Are the rich less prone to flooding? A case study on flooding in the Southern Taiwan during Typhoon Morakot and Typhoon Fanapi

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This paper conducts an empirical examination of the effect of household income on the probability of flooding, using Taiwan as a case study. While the subject matter would be of interest to readers of the journal, I do not believe that the manuscript is suitable for publication in its current form. I echo the sentiments of the previous reviewer, who expressed doubts about the conclusions being supported by the underlying analyses. My own main concerns can be summarized as follows:

(1) Like the previous reviewer, I don't understand the connection between the results obtained and the conclusions made by the authors. How can they be certain that lower flooding probability for high-income groups can be attributed to budget priorities for a flood risk reduction project that was launched in 2006? Like the previous reviewer mentioned, this conclusion could only be supported with additional analyses for floods that occurred before 2006. Furthermore, the relationship between income and political power/motivation/advantage has not been proven in this context.

(2) It is not clear at all from the text what type of construction work the flood risk reduction project entailed, and therefore how it may have differed in effectiveness between different income groups.

(3) The study is missing an investigation of the correlation between house price and income. I note that the propensity scoring matching exercise quantified house prices per ping; this approach will mask overall differences in house prices due to different house sizes. If significant correlation between the variables is found (which I suspect will be the case), this poses a significant issue:
    a. The authors mention in line 125 of page 4 that "the higher the average house price of a village, the less likely that it will be flooded". So, perhaps higher income areas are less prone to flooding simply because of features directly related to their higher house prices (e.g., better quality construction) rather than any additional flood risk reduction measures implemented in 2006?

(4) The assumptions of the methodology are not well explained. Flooding is represented as a binary variable, such that very different levels of inundation would be treated identically. This feature is not necessarily a problem, but the authors should address the simplified nature of this assumption and the fact that areas with higher probabilities of flooding are not necessarily those that will experience the most amount of flood damage. Furthermore, no definition of flooding is provided in the text – what is the minimum level of water depth treated as a flood, how is flood depth/extent measured in each village, is there any subjectivity in its measurement? How many high- and low-income villages are captured in the analyses? What were the criteria for inclusion of a certain village in the analyses? The answers to these questions should be provided in the text, to understand the reliability of the underlying analyses.