fish farming section, you mentioned water from the local municipal council as a source, but in figure 1 it says county water. It is better to use the same names to avoid misleading or confusing the readers.  When presenting your results, you do not have to report them like this: “A total of 33 (42.3%) (n=78)” or “34.6% (27/78)”. Reporting the number and percentage is fine. You have a table that shows the number of samples, sample size, and percentages, so there is no need to add those numbers in brackets because it looks untidy.  When determining the MIC of the four different antibiotics, you need to mention why you used different concentration ranges. These details help other researchers to replicate your work.  The following lines and more need editing:  Line 169: “Four percent (4%) used food left overs”. Leftovers is a single word.  Line 192: In your list of bacteria species, a comma is missing.  Line 206: “gene were used for”. “Genes” not “gene”.  Line 253: Define CDC when using it for the first time.  Line 310: “This not only threatens aquatic animal health”. It should be “This does not only threaten aquatic animal health”.  **Discussion and Conclusion**  These sections were well written. You did a good job comparing your results to that of other researchers who carried out similar research. You also provided recommendations to help tackle the problem. Most of your references are also recent, which is good.  Overall, the manuscript needs editing to correct typos and grammar errors and a better explanation of the methods used to make it fit for publication in a journal. |  |

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| **PART 2:** | | |
|  | **Reviewer’s comment** | **Author’s Feedback** (It is mandatory that authors should write his/her feedback here) |
| **Are there ethical issues in this manuscript?** | *(If yes, Kindly please write down the ethical issues here in details)* |  |

**Reviewer details:**

**Chima Eke, Montclair State University, USA**