

## ***Interactive comment on “Evaluation of human risks of surface and groundwater contaminated with Cd and Pb south of El-Minya Governorate, Egypt” by Salman Salman et al.***

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The response Dear editor, we are very grateful for those worthy comments, we would you like to publish our article in this valuable journal. We took these comments in our consideration and the response as the following: - 1) Indeed, the risk health of surface water samples not calculated, so that it is calculated and listed in Table No 4 in our article. 2) The hazard quotient (HQ) was mentioned in the material and method in page 5 lines 1 and 2 in equations and refers it in the health risk assessment in page 8 lines 7 and 8. 3) The current (Health Risk Assessment) work is a new approach in Egypt, didn't apply before. Both of Cd and Pb are derived from anthropogenic sources not

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geogenic source in the study area. 4) This work is a part of Ph.D. thesis have been awarded in 2017, so it isn't up to date. For filtered and digested, we carried out this method according to APHA (1995) which is available then, we will do your advice about the digestion before filtration according to APHA (2017). The life time is the average of human being age is about 65 years for adults and 6.5 years for children. The reference of slope factor is USEPA (2011) is referred it in page 5 line 10. 5) Samples (No. S7 and No. S2) were collected from the canals, not the River Nile as listed in (Table 2). The levels of metals depend on the place of the sample where some samples were taken near mooring of boats which causes more pollution. Samples (No. S6 and No. S7) are collected from the River Nile (S6) and canal (S7) which not connected by the Sugar Factory outlet despite it is located near the factory. The sources of Cd and Pb are anthropogenic which is human activities such as drainage agricultures, sewage water, fuel stations, cesspits, garbage, fertilizers, pesticides mining and industrial waste which reached to water resources. Then, the source of Cd and Pb is derived from one source of anthropogenic. The majority of the study area is rural society lacks to the potable water network, so, the inhabitants depend on groundwater, canals and drains for drinking without any treatment. Groundwater recharges mainly from the River Nile, canals and drains so the level of Cd and Pb are homogenous in the surface and groundwater. We have been published two papers about evaluation both of surface water and groundwater for irrigation and industrial purposes. Source of maps is missed so that difficult increasing the resolution. We will attach the manuscript with the response. 6) Increasing references give scientific motivation for the article.

Last but not least we hope that our article to be published in your valuable journal.

Please also note the supplement to this comment:

<https://www.drink-water-eng-sci-discuss.net/dwes-2018-37/dwes-2018-37-AC4-supplement.pdf>

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