



EUROPEAN SCIENTIFIC JOURNAL
by European Scientific Institute



Paper: “Savoirs locaux et données nationales : une approche intégrée MARP-AHP pour prioriser les contraintes agricoles rurales au Burkina Faso”

Submitted: 20 June 2026

Accepted: 30 August 2026

Published: 30 September 2026

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Doi: 10.19044/esj.2026.v22n27p198

Peer review:

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Date Manuscript Received: 27/Juillet/2026	Date Review Report Submitted: 04/08/2026
Manuscript Title: Local Knowledge and National Data: An Integrated PRA-AHP Approach to Prioritizing Agricultural Constraints in Rural Burkina Faso	
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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.

Questions	Rating Result <i>[Poor] 1-5 [Excellent]</i>
1. The title is clear, and it is adequate for the content of the article.	4
<i>(Although long, it is highly informative. A researcher immediately knows the tools used (PRA-AHP) and the issue addressed (prioritizing constraints). The mention of Burkina Faso is crucial for geographic indexing)</i>	
2. The abstract presents objectives, methods, and results.	5
<i>(The article abstract is very well written and meets international academic standards. It is logically and concisely structured, covering all the essential elements in a single block of text. Here is a detailed analysis of its writing according to your criteria:</i> <i>1. Objective (Clearly defined)</i> <i>The objective is explicitly stated from the outset: the study aims to "identify and classify agricultural constraints as perceived by the community of the village of Pendogo." The abstract takes care to contextualize the problem (the lack of data at the village level compared to national data) to justify the relevance of this objective.</i>	

2. Methodology (Precise and technical)

The abstract perfectly describes the hybrid approach used:

- Tools: It mentions the combined use of PRA (for the qualitative aspect) and HPA (for prioritization).*
- The process: It specifies that seven constraints were identified using standard MARP tools and prioritized according to Saaty's scale (1980) via pairwise comparison matrices.*
- Rigor: The mention of the consistency ratio ($CR = 0.009$) immediately demonstrates to the reader that the methodology is rigorous and the results reliable.*

3. Results (Quantified and concrete)

The summary is not vague; it provides key figures that lend weight to the study:

- Top priority: The hydraulic constraint is identified as the top priority with a precise weight of 0.290.*
 - Details: It mentions the potential impact of the Donsin airport construction on the local dam, which provides contextual depth to the results.*
 - Second priority: It clearly names the three external constraints (inputs, roads, drinking water) with their respective weights (0.169).*
- Summary of Writing Quality*
- Balance: The abstract maintains a good balance between context (20%), methodology (30%), results (40%), and conclusion (10%).*
 - Terminology: The use of appropriate technical terms (Sahelian agricultural systems, comparison matrices, operational complementarity) demonstrates the rigor of the research.*
 - Integrated Conclusion: It ends with a strong sentence highlighting the study's contribution (transforming qualitative data into actionable insights for decision-makers), which underscores the article's practical relevance.*

3. There are a few grammatical errors and spelling mistakes in this article.	4
<i>The article is written in very high-quality academic French, with rigorous syntax and precise technical vocabulary. However, a careful analysis reveals a few minor typos and areas for improvement:</i> <i>Elision and Euphony</i> - <i>Toponymy: The expression "province of Oubritenga" appears several times in the text. In French, before a vowel or a silent "h," the preposition "de" is generally elided.</i> - <i>Correction: It would be more correct to write "province of Oubritenga," just as the authors correctly did for "d'Afrique de l'Ouest" (of West Africa).</i> <i>Typographical Inconsistencies</i> - <i>Table 2 (AHP Matrix): There is a slight variation in the notation of fractions. For example, the author uses the typographical symbol "$\frac{1}{2}$" for some cells and the compound form "$\frac{1}{2}$", "$\frac{1}{3}$", or "$\frac{1}{4}$" for others.</i> - <i>Correction: For better visual consistency, it is preferable to standardize the style (either all symbols or all compound fractions).</i> <i>Punctuation and Spacing</i> - <i>Table 2: In cell C7/C4, we read "$\frac{1}{2}$" while in cell C7/C1 we read "$\frac{1}{5}$". In addition, the text sometimes uses the period as the decimal separator in the English versions (abstract) and the comma in the French version, which is correct, but care must be taken to ensure that the "1,000" in the total of Table 5 is not confused with "thousand" by an English-speaking reader (in French, it is indeed the unit with three decimal places).</i>	

Conclusion on Form

Apart from these very minor details, the article contains no major grammatical errors (no subject-verb agreement or gender errors). Scientific terms are used appropriately, and the sentence structure is fluid. The use of botanical nomenclature (Vitellaria paradoxa, Parkia biglobosa) is also perfectly in accordance with the standards..

