Review of: "Raising Adaptive Capacity to Climate Change in Energy and Food Sectors of Egypt"

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Potential competing interests: No potential competing interests to declare.

Overview and General Impression:

The presented manuscript (MS), which can be classified as a survey rather than a research article, is dedicated, generally speaking, to the causality of climate change and the responding changes in some economic sectors, more specifically agricultural productivity and energy consumption in Egypt.

Due to the strong degree of consensus that climate change is the defining challenge of our time, especially for low-income countries such as Egypt, the selected subject is reasonable, well motivated, and fits well within the thematic scope of ‘Qeios’.

In general, the MS is poorly conceptualized and, as a result, not well written.

As a whole, the MS is a mixture of previously obtained results from other authors and own comments and interpretations. The main fault is, however, that this mixture is not enough skillfully performed and, as a consequence, the result is, in general, not correct. Second, which is probably more important, there is no clear demarcation between the results from previous investigations and those newly obtained by the others in the present study. Subsequently, it is hardly possible to distinguish any novelty, which is a mandatory requirement for any scientific article.

The MS suffers, however, from many essential weaknesses which prevent its publication in this form. The whole MS, both text and graphical material, is also not prepared with the necessary precision for scientific publication.

Below is my attempt to summarize the most essential weaknesses:

Main remarks:

It is not clear distinction between already detected (by comparison of the present-day climate with some previous period accepted as a baseline) climate change or an expected/projected one estimated with scenario-driven model results. In general, in the whole text, there is a permanent mixture between scenarios, time frames, results from different sources/groups/models. As a result, the final outcome appears as highly suspicious. This (as well as some of the other caveats) can be illustrated by Figure 3 (it is hardly to imagine how many ambiguities and errors are therein).

- What means climate change in this particular context?

- Which two periods are compared?

- Are ‘the losses’ per year/decade/season, else?

- How is ‘salt water intrusion,’ as well as some of the other parameters, measured in tons?

Although there is a subsection ‘Data Sources and Methodology,’ a description of the methodology is absent. It remains also unclear where and how ‘paleoclimatology studies and proxies,’ as well as (the already outdated) IPCC AR4 scenarios A1B, B1, and A2, are used.

The model IMPACT appears to be the only tool in the scope of the MS for quantification of the consequences of climate change. It is not clear, however, whether it is utilized by the author at all here or if only previous results are pointed to.

There are plenty of statements which are not argued or referenced – some examples:

site 2: “the agricultural yield is positively affected by rainfall and negatively impacted by CO2 emissions”

site 5: “Moreover, the substantial rise in greenhouse gases, particularly CO2, leads to alterations in rainfall patterns.”

Not least, the stated aim of the study, “The present study aims to mitigate and adapt to climate change as a defense mechanism against global warming with pre-fixed plans in order to be prepared for any natural catastrophe that might affect the foregoing areas,” is not covered by the outcomes at all and appears practically meaningless.

Minor Remarks (not an exhaustive list):

- site 2: EEAA (2008), EEAA (2015a) → EEAA (2008, 2015a)

- site 2: Amelung et al., (2004) → according to Amelung et al., (2004)

- site 2: energy data → energy consumption data

- Figure 5: Correct the units of the sea level change

- Table 2: What means ‘Change in rainfall patterns’ here?

- Figure 8: Re-scale Y-axis – begin at 500 in order to emphasize better the differences.