

Manuscript: “**Spatial Dynamics And Risks Analysis Of Lowlands Degradation Potential Around Of Nakanbé-Dem Sub-Watershed In Center-Nord Of Burkina Faso (West Africa): Through Multi-Date Study And Satellite Tele-Analysis**”

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Peer review:

Reviewer 1: Amina Wafik Cadi Ayyad
University, Marrakech/ Morocco

Reviewer 2: Mikolo Yobo Christian
IRET/CENAREST, Gabon

Reviewer 3: Moussa Boubacar
University of Diffa, Niger

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Reviewer Name: Wafik Amina	Email:
University/Country: Cadi Ayyad University, Marrakech/Morocco	
Date Manuscript Received: 29 May 2020	Date Review Report Submitted: 3 June 2020
Manuscript Title: Multi-date study of the degradation of the potential in the lowland of the Nakanbé-Dem sub-watershed, north-central of Burkina Faso (West Africa): study by satellite tele-analysis	
ESJ Manuscript Number: 20.06.2020	
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You approve, your name as a reviewer of this paper, is available in the "review history" of the paper: Yes/No	
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Evaluation Criteria:

Please give each evaluation item a numeric rating on a 5-point scale, along with a thorough explanation for each point rating.

<i>Questions</i>	<i>Rating Result</i> [Poor] 1-5 [Excellent]
1. The title is clear and it is adequate to the content of the article.	4
<i>(Please insert your comments)</i>	
2. The abstract clearly presents objects, methods and results.	4
<i>(Please insert your comments)</i>	

3. There are few grammatical errors and spelling mistakes in this article.	4
<i>(Please insert your comments)</i>	
4. The study methods are explained clearly.	
<i>(Please insert your comments)</i>	
5. The body of the paper is clear and does not contain errors.	4
<i>(Please insert your comments)</i>	
6. The conclusions or summary are accurate and supported by the content.	4
<i>(Please insert your comments)</i>	
7. The references are comprehensive and appropriate.	4
<i>(Please insert your comments)</i>	

Overall Recommendation (mark an X with your recommendation) :

Accepted, no revision needed	
Accepted, minor revision needed	Yes
Return for major revision and resubmission	
Reject	

Comments and Suggestions to the Author(s):

The manuscript is clear and concise, however, the mathematical equations and some figure legends are unclear. It would be good to rewrite them.

Diagrams showing the parallel evolution of the different parameters would support the evolution of figures 3 and 4.

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ESJ Manuscript Number: 21.06.2020	
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Evaluation Criteria:

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<i>Questions</i>	<i>Rating Result</i> [Poor] 1-5 [Excellent]
1. The title is clear and it is adequate to the content of the article.	2.5
<p><i>(Please insert your comments)</i></p> <p>In my view, the title of the paper is not clear and should emphasize on the key themes of the study. Here are both of my suggestions:</p> <ol style="list-style-type: none"> 1. <i>Spatial dynamics and risks analysis of lowlands degradation potential around of Nakanbé-Dem sub-watershed in north-central of Burkina Faso (West Africa): through multi-date study and satellite tele-analysis;</i> 2. <i>Spatial dynamics and risks analysis of lowlands degradation potential</i> 	

<i>through multi-date study and satellite tele-analysis: A case study of Nakanbé-Dem sub-watershed in north-central of Burkina Faso (West Africa)</i>	
2. The abstract clearly presents objects, methods, and results.	2.5
<p>The abstract presents some typing errors that I have corrected in the text. Among other weaknesses include the following ones:</p> <p>The introductory sentence of the abstract is incomplete. The author should complete the sentence or start his/her introductory sentence as I suggested below:</p> <ul style="list-style-type: none"> i) , “<i>Watershed degradation is a key issue for environmental change in the Sahel region and causes an unprecedented threat to the lowland watershed and the livelihood of local people</i>”. Otherwise, the authors can directly with the main objective of the paper; ii) The results of this study are not reported in the past tense as it should be. The author should change throughout the paper, especially in the methodology, the results and discussion section, and iii) Key figures highlighted by the authors are not precise as they use terms such as “a high” density of plants, and “a good” rate of carbon and nitrogen. The authors should be more precise by giving the exact values. iv) Data on the results should be reported in the past tense rather than the present tense. Please change accordingly. 	
3. There are few grammatical errors and spelling mistakes in this article.	2
<p>As highlighted in the text, there are several grammatical errors, typing, and spelling mistakes in this article. I corrected as much I could but the authors should continue correcting them throughout the manuscript.</p>	
4. The study methods are explained clearly.	3
<p>The material and methods section is relatively well explained despite some grammatical errors, typing, and spelling mistakes that contribute to breaking the flow of the paper and reducing its quality. Below are some of the fallbacks identified:</p> <ul style="list-style-type: none"> i) In the description of the study area, the authors should clearly mention “<i>what are the drivers of watershed degradation?</i>” and “<i>whether or not there have been any initiatives to curb down such issues have been carried out in the area?</i>” This is very important to be aware of past existing initiatives so that this work is just a following up of the existing ones instead of repeating similar studies around the studies area ii) If there are such initiatives, please mention their successes and failure, and if there are not such initiatives, then point it out clearly. iii) Data collection and analysis, <ul style="list-style-type: none"> a. the term “<i>potential</i>” should be clearly defined (if this term was not defined in the introduction section) to capture the exact meaning attached; b. Several grammatical errors and spelling mistakes have been encountered and some corrections have been suggested. However, the authors may require the help of a native English speaker to improve the writing of the manuscript. 	
5. The body of the paper is clear and does not contain errors.	2.5

The body paper of the paper needs some improvement as well in terms: i) from a general context to a particular context to understand the particular background of the case of Burkina Faso, and ii) the report of the results in the past tense mostly.

