Reviewer's report

Title: Building spatial composite indicators to analyse environmental health inequalities on a regional scale

Version: 2  Date: 8 January 2015

Reviewer: Enrico Ivaldi

Reviewer's report:

The article submitted and revised is acceptable, although some enhancements are required.

Minor essential revisions

1) Is the question posed by the authors new and well defined?

The proposed article shows a original study, mainly for the area on which the search is carried out. Environmental, social and their relationship with health of the population, it is a deeply analyzed topic nowadays, but in this case it has focused on a context too often overlooked, even by high level research.

2) Are the methods appropriate ad well described, and are sufficient details to provide to replicate the work?

The methods are satisfactory. The discussion about the analysis of the data is very meticulous, in particular for what concerns the purely technical aspects. The paper is sufficiently supported by precise references. Overall the whole procedure followed was dealt and presented scrupulously and appropriately.

Even in this case, the submitted article has solid theoretical and methodological basis. The reference to the framework concerning "spatial relationships" however it is underdeveloped and, given the attention devoted to the description of the method used, it would be desirable to deepen the theory that lies behind the use of this method.

3) Are the data sound and well controlled?

Data utilized seem to be consistent with the study. The consideration of different dimensions is a good starting point, as well as the use of a number of variables to reach solid conclusions.

4) Do the figures appear to be genuine, i.e. without evidence of manipulation

Tables, results and maps are accurate and detailed: this is important because they allow an easy understanding of the procedures used and of the output achieved.
5) Does the manuscript adhere to the relevant standards for reporting and data deposition?

Discussion and conclusions based on data are consistent, not arbitrary and adequately supported by the data. However it would be suitable to try to extend the comment to provide more information to replicate the work.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.