

**Title:** Spatialised flood resilience measurement in rapidly urbanized coastal areas with complex semi-arid environment in Northern Morocco

**MS No.:** nhess-2019-417

**Dear Author and co-authors,**

It was a pleasure to read and review your manuscript.

You have an interesting manuscript with some very good dataset that you have produced even the difficulty of the availability of input data. The manuscript has been written in a simple scientific language that everyone can understand easily. It definitely shows the skills of a good scientific writer.

The flood resilience of the 3 municipalities has been dealt with from different angles making the results more interesting. I have a few remarks and comments, and I hope they will be useful.

I am sure that this article will represent an important reference for several works in the Nord African regions that have the same situation and problematic.

Wish you all the best,

**Remarks and comments:**

### **Methodology**

1. Households Density (HD), Old Buildings Rate (OBR) and Natural (ND) are a new indicators, right? In the text, it's difficult to identify the ones that are susceptible to be taken in this study areas from literature and the new once that you considered.
2. What are the advantages of adopting these particular case studies over others in this case?
3. It is mentioned in .... historical records of 2014 are taken. Why are more recent data not included in the study? Are there any changes to situation in recent years?
4. It is mentioned, "To avoid subjectivity an equal weighting was adopted" . How you gave them equal weights while each parameter might have different importance level?

### **Results and Discussion**

1. It is mentioned, that "the high level of natural resilience is more prevalent in areas with high altitudes". Did you get any observation about this relevant? Because it's not always true, some areas with high altitude can be affected by landslide and slumping during floods.

2. Are there a strong relationship between vulnerable area and resilience, can you say that all the areas with high vulnerability to the flood have automatically low resilience?
3. Can you globalize the conclusions of this work on the Nord Mediterranean Moroccan coast that are quite similar in different aspect, or is it just particularly adapted to those tree municipalities? If the response is yes, it will be interesting to mention that in your conclusions, if no please give the raison.
4. Your results is the combination of all the indicators that you establish for this work, in your opinion which one represent the important factor for resilience in the Moroccan Mediterranean coast area ?
5. I know that this subject is new research subject, especially in Nord African region, have you looked to projects in the same contexts in semi-arid coast region? It will be interesting to discuss your results with their conclusions.

**Please find bellow some corrections related to spelling**

**Affiliation:** Mohammed V University in Rabat

**Line 51:** (1970)

63: (Ahern, 2011).

69 : (Chen-N, & Graham P. , 2011; Colding J-, & Barthel S, 2013)

72: al.,

104: (Hung et al., 2016). ~~(Mayunga, (2007)~~

106: ~~(Qassim et al. (2016)~~

109: ~~(Miguez and Verol (2016)~~

110 : ~~(Chen and Leandro ( 2019)~~

118: (Sharifi, A-, & Yamagata, Y-(2016).

119: (Tuel and Eltahir, 2020)

126 : (Price, R.A. 2017)

154: (Freudenberg, 2003)

156: Kotzee et Reyers, 2016 ).

164: for Batica (2015)

166: (event phase and 165 recovery phase), ~~(Chen and Leandro (2019)~~

167: and recovery, ~~(Leandro et al.; (2020)~~

228: , 2006

231 : al., 2005

308: and H.-C. Hung et al. (2016).

**References:**

425 missed :

460: not the same police

523: Nejari A. , Abdelkader

Line 563: remove the underline

Line 565: Plate, E. J.:-

**Acknowledgments**

Special thanks are to Dr Mohammed BEN-DAOUED, ~~and~~ Dr Mounir Ouzir and Mr Margaa Khalid for their meaningful insights provided