Introduction:

- i) Clearly highlight the importance of the lowland watershed and risks factors affecting its capability to continuing delivery goods and services to the society as a whole and local communities in particular;
- ii) It is also important to define the term “*potential*” of lowland in here so that the readers understand from the start what does it mean?
- iii) In this section, please underline (as it has been reported in the description of the study area) whether or not in Burkina Faso or around the study area, there are or have been initiatives in place to restore degraded lowland watershed for both maintaining the integrity of lowland areas and securing the livelihood of those who depend on them. It is important to report such successful or failed initiatives/efforts to clarify the importance of your study and background paper.
 - a. For example, in the section related to the description of the study area, the authors pointed out the information which should be a key component of the introduction “*This increase is explained by the creation of water reservoirs in certain watersheds in the north of the country to cope with the increasing needs of water accessibility by the local population (DREP/CN, 2017) and the climatic hazards (Nébié, 2018). Around 1985, the Burkinabé state began a policy of building water reservoirs with the support of non-governmental organizations operating in the country and resulted in a relative abundance of water bodies in the North Central region (MR-CN, 2011, CR-CN, 2015). Such initiatives were not maintained since then but the coverage rate of water bodies between 1986 and 2016 augmented slightly , from 2.27 to 2.62%, representing an increase of 0.35%*”.

Results:

- i) In this section, the results are not reported in the past tense as it should be. Please correct accordingly.

Discussion:

- i) In this section, the authors are not reporting the results of the paper in the past tense as it should be;
- ii) As I pointed out in the text, some of the key results in this section are not often back up with relevant literature, and or are not clearly linked to the backing up argument. The lack of proper argumentation often undermines the quality of the discussion of the paper. As an example, the authors fail to clearly point out how his/her results are linked to a past study of Da et al (2008). *What were the findings of this paper and how those findings can be used to back up the results of the current paper about the mountainous nature of the lowland watershed by using satellite imagery to capture the geomorphological mapping of the Center-North region?* In some other parts of the paper, similar issues have also been encountered, and
- iii) Other similar comments also need further clarification in the manuscript.

6. The conclusions or summary are accurate and supported by the content.

As a general comment, for each of the specific objectives (i. *the potential of in the lowland of the Nakanbé-Dem sub-watershed*, ii. *the analyse the the spatio-temporal dynamics of the lowland over 30 years (1986-2016)*, and iii. *assess the risks driving the deterioration of the watershed*), the authors should first report the key result and highlight its implication for the lowland watershed management so that it continuing delivery services and goods to the society around the study area.

7. The references are comprehensive and appropriate.

I did not check

Overall Recommendation (mark an X with your recommendation) :

Accepted, no revision needed	
Accepted, minor revision needed	
Return for major revision and resubmission	X
Reject	

Comments and Suggestions to the Author(s):

Other comments have been inserted directly into the manuscript. Have a look at it for further assessment.

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ESJ editorial office would like to express its special gratitude for your time and efforts. Our editorial team is a substantial reason that stands ESJ out from the crowd!

Reviewer Name: Moussa Boubacar	Email:
University/Country: University of Diffa, Niger	
Date Manuscript Received: 18/07/2020	Date Review Report Submitted: 18/07/2020
Manuscript Title: Multi-date study of the degradation of the potential in the lowland of the Nakanbé-Dem sub-watershed, north-central of Burkina Faso (West Africa): study by satellite tele-analysis	
ESJ Manuscript Number:	
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You approve, your name as a reviewer of this paper, is available in the “review history” of the paper: Yes	
You approve, this review report is available in the “review history” of the paper: Yes	

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<i>Questions</i>	<i>Rating Result</i> [Poor] 1-5 [Excellent]
1. The title is clear and it is adequate to the content of the article.	3
<i>Le titre de l'article est assez bien formulé mais doit être amélioré par rapport à l'orthographe et prendre en compte certains mots clés.</i>	

2. The abstract clearly presents objects, methods and results.	4
<i>Le résumé est bien structure mais la partie méthodologie doit être un peu plus détaillée.</i>	
3. There are few grammatical errors and spelling mistakes in this article.	2
<i>Il y a des erreurs d'orthographe dans le document. Il faut veiller à l'améliorer.</i>	
4. The study methods are explained clearly.	3
<i>La méthodologie est assez clair mais il manque de relation entre les objectifs de l'étude et les différentes parties de la méthodologie. Les indicateurs de la dégradation doivent être clairement ressortis et les analyses statistiques adaptées.</i>	
5. The body of the paper is clear and does not contain errors.	4
<i>Le document est bien structuré et très facile à comprendre</i>	
6. The conclusions or summary are accurate and supported by the content.	4
<i>La conclusion relève les informations importantes du document.</i>	
7. The references are comprehensive and appropriate.	4
<i>Les références sont bien reportées et la plus part sont des articles scientifiques publiés dans les dix dernières années.</i>	

Overall Recommendation (mark an X with your recommendation) :

Accepted, no revision needed	
Accepted, minor revision needed	X
Return for major revision and resubmission	
Reject	