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Journal Name:	<u>British Journal of Mathematics & Computer Science</u>
Manuscript Number:	Ms_BJMCS_33991
Title of the Manuscript:	MATHEMATICAL ANALYSIS OF PLANT DISEASE DISPERSION MODEL THAT INCORPORATES WIND STRENGTH AND INSECT VECTOR AT EQUILIBRIUM
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.

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(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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PART 1: Review Comments

	Reviewer's comment	Author's comment <i>(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)</i>
Compulsory REVISION comments	The work of this paper is interesting however the authors have not presented a working example or case study for their work to prove that it is really significant and that the mathematical models that they have developed are useful. This paper is full of equations but shows no results obtained from these equations. The following issues are explained: Abstract: The abstract can be improved and give more clarity as to what the authors are referring as a real problem 1. Introduction This part has to be improved by proposing a problem and a possible solution to it. There are too little references/citations in the introduction. 2. Model development There is no explanation why this model is used? Has it been compared with other models? Why was it chosen? What are its advantages over other models? How were the assumptions obtained?	Thanks for compliments. ➤ Estimated numerical results and numerical simulations to validate the model is expected to form second publication of our work ➤ The number of equations were reduced and the most important result the basic reproduction number expounded well ➤ Problem statement included in the abstract ➤ Comparative models introduced in introduction to give advantages and disadvantages ➤ Modelling real system/life is not tractable mathematically, assumptions helps to carry out essential features in the model. Some of assumptions are general in deterministic model like ours. Note a case assumption ii, "It is possible for exposed plants to recover from natural immunity" This imply that "It can also be impossible for exposed plants to recover from natural immunity depending on nature of disease transmitted by vector" ➤ Fig 1, the flow chart, is the diagrammatic representation of the model description after incorporating model assumptions ➤ More explanations of results obtained in equations provided in results and discussion section ➤ Conclusion • More results added • Response to i. More background mathematical models added ii. Justification of model added



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	Fig. 1 cannot be understood properly by readers of the paper. This flowchart needs to be improved and properly explained so everybody can understand it. What is this flowchart representing and why was this sequence chosen? 3 Model analysis Even though it might be assumed that the equations are ok. Can this part have a better explanation! 4 Results and discussion These are very weak and do not do justice to the vast amount of models in part 3. It would have been better to have more results and discussion rather than all the eq. presented in the previous sections. 5 Conclusion This is too short and insignificant. What is missing from this paper: i) No background or related works section ii) No justification for the chosen models iii) Lack of diagrams iv) The equations could be put in an appendix or section at the end of the paper while the main body of the paper would concentrate on the results and summary of the equations	iii. Simulation(diagrams)and Numerical results for validation will form paper two to be submitted soon iv. This work is Mathematical modelling of real world problem whose representations is equations therefore equations are the main body of this work v. That is fine vi. There are many results in main body i.e Converting real word problem to Mathematical language/ode's, Expressions of; basic reproduction number, Equilibrium points(DFEP, EEP), necessary condition for existence of EEP, results of stability analysis of Equilibrium points vii. Numerical results and simulations will be in the next publication viii. Suggestion for future work included ix. Originality of equations and proofs may not give room to quote any one however where other authors work is used it is correctly quoted in the main body like in bifurcation analysis we have quoted“(Junli Liu, et.al 2011). ”
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	v) The equations should be checked by an expert. vi) No results in the main body vii) There is no case study or scenario analysis to validate what the authors have done. (This should include some form of numerical results presented in a tabular form. These would validate the substantial amount of work that the authors have carried out!) viii) No good conclusions and suggestions for future work. ix) References seem to be missing from main body References section is ok. There are adequate references In short the paper requires substantial reorganizing and much better presentation, including a good related works section and interesting findings or results derived from a case study to make it valid. The essential part of the eq. might be enough if they are presented in the main body. The proofs and derivations can be put as suggested at the back of the paper.	
<u>Minor</u> REVISION comments		
<u>Optional/General</u> comments	The work of this paper is quite interesting but the paper lacks proper structure and composition. It is suggested to correct this work as explained and improve it greatly and resubmit it!	