

## ***Interactive comment on “Arsenic in drinking water: not just a problem for Bangladesh” by D. van Halem et al.***

### **Anonymous Referee #2**

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The paper is relevant and covers an important topic. Arsenic is big issue and the authors have done a fairly good job. A few comments are given below and that should help the authors in improving the quality and readability of the paper. 1. The title of the paper is okay but looks more like a newspaper headline. “Arsenic in drinking water: Deciding a risk free MCL /Need for a risk free MCL” or similar would be more appealing to the scientific community – and it will help in driving the point home. Optional. 2. P.52 line12: Please think of deleting the word “also” to read “. . . It may be concluded. . .” 3. P.53 line5-7: Reference/s should be cited. 4. P.53 line8-18: The statements in the paragraph should have references. Certain things are very well known but references are helpful to a new student of the topic. 5. P.54 line2-9: Please see comment #4 above. References needed. 6. P.54 line14-16: Please correct arsenate and arsenite mix up. 7. P.54 line16-17: Reference needed. 8. p.54 line19: Please think of using

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the word “India” after West Bengal to read “. . .in West Bengal (India)”. 9. P.54 line23: “. . .were also observed to be high. . .” : Can you please give some numerical value to substantiate “high”? 10. p.54 line 28: “Chile and Argentina (Smedley and Kinniburgh, 2002), but also mining activities have been found. . .”: Please think of replacing with: “Chile and Argentina (Smedley and Kinniburgh, 2002). Mining activities have also been found. . .” 11. p.55 line5-6: What are the impact on the environment? Can you please be more specific? What do you mean by “often does not have an effect on the drinking water quality”? The authors seem to narrow down the definition of drinking water to only piped water (not sure but seems like that). How about groundwater? Not affected? Countries include developed, developing and underdeveloped countries and given that it is difficult to accept the statement “. . .often does not have an effect on the drinking water quality.” Clarification needed. 12. p.55 line7: “. . . past few years. . .” should be “. . . past a few years. . .”. 13. p.55 line9-11: Can you also cite the (possible) source of contamination? Mining? As is very high. 14. p.55 line25: “. . .like fish, meat, and rice.”: Is it an air intake or water intake or from pesticide application? Bioaccumulation? Please cite some references such that a read can find out more. 15. p.56 line8-9: “. . . merely practical and. . .”: Please think of replacing with “. . . merely practical from economic and engineering perspective and . . .”. 16. p.56 line15: Please think of replacing “overestimate the current risk calculations and EPA . . .” with “increase the current cancer risk and EPA . . .”. 17. p.56 line17: Please think of replacing “. . . risk of arsenic . . .” With “. . . risk due to arsenic. . .”. 18. p.56 line18: Please think of replacing “. . . clear that extremely low. . .” with “. . . clear that no or extremely low. . .”. 19. p.57 line9: Please think of replacing “. . . on both approaches. All the same, the current WHO guideline is not based. . .” with “. . . on both approaches. The current WHO guideline is also not based. . .”. 20. p.58 Box 1: The content in the box doesn’t have enough gravity as there should have been. A through, yet short, review of treatment technologies will be excellent. If the authors think that it is too much work then delete the box but then weight of the paper will be reduced. Sorption, oxidation, ion exchange, and most importantly iron treatment options are important. USEPA has very good

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documentation. This year only the US EPA published the iron PRB document. The box should be rewritten. 21. p.59 line 6: Think of replacing “. . . . and it is therefore recommended. . . .” with “. . . . and it is, therefore, recommended. . . .”. 22. Overall very good effort.

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