

## ***Interactive comment on “Micro-components survey of residential indoor water consumption in Chiang Mai” by Y. Otaki et al.***

**Anonymous Referee #2**

Received and published: 7 March 2008

The paper is instructive and provides evidence of careful experimental work. It should be published, but with some changes. These changes are required in two areas:

### Experimental

This paper would be so much better if more attention was given to a more rigorous description of the methodology used. The specific results as obtained in Chiang Mai have limited application elsewhere and should not be the main thrust of the paper. The main value lies in, so it seems, a fairly rigorous procedure to measure household water use in different categories &#8211; a notoriously difficult endeavour tried before by many with varying degrees of success. Eg:

How exactly are the water supply systems to the sample homes configured? Does a

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home have only one tap? Where is the tap; in or near the home? How far? Is mountainous water (I would prefer spring water) supplied the same way? How is rainwater typically harvested, if at all? Without a clearer picture of these and other questions, interpretation of the results is difficult if not impossible.

Were the sample homes for the dry and wet seasons different, or do they overlap? Why are the numbers different? And what exactly does dry and wet season mean in this paper? Is it a predetermined calendar interval, or was it chosen on the basis of rainfall events?

Over how long period was each home sampled? Only for one battery cycle of two weeks, or more, or continuously?

The distribution of the water use for different purposes seems to be very difficult. There is a short comment on p49 that some cases were excluded, but nothing further. This seems to be a very difficult, but very important step in the project. It needs to be explained.

Washing machines are not universally used, as reported. How was the demand for hand washing calculated, or was that excluded from the survey?

### Discussion

The discussion seems to revolve around two main concerns, namely a) whether the data was reliable (by continuous comparison with other studies) and b) the heavy emphasis on the failure to see differences between dry and wet seasons. I would suggest that these are really secondary issues. What is of universal importance, is how the overall water demand would shift if the general level of development in Chiang Mai would gradually improve to say Bangkok. How would this impact on the domestic water use patterns (eg shift from hand to machine washing, etc) and how would this translate into say anticipated future per capita use and possibly increased opportunities for water demand management, etc.

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The overall message is that the authors must describe their very good, painstaking experimental work in more detail, and then cap the paper with a more general discussion that not only summarises their own local findings, but provides rational, more general guidance for water demand estimation to the broader readership.

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Interactive comment on Drink. Water Eng. Sci. Discuss., 1, 45, 2008.