Author's response to reviews

Title: How do we sell the hygiene message? With dollars, dong or excreta?

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Author's response to reviews: see over
Dear Editor

I am pleased that you managed to find a new reviewer after reviewer 1 never replied. Here is our response to the reviewer’s comments. Our comments are made in bold red and the incisions are made with italic read. We have listed the comments separately and address the one by one. However due to a mistake from our side (we did not make the scope clear enough) are some of the comments from reviewer 3 therefore not relevant any more, but we have still tried to answer them.

On behalf of the authors

Peter Kjær Mackie Jensen

**REVIEWER 2**

The new text is fine, but I suggest that an editor goes over it once more. To give you a few examples:

1. Use of capitals in title is inconsistent (and should "research note" not be added?)
   Excreta is now written excreta
2. US$ 15,5 (comma should be period)
   Changed
3. 20,5 per cent of Vietnamese households (ibid)
   Changed
4. 20,5% DVC users (ibid)
   Changed
5. If 1,9 million tons (ibid)
   Changed
6. US$ 58.720.200 (periods correct???)
   Changed to 58,720,200
7. phosphor (with capital or no capital?)
   Changed to non capital
8. This would mean an extra expenditure for the farmer of eight six per cent of the household income. (eight or six?)
   Eight

**REVIEWER 3**

The article made several assumptions that the authors should consider addressing before publication:

Thanks for a thorough review.
We can see that we have not been careful enough to state the scope of the paper. Which is narrowly looking at how the guidelines in Vietnam cannot be followed by the farmers, because the farmers see the excreta as a household income and not as a potential health hazard?

Therefore will the guidelines not be evaluated from a hygiene (we have done that in another paper [1]) but from an “farming economic” perspective-

The following has been added to the last paragraph of the introduction

In three separate field studies, we have investigated different aspects of excreta reuse in Vietnam, covering a variety of topics including hygienic evaluation of the guidelines based on field trials of Ascaris eggs die-off[1], anthropological investigations of farmers perceptions of health and human excreta [2] and finally investigating agricultural practices versus health issues in the guidelines[3-5]. The aim of all the studies were to evaluate the hygienic problems related to the excreta reuse in Vietnam and to find the reasons why the hygiene message is currently promoted purely from a public health perspective and this is precisely why it fails. In rural societies such as the Vietnamese, cultural, agricultural, religious and not least economic factors have equal if not greater influence on people’s behavior. Thus, health and hygiene arguments only have a small chance of being heard. This paper will therefore focus on the interdisciplinary approach that has to be taken in hygiene promotion, illustrated by a new area that came up in our fieldwork in Vietnam - the excreta economy - and from this perspective the paper aims to evaluate the practical use of the current guidelines for excreta reuse in the agricultural sector.

With the above addition in the introduction in mind we have tried to answer all the questions set by reviewer 3

1. First and foremost, the assumption that “composting” for three to four months rather than six months in a Vietnamese Double Vault toilet significantly contributes to the burden of disease, particularly helminth infection in Vietnam.

For clarification do we change line 1 in the last paragraph in the abstract:

Vietnamese farmers to adopt more hygienic fertilizing methods

To

Vietnamese farmers to adopt different fertilizing methods
2. Which populations are most affected (young, old, women, urban, rural, etc.)?

We have stated that the paper is investigating excreta reuse among rural farmers. We have further mentioned the problems with the children (please see second paragraph page 4).

3. Where does the lack of access to any excreta containment technology come into the discussion?

Good question but unfortunately this falls outside the scope of this paper. We have however included the following in second paragraph page 1:

Some sanitation projects in Vietnam have even failed, partly because the promoted latrines did not accommodate for use of excreta in agriculture and latrines were either forced open or broken by farmers who wanted access to the otherwise sealed off excreta.[6].

4. Do the poorest farmers (the 20% cited in the report) use double vaults and the fertilizers from them?

Inserted page 6 end second paragraph:

In our previous studies we saw that the DVC were evenly used among the different socio-economic groups[4].

