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| Book Name: | [Engineering Research: Perspectives on Recent Advances](https://www.bookpi.org/bookstore/product/engineering-research-perspectives-on-recent-advances-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_4057** |
| Title of the Manuscript: | **Numerical study of stability of retaining walls in the presence of horizontal and chimney drainage** |
| Type of the Article | **Book chapter** |

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| PART 1: Comments | | |
|  | Reviewer’s comment | Author’s Feedback*(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimumof 3-4 sentences may be required for this part.** |  The project emphasizes the critical role of retaining walls in stabilizing earthen slopes during heavy rainfall, where increased underground water levels and pore pressures often lead to slope failure.   Numerical simulations in the study highlight how drainage systems, such as horizontal and chimney drainage, affect the stability of retaining walls under various soil and precipitation conditions.   The research identifies chimney drainage systems as the most effective solution, ensuring stability even under severe hydrological scenarios, whereas single horizontal drainage pipes are less effective for fine-grained soils with intense rainfall.   The development of accurate linear and non-linear regression models for pore pressure and overturning moments behind retaining walls enhances the practical application of the findings. |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | The title is generic software name and the location of the retaining wall should also be mentioned |  |
| 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. | The methodology and the quantitative results are missing in the abstract |  |
| **Is the manuscript scientifically, correct? Please write here.** | Limited scope of work, needs improvement |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.**  **-** | The refernces are not recent , should include references from last 5 years.The reference style is not also according to standard. |  |
| Is the language/English quality of the article suitable for scholarly communications? | The quality of the language should be improved. |  |
| Optional/Generalcomments | * The conclusions should be in bullet form and quantitative results should be included * The references are not latest * The language needs improvement * The numerical model should be validated by mathematical or actual model * How does the performance of chimney drainage vary with changes in soil permeability and precipitation intensity? * Are there specific conditions under which horizontal drainage could be as effective as chimney drainage? * How might the inclusion of wall deformation effects in the numerical simulations impact the study's findings? * Were any tests or validations conducted to compare the numerical simulation results with real-world scenarios? * Can the regression models for pore pressure and overturning moments be applied to other types of retaining walls, such as cantilever or anchored walls? * What are the long-term maintenance considerations for the different drainage systems analyzed in the study? * What are the potential limitations of gabion retaining walls in extreme hydrological or geotechnical conditions? * How does the cost and durability of gabion retaining walls compare to traditional concrete retaining walls over time? |  |

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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)*** |  |

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| **Reviewer Details:** | |
| **Name:** | **Beenish Jehan Khan** |
| **Department, University & Country** | **CECOS University of IT and Emerging Sciences, Pakistan** |