

# Review of: "A Mathematical Characterisation of COVID-19 in Mauritius"

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**Potential competing interests:** No potential competing interests to declare.

The paper is good. However the topic is not clear, consider rewriting. Are you comparing and contrasting or characterization of COVID-19. There is no mathematical computation in this paper.

In this work, an attempt is made at determining those metrics for Mauritius and comparing them with that of the rest of the world. We first develop mathematical models of the progression of COVID-19 in Mauritius and in numerous other countries primarily in Europe.

However there are few major issues to clear before the paper is accepted for publication

1. In the abstract.. which are these numerous factors.. specify like age, climate.. e.t.c., if necessary.
2. ... Vary from place to place. What about time? It is know that factor like humidity vary with time and place, and may be one of the factor that necessitates the spread of COVID-19.
3. Also check on the language. Use scientific language. The paper look more like a report.
4. The abstract seems inconclusive. What is obtained from numerical simulation, what is the significance.
5. In the introduction.. was proper sanitation taken at health care Centre only?
6. What informed the choice of S-shaped logistic growth curve? especially with COVID-19 that vary with time. Which are these three parameter? State them
7. Despite adhering to social distancing... did lockdown have any effect on the pandemic? eg. reduction fatality of cases
8. What the difference between the Case Fatality Rate and Case Mortality Rate?
9. Show how the reproduction number is computed. And which are those key parameters of interest used in computing the reproduction number.
10. Not clear what informed the choice of proportion of population P - Which factors show that an individual is immune to COVID-19.
11. The choice of data used in this study is unclear. Seems to be outdated, may give erroneous results.

Boost the introduction. Compare you results with other resent published works. Like

1. <https://doi.org/10.1155/2020/9136157>
2. <https://doi.org/10.1155/2021/5384481>
3. <https://doi.org/10.1155/2022/7706447>
4. <https://doi.org/10.1155/2022/6260262>

