

## Review Form 1.7

Journal Name:	<a href="#">Asian Journal of Environment &amp; Ecology</a>
Manuscript Number:	Ms_AJEE_119023
Title of the Manuscript:	Characterization of Microplastics from Otammiri River Imo State, Nigeria.
Type of the Article	

### **General guideline for Peer Review process:**

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<https://www.journalajee.com/index.php/AJEE/editorial-policy> )

**Review Form 1.7**

**PART 1: Review Comments**

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p><b>Compulsory</b> REVISION comments</p> <p><b>1. Is the manuscript important for scientific community?</b> (Please write few sentences on this manuscript)</p> <p><b>2. Is the title of the article suitable?</b> (If not please suggest an alternative title)</p> <p><b>3. Is the abstract of the article comprehensive?</b></p> <p><b>4. Are subsections and structure of the manuscript appropriate?</b></p> <p><b>5. Do you think the manuscript is scientifically correct?</b></p> <p><b>6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</b></p> <p><b><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></b></p>	<p>1. Microplastics (MPs) are synthetic polymers with major dimension of <math>\leq 5</math> mm [1]. Microplastics have been found in various environmental media, including soil, water, and air, and have been shown to have negative impacts on wildlife. The particles occur in a large variety of shapes, sizes, colors, and compositions. Microplastics (MPs) pollution in water bodies, wastewater, and sewage is of concern due to their probable effects on the environment and human health. This study is an attempt to evaluate characteristics, and polymeric types in Otammiri River, Imo state, Nigeria.</p> <p>Microplastics (MPs) pollution is a major threat to wildlife. Animals mistake MPs for food, leading to malnutrition and death. This plastic problem is widespread, affecting over 300 species and reaching even remote areas like seamounts and the Arctic. Scientific evidence shows MPs are moving up the food chain, with potentially serious consequences for ecosystems (Das and Dash, 2020). <b>Hence this study is relevant &amp; important.</b></p> <p>2. Identifying Microplastic Types and Abundance in the Otammiri River, Imo State, Nigeria.</p> <p>3. Microplastics (MPs) pollution is a major threat to aquatic environment. Scientific evidence shows MPs are moving up the food chain, with potentially serious consequences for ecosystems (Das and Dash, 2020). This plastic problem is widespread, affecting over 300 species and reaching even remote areas like seamounts and the Arctic. Researchers following NOAA protocols found microplastics ranging from 0.3 to 5 millimeters in the Otammiri River, Imo State, Nigeria. These microplastics resisted breakdown and floated in salt solution 5m NaCl. Analysis confirmed them to be mainly polypropylene, polyethylene, PET, polystyrene, and polyurethane.</p> <p><b>Yes.</b></p> <p><b>Yes.</b></p> <p><b>Yes.</b></p> <p><b>Comment</b> The topic is not new. There have been many kinds of such studies on different water bodies.</p> <p><b>Suggestion</b> In order to make it new they could have added a solution that could help us get rid of plastic pollution. Eg. In these challenging times, the discovery of plastic-eating bacteria seems like a beacon of hope. The researchers from Cambridge claim that these bacteria have the power to eliminate plastic pollution from water bodies naturally. All we need to do is introduce them to plastic-filled aquatic environments.</p> <p>Or they could also suggest a circular economy example of recycling these microplastics after fishing them put of water.</p> <p><b>Suggested Abstract.</b></p> <p>The researchers believe the bacteria find it easier to break down plastic for food than to devour other complex organic matter in the lakes. This could be why these bacteria show more rapid growth while feeding on plastic waste than regular natural waste. The researchers also noticed that even when the bacteria had the option to eat readily available natural matter (such as plant leaves)</p>	

## Review Form 1.7

	in the lakes, they preferred eating carbon compounds derived from the breakdown of plastic waste. Interestingly, a four percent rise in a lake's carbon levels (caused due to large amounts of plastic waste) led to a 200 percent increase in the bacteria population. Moreover, the bacteria that regularly consumed plastic became powerful enough to break down other types of complex organic matter. <a href="https://interestingengineering.com/innovation/plastic-eating-bacteria-could-save-water-sources">https://interestingengineering.com/innovation/plastic-eating-bacteria-could-save-water-sources</a>	
<b>Minor</b> REVISION comments		
1. Is language/English quality of the article suitable for scholarly communications?	Yes	
<b>Optional/General</b> comments	-	

## PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

## Reviewer Details:

Name:	<b>N Ganga Vidya</b>
Department, University & Country	<b>NIT Trichy, India</b>