4. The study methods are explained clearly.

4

(The methodology of this study is one of its strongest points, based on an innovative hybrid approach that combines participatory diagnosis and multi-criteria analysis. It is excellent and reproducible. It successfully meets the challenge of giving "decision-making value" to farmers' statements, while maintaining a rigorous scientific framework validated by mathematical consistency tests.)

Despite its robust methodology, it presents some limitations, among which the authors highlight two important methodological limitations:

- Methodological limitations (Data reconstruction)

Among the limitations, the matrix incorporates collective judgments reconstructed a posteriori and not derived from a formal AHP session with the participants.

- Possible future correction: Organize direct rating sessions with community members so that AHP weights are assigned by them in real time, rather than by the researchers after the diagnosis.

Limitations of representativeness (Scale of the study)

- The study focuses on only one village, which limits the generalizability of the results. - Possible correction: Extend the research to several villages in the Oubritenga province or the Central Plateau region to obtain more representative data at the regional level.

- Need for external scientific validation (physical evidence)

It would be beneficial to supplement the study with technical measurements (environmental impact assessments, piezometric surveys) to scientifically confirm or refute the impact of the airport construction project as reported by the communities.

5. The results are clear and do not contain errors.

3

The results presented in the article directly and systematically address the three objectives set by the authors. However, while mathematically sound, they do have some methodological limitations.

- *The study achieved the three objectives outlined in the introduction:*

- *Documenting perceived constraints: Using PRA tools (transect, seasonal calendar, problem tree), seven major constraints were clearly identified, ranging from dam depletion to land scarcity.*

- *Prioritizing constraints using AHP: The article provides a precise ranking (Table 5) where the hydraulic constraint (29.0%) is the most significant, followed by inputs, roads, and drinking water (16.9% each).*

- *Putting the data into perspective with statistical data: The authors successfully triangulated the data by showing, for example, that the local perception of input scarcity aligns with the decline in regional cereal coverage (from 98.2% to 74.0% in five years).*

From a scientific and mathematical standpoint, the results are considered reliable, but with some important nuances to highlight:

- *Mathematical consistency: The results contain no logical calculation errors. The consistency ratio ($CR = 0.009$) is well below the threshold of 0.10, which validates the rigor of the presented AHP matrix.*

- Limitations of the "reconstruction": A potential methodological "error" (or at least a limitation) is that the matrices were not completed directly by the villagers but reconstructed afterward by the researchers from qualitative accounts. This means that the numerical weights represent an expert interpretation of the villagers' statements, not a direct notation by the villagers themselves.

- Scientific validity of the causes: The article presents as a result a link between the Donsin airport and the drying up of the dam. However, this is a local perception and not a proven hydrological fact, which the authors themselves acknowledge by calling for "further investigation."

- The article is relatively lacking in illustrations. It would benefit from photographs and maps, particularly a map showing the location of the study area, to facilitate understanding of the geographical context and improve the quality of the presentation.

- In summary: The study fully fulfills its scientific purpose by answering its own research questions. The results are consistent and validated by the tests. statistics, but they remain limited to the scale of a single village and depend on the translation made by researchers of local knowledge into figures.

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

5

(The article's summary and conclusions are accurate and fully supported by the data and analyses presented in the body of the document. There is complete consistency between the figures announced at the beginning of the article and those detailed in the results tables.

7. The references are comprehensive and appropriate.

4

(Analysis of the sources shows that the article's bibliographic references are both comprehensive and highly relevant, covering all methodological and contextual dimensions of the study.)

The article does not simply cite authors; it uses them to discuss its own results (for example, by comparing its consistency threshold to that of Barry et al. or by validating its hydraulic priority in relation to the work of Zougmore).

One minor point: There is a reference to the INSD (2025) for a statistical yearbook. Given the current date (August 2026), this source is extremely recent and relevant, even though its publication is subsequent to some of the study's baseline data (2023-2024 campaign), which demonstrates a rigorous updating of the manuscript..

lease insert your comments)

Overall Recommendation (mark an X with your recommendation) :

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

Comments and Suggestions to the Author(s):

Suggestion: It is recommended to enhance the article with higher-quality illustrations, including representative photographs and a map showing the study area. These visual elements will better contextualize the results, facilitate reader understanding, and strengthen the scientific quality and educational value of the article.

Correct Table 2: Cells C7/C4 should read " $\frac{1}{2}$ " while C7/C1 should read " $\frac{1}{5}$ ". Furthermore, the text sometimes uses a period as the decimal separator in the English (abstract) versions and a comma in the French version, which is correct. However, care must be taken to ensure that the "1,000" in the total of Table 5 is not confused with "thousand" by an English-speaking reader (in French, it is indeed the unit with three decimal places).

Specify the tools used for data processing in the methodology section.