

Review Form 3

Journal Name:	Archives of Current Research International
Manuscript Number:	Ms_ACRI_129750
Title of the Manuscript:	Agriculture Water Convenience through Conservation and Groundwater Management at Akola District in Vidarbha Region
Type of the Article	

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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 guidelines for the Peer Review process, reviewers are requested to visit this link:

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PART 1: Comments

	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
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.	This manuscript contributes valuable insights to the scientific community by addressing a critical knowledge gap in Groundwater management for agricultural purposes. Its findings advance our understanding of water conservation, offering novel perspectives and methodologies that can inform future studies. By providing robust data and innovative approaches, the study has the potential to influence both theoretical frameworks and practical applications in Agriculture. This work is particularly significant for researchers seeking to address groundwater problems, fostering progress in the field and encouraging interdisciplinary collaboration.	
Is the title of the article suitable? (If not please suggest an alternative title)	The title could be refined to make it mre concise and impactful. Consider recasting to read: Enhancing Agricultural Water Efficiency through Conservation and Groundwater Management in Akola District, Vidarbha Region	

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<p>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.</p>	<p>The abstract is comprehensive and provides key details on the study's objectives, methodology, and outcomes. However, a few improvements could enhance its clarity and impact:</p> <ol style="list-style-type: none"> Highlight the significance: Briefly emphasize the broader implications of the findings for water conservation and agricultural productivity. Data organization: Present the results (e.g., water level changes and yield improvements) in a more structured and concise manner for better readability. Conclusion clarity: Explicitly state the conclusion, emphasizing how the conservation measures can be scaled or adapted for broader agricultural sustainability. 	
<p>Is the manuscript scientifically, correct? Please write here.</p>	<p>The manuscript appears scientifically sound, with several essential elements outlined clearly. However, there are a few areas that could be improved for better clarity and scientific rigor:</p> <ol style="list-style-type: none"> Clarity and Detail in Methodology <ul style="list-style-type: none"> Data Collection: It would benefit from more detail regarding the methods used for groundwater level measurement and the technology or instruments used for the observations. For example, how was the groundwater level measured (e.g., manual measurements, automatic sensors, or remote sensing)? GIS Data Processing: The use of ArcGIS and the inverse distance weighted interpolation method for groundwater analysis is mentioned, but more details on the specific GIS tools or workflows used would enhance reproducibility. Analysis and Statistical Significance <ul style="list-style-type: none"> Statistical Analysis: While the manuscript mentions percentage increases in crop yields and groundwater levels, it lacks a description of statistical tests or methods used to determine the significance of these increases. Including tests for statistical significance (e.g., t-tests or ANOVA) would strengthen the findings. Temporal Analysis: It would be useful to discuss any potential trends or seasonal variations in the groundwater recharge and crop yield data. For example, do the yield increases correlate directly with the water level changes, or are there other factors influencing crop productivity? Results Interpretation <ul style="list-style-type: none"> Link Between Groundwater Levels and Crop Yield: The manuscript notes an increase in crop yield with the availability of irrigation from harvested rainwater, but it would be helpful to elaborate on how groundwater recharge from the CNB structures directly affects crop yield. Are there other factors (e.g., soil type, crop variety) that might be influencing the yield outcomes? Discussion on Yearly Variability: The results show fluctuations in groundwater levels and yield across different years, but there is no discussion on how climatic factors (e.g., rainfall) may have contributed to this variability. Figures and Tables <ul style="list-style-type: none"> Figures: The figures and tables are helpful but would benefit from clearer labeling and more detailed captions. For example, the groundwater depth maps (Figures 1 and 2) could include more information on the spatial distribution of data. Table 3 & 4: While the yield data is presented clearly, it would be beneficial to mention whether the values reflect average data across multiple sites or are site-specific, and to clarify the statistical methods used to compare yields with and without irrigation. Writing Style and Grammar <ul style="list-style-type: none"> Consistency in Writing: There are a few grammatical inconsistencies (e.g., "the yield of soybean crop with one protective irrigation at pod filling stage during Kharif season was (1483 kg/ha) increased by 26 %"), which can be made more concise. For example, "The yield of soybean crop with one protective irrigation at the pod-filling stage during the Kharif season was 1483 kg/ha, an increase of 26% compared to no irrigation." Technical Terminology: Some terms like "Nala" and "CNBs" are used without explanation, and while these may be 	

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	<p>familiar in the local context, a brief definition or expansion of the acronyms would improve accessibility for a broader audience.</p> <p>6. Conclusion</p> <ul style="list-style-type: none"> The conclusion summarizes the key findings, but it would be more impactful if it included recommendations for policy or agricultural practice based on the study results. For example, how can these findings influence water resource management and agricultural practices in other drought-prone regions? <p>7. References</p> <ul style="list-style-type: none"> Citations: Ensure all cited studies (e.g., Magesh et al., 2011; Thomas et al., 2012) are properly referenced in the bibliography. Verify that all cited research papers have been included in the reference list. Additional Studies: It may be beneficial to cite more studies or data on the specific impact of rainwater harvesting and groundwater recharge on crop yields in similar geographical areas, which would add depth to the manuscript. 	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	Yes	
Is the language/English quality of the article suitable for scholarly communications?	<ul style="list-style-type: none"> No. the language need to be refined completely. More specifically, the following concerns should be addressed <p>Consistency in Writing: There are a few grammatical inconsistencies (e.g., "the yield of soybean crop with one protective irrigation at pod filling stage during Kharif season was (1483 kg/ha) increased by 26 %"), which can be made more concise. For example, "The yield of soybean crop with one protective irrigation at the pod-filling stage during the Kharif season was 1483 kg/ha, an increase of 26% compared to no irrigation."</p> <p>Technical Terminology: Some terms like "Nala" and "CNBs" are used without explanation, and while these may be familiar in the local context, a brief definition or expansion of the acronyms would improve accessibility for a broader audience.</p>	
Optional/General comments	<p>The manuscript presents valuable insights into the impact of water conservation and groundwater management on agriculture in Vidarbha, Maharashtra. To improve its scientific rigor and clarity, it would benefit from more detailed methodology, statistical analysis, and a clearer connection between the results and broader implications for water resource management.</p> <p>PLEASE SEE ATTACHMENT</p>	

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>	

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