5. If 20% of the total population is using double vaults, how does excreta management breakdown for the other 80%?

Inserted in second paragraph in the introduction:

In rural areas in north and central regions nearly 100% of the households reuse excreta, either via the DVC latrine, or the now illegal single vault latrine [4].

6. Is excreta from traditional latrines used on fields?

Relevant question but beyond the scope of this paper please see[4],

7. Wastewater?

Relevant question but beyond the scope of this paper please see[4],

8. Or is only material from double vaults used as a fertilizer?

Relevant question but beyond the scope of this paper please see[4],

9. Are both urine and dehydrated feces used for crop production?

Relevant question but beyond the scope of this paper please see[4],
10. What kinds of crops in Vietnam are receiving the excreta from the double vaults?

Relevant question but beyond the scope of this paper please see [4],

11. Where is the evidence that shows that the “official Vietnamese health guidelines” of “composting” for 6 months reduces the number of helminth eggs per gram of feces?

Beyond the scope but we have done that in paper [1]

12. Does the addition of ash impact helminth egg survival (some say it does, because of changes in pH in the pile)?

Beyond the scope but please see paper [1]

13. Heat (and if so, then has solar pasteurization been considered)?

Beyond the scope but please see paper [1]

14. These questions are relevant because an assumption is being made that the 14% of households that use excreta that has been composted for 3 to 4 months instead of 6 months are a significant factor in the country’s disease burden (especially from parasitic worms).

By the changes we have made do we hopefully not give that impression any more

15. Numerous studies have shown that morbidity from intestinal helminths is not only associated with the number of worms infecting the host, but also age, household density, and genetics. Young people, for instance, have higher infection and transmission rates. It is generally understood that adults have a gradual acquired protective immunity. How does this play into prevention strategies in Vietnam?

Good question but unfortunately this falls outside the scope of this paper.

16. Helminths infect an estimated 3 billion people. Current major global helminthic disease control initiatives use drugs as control tools with minor – if any – emphasis on the disposition of excreta. Granted, containing and reducing or eliminating intestinal helminthes in feces is desirable, but at the cost of importing fertilizers in Vietnam? Reducing household income? Growing less food? Or substituting one kind of polluting toilet for another?

Relevant in a different discussion, in this paper we are interested in the communication problems between the health authorities and the poor farmer in and therefore would these discussions take the paper to far.
17. Perhaps the hygiene message is lost because it is not convincing to the Vietnamese farmer that changing the storage time of excreta to 6 months in 20% of household toilets – 30% of which do already compost for the allotted 6 months -- will make a measurable difference in health outcomes.

We strongly believe that the poor farmer’s major (only) concern is the family economy and not the economy of the state of Vietnam. We are still talking about minimum 5 million families.

In the authors’ conclusion, they note the “public health need for composted excreta that is hygienic and non-contaminated.” This sets the hygiene bar higher than any other method of excreta management. What should public health targets in Vietnam be, for, say, helminthes in processed excreta? And how do we achieve them in a “holistic” manner?

We think it is possible as we have shown in one of our studies please see [1]

The point of a holistic approach is a smart one, but first the reasons to pull the “hygiene promotion” lever must be better understood and explained, to the Vietnamese farmer and this Journal’s readers.

Minor Essential Revisions

Please distinguish between conventional latrines and double vaults when referring to excreta management technologies in the paper (try to avoid using the word “latrine” by itself).

DVC is now included in line 2 of the conclusion.

The word latrine does not necessary cover only DVC in Vietnamese context but also single vault latrines pit latrines etc. The different types of latrines are described in paper [4]. Thus it is chosen deliberately to cover all different types used Vietnam to recycle excreta.

Discretionary Revisions

A good deal of research has been done on pathogen survival in double vaults. It would be good to see other references, besides the authors’ own.

Yes but unfortunately not enough, we have references in our other papers, please see [1,3,4]. For this paper we do not find it relevant to refer to die-off experiments.

Reference List


