SDI Review Form 1.6

Journal Name:	**Journal of Experimental Agriculture International**
Manuscript Number:	**Ms_JEAI_47616**
Title of the Manuscript:	**Coverage and use of the soil of the hydrographic sub-bowl of Rio Espinharas, PB / RN / PE with emphasis in areas of permanent preservation (APP) and areas of restricted use (AUR)**
Type of the Article	**Original research papers**

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:

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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)*
Compulsory REVISION comments	**TITLE AND ABSTRACT** • The Title is ambiguous. Furthermore, the terms such as PB, RN/ PE are not clear on what they mean. A good title should precisely indicate what the study is all about and should not contain abbreviations. The title should hence be changed as – Assessment of conformity to areas under permanent preservation and restricted use within River Espinharas Hydrographic Sub-Basin. • The abstract should be one continuous block without sections/subheadings • It is clear English is not the first language of the author. The entire abstract should therefore be edited to eliminate glaring grammatical errors. **INTRODUCTION** • Clarify the differences between Areas of Permanent Preservation (APP) and Areas of Restricted Use (AUR). For consistency, Areas of Restricted Use should be abbreviated as ARU and not AUR. • What is BH in full? The sentence should first be written in full then subsequently abbreviated. • Several paragraphs presented seemingly on literature are disjointed/not related in a cohesive manner. The author should critically discuss how reviewed literature are relating/complementing each other. • Additionally, the entire instruction should be thoroughly edited to eliminate common grammatical/sentence construction errors. • The objective of the study is not clear. It is not logical to study soil cover, instead, it should be replaced by the word "land use cover". The study's objectives should therefore be: ✓ Assessment of conformity to areas under permanent preservation and restricted use within River Espinharas Hydrographic Sub-Basin. . This is because the intention is to establish if APP and AUR and conformed to. **MATERIALS AND METHODS** • Avoid use of non-academic words, e.g. "is inserted", instead use, "is located". • There is a mismatch for abbreviations, see of Patos and Campina Grande (PB), Caicó (RN), Serra Talhada (PE). Is PE abbreviation for Serra Talhada, equally, is PB abbreviation for Campina Grande? Correct/clarify this inconsistency. • The journal is published in English. All contents of Figure 01 - SBH location map of the Espinharas River, semi-arid northeast, Brazil, should be changed to English. Also, the standard way of labelling figures is…Figure 1…etc, and not Figure 01. Correct this throughout the paper, including that of tables. • The grid values used in figure 01 are not legible. • Under section 2.2, the author should comprehensively justify/explain and discuss why/how the following materials were used in the study (what value have they added?) - i). Planialtimetric Letters from SUDENE, edited in 1985 and scanned in 1996; (SB.24 - Z - A - VI), Serra Negra do Norte - RN (SB.24 - Z - B - IV), Piancó - PB (SB.24 - Z - C - III) and Ducks-PB (SB.24-Z-D-I). ii). SRTM MDE covering scenes 07_w038_1arc_v3.tiff.aux; s08_w038_1arc_v3.tif.aux; iii). QGIS software including add-ons and GRASSGIS. iv). Landsat 8 satellite images, resolution 30m, bands 2, 3 and 4, orbit, point 216/064, 215/065 and dates 06/08/2017, 08/15/2017 respectively • What is SRTM MDE? And what scenes does it cover? • What was the use of Landsat 8 satellite images? Justify why you used satellite images	the title changes according to a suggestion of the evaluation. The summary was revised where some words and grammatical errors were corrected. In the introduction a paragraph was added to describe the difference between Permanent Preservation Areas and Areas of Restricted Use. In relation to the goal was corrected, as well as grammatical errors. Non-academic words were corrected. In relation as abbreviations all have been repaired. the contents of all the figures were translated into English, as well as the legend was repaired In section 2.2, I justified the following materials were used in the study. The other parts of the material and methods were corrected according to the evaluator's suggestions. Thanks for the suggestions. I hope I have fulfilled all!! In the result and discussions, the content of figure 3 was translated into English. In the report by Melo et al [31], the result was discussed better. Section 3.3 also corrected the errors suggested by the evaluator

with a time frame difference of about 2 months in 2017. The author should instead use satellite images with a minimum time frame/difference of not less than 3 years to detect meaningful change in conformity with APP and AUR.

- All abbreviations used under the methodology section, e,g, SRTM, MDE, SG, APP etc should be clearly explained/written in full at the first instance. Without this, it is difficult to comprehend what they mean.
- It is also not clear what Figure 02 is addressing. The author should first introduce the figure and then discuss what it is trying to convey. As it is, there is limited connection between it and sections such as 2.4, 2.5, 2.6 etc
- In figure 02, there is no link between “delimitation of APPS and AURS on one hand and use map and soil cover and APP conflict map/use…on the other hand” The connecting arrows are missing.

The following steps are not clear as they merely represent instructions/commands issued to the computer software:.

- STRM mosaic composition (Raster> miscellaneous> mosaic);
- Reprojection of the mosaic for flat coordinates, referenced to the Datum Sirgas2000, Zone 24 S (Raster> Projections> Redesign);
- Clipping involving the study area (Vector> Geoprocessing tool> crop);
- Filling of regions without data in the SRTM MDE using the "r.fillnulls" module, which operates with the Spline Adjustment Algorithm [17], implementing in SIG GRASS

The author should describe/discuss what each of the above steps entail to make the methodology easier to comprehend.

Table 01 - Identification of orbital images with coverage for the study area.
Indicate the resolution and band combinations used for the LANDSAT images that were used. As already recommended, the time lag between the images should not be less that at least 3 years.

Figure 03. Use and land cover map of SBH of the Espinharas river: The content of the figure should be in English and not Portuguese. Correct the entire figure.

2.3.4 Characterization of the cover and land use of SBH of the Espinharas river
Avoid reporting the instructions you issued to the software, e.g. mosaic> reprojection, Zone 24Sul> RGB, instead discuss what was undertaken to achieve results.

2.3.5 Delimitation of the APP and AUR of SBH of the Espinharas river
The following steps are mere instructions given to the software.

- Analysis of the MDE (Raster> Analysis> MDE Land Models), with this was obtained the slope of the terrain in degrees;
- For area delimitation (Raster Menu> Convert> Raster to vector> Polygonize).

The author should instead discuss how delimitation was undertaken in plain and descriptive English.

Figure 04. Map of APP and AUR of SBH of the Espinharas river.
The content of the map should be in English and not Portuguese. As such, it is not possible to know the spatial extent of APP and AUR. The figure should clearly indicate the spatial extent of APP and AUR.

Table 03 APP and AUR and their respective areas and percentage in relation to the SBH area of the Espinharas river, Paraíba, Brazil - There is a mixed up in this table. The title of the first column in APP, yet what follows below are mixture of APP and AUR. Change the column title to read, “type of land use”
What study did Melo et al. [31] undertake to justify its comparison with the current study, and how does it differs from current study despite the similarities?

3.3 Conflict between land use and land cover x APP and AUR

- Clarify what : “cover x” is
- Results in Table 04 are not clear. For instance, what are the meaning of commas between numbers (e.g. 38,17)?

	• The author should clearly indicate how Land use and cover (in table 02) conforms to Areas under Permanent Preservation and Areas of Restricted Use so as to determine the extent of conformity. In other words, deviation should denote extent of nonconformity, an aspect not clearly demonstrated in Table 04. The entire paper should be extensively edited to correct grammatical errors	
Minor REVISION comments		
Optional/General 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?	*(If yes, Kindly please write down the ethical issues here in details)*	There are no ethical issues in this manuscript