Review Form 1.7

Journal Name:	**International Journal of Environment and Climate Change**
Manuscript Number:	**Ms_IJECC_115192**
Title of the Manuscript:	**Rainfall Variability and Crop Planning of Dahod – A Tribal district in Gujarat**
Type of the Article	

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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 **1. Is the manuscript important for scientific community?** (Please write few sentences on this manuscript) **2. Is the title of the article suitable?** (If not please suggest an alternative title) **3. Is the abstract of the article comprehensive?** **4. Are subsections and structure of the manuscript appropriate?** **5. Do you think the manuscript is scientifically correct?** **6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.** **(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)**	Importance for Scientific Community: The manuscript presents a significant contribution to the scientific community, particularly in the field of agricultural planning and climate adaptability. Utilizing the Markov Chain model for rainfall probability analysis in the Dahod district offers valuable insights into the monsoon patterns and their implications on crop planning. This is crucial for regions heavily dependent on monsoon rainfall, not just in India but in similar agrarian economies worldwide. Article Title Suitability: The title of the article is suitable as it accurately reflects the content and scope of the study. It succinctly conveys the focus on rainfall variability and its impact on crop planning within a specific geographical location. Comprehensiveness of Abstract: The abstract provides a comprehensive overview of the study, summarizing key findings and the significance of the Markov Chain model in analyzing rainfall patterns for crop planning in Dahod. It highlights the main challenges addressed by the study and its implications for agricultural practices in the region. Subsections and Manuscript Structure: The manuscript is well-structured with appropriate subsections that guide the reader through the introduction, methodology, results, and conclusion. This structured approach facilitates an understanding of the study's objectives, the analytical methods employed, and the implications of its findings. Scientific Correctness: Based on the provided information, the manuscript appears to be scientifically correct. The utilization of the Markov Chain model for analyzing rainfall data is a sound methodological choice. Additionally, the analysis of dry and wet spells and their impact on crop planning is logically presented and supported by data. References Sufficient and Recent: The references cited are relevant and contribute to the manuscript's scientific foundation. **However**, to enhance the paper, the author could consider including more recent studies that apply similar methodologies in different geographical contexts or that further develop the theoretical aspects of rainfall variability and agricultural planning.	
Minor REVISION comments **1. Is language/English quality of the article suitable for scholarly communications?**	The manuscript is well-written and suitable for scholarly communication, **however,** some recommendations for improvement needed as follows: (1). Professional Editing: Consider having the manuscript reviewed by a professional editor specialized in scientific communications. This can greatly improve the clarity, grammar, and overall flow of the document. (2). Simplification of Sentences: Break down complex sentences into simpler, more concise ones. This will enhance readability and ensure that the research is communicated effectively. (3). Enhancing Precision: Wherever possible, quantify findings and be specific about the research methods and outcomes. Precision in language conveys authority and helps to assert the significance of the research findings. (4). Technical Consistency: Review the manuscript for consistency in terminology, units of measurement, and formatting. Consistency reinforces the professionalism of the manuscript and	

	aids in the reader's comprehension. (5). Inclusion of Definitions and Explanations: Provide brief definitions or explanations for technical terms and concepts central to the manuscript. This approach makes the manuscript more accessible to a wider audience, including those who may not be specialists in this specific field but are interested in the research outcomes. (6). Strengthening the Introduction and Conclusion: The introduction should more effectively set the stage for the research by highlighting its significance and situating it within the broader context of existing literature. The conclusion should succinctly summarize the main findings and their implications, emphasizing the contribution of the study to the field.	
Optional/General comments	(1). Depth of Literature Review: The manuscript might benefit from a more extensive review of current literature, especially focusing on recent studies that have applied similar models in different geographical contexts or have introduced advancements in the methodology of rainfall variability and crop planning. This would not only contextualize the study within the broader field but also potentially offer insights into additional variables or methods that could enrich the analysis. (2). Methodological Details: While the use of the Markov Chain model is adequately described, the manuscript could be improved by providing more detailed information on the data selection process, any data cleaning or pre-processing steps taken, and the rationale behind the choice of statistical parameters. Clarifying these methodological aspects would enhance the replicability of the study and strengthen its scientific foundation. (3). Analysis of Variability and Trends Over Time: The manuscript presents annual rainfall data and the probabilities of wet and dry spells. An area for improvement could be a more detailed analysis of long-term trends in rainfall variability, including any observable shifts due to climate change. Such an analysis could provide valuable insights into future planning and adaptation strategies for the region. (4). Socio-economic Considerations: The manuscript primarily focuses on the physical aspects of rainfall variability and crop planning. Integrating socio-economic factors, such as the impact of rainfall patterns on local communities, agricultural practices, and economic outcomes, could provide a more holistic understanding of the issue. Discussing how these findings can inform policy-making and support local farmers in adapting to climate variability would enhance the relevance of the study. (5). Graphical and Visual Representations: While the manuscript includes figures and tables, additional graphical representations of the key findings, such as maps of the study area with rainfall distribution, trends over the analyzed period, and comparisons of crop yield outcomes under different rainfall scenarios, could make the results more accessible and impactful for readers. (6). Discussion on Limitations and Future Research: A more explicit discussion of the limitations of the study, including the potential impacts of data limitations, model assumptions, and external factors not accounted for in the analysis, would provide a balanced view of the research. Additionally, suggesting specific areas for future research based on the study's findings could guide subsequent work in this field. (7). Practical Implications and Recommendations: While the manuscript offers general recommendations for crop planning, detailing specific, actionable strategies that local farmers or agricultural planners could implement based on the study's findings would greatly enhance its practical value. This could include recommendations on crop diversification, irrigation improvements, or the timing of planting and harvesting based on the probabilistic models of rainfall.	

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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)*	

Reviewer Details:

Name:	**Andi Subhan Amir**
Department, University & Country	**Hasanuddin University, Indonesia**