Dear Professor Biggs:
Thank you for your comments and suggestions. We will use them to improve the manuscript on revision, as described below.

The paper quantifies the water balance of a nested system of small reservoirs (aka tanks) in southern India. The authors used pressure transducers to measure water level in four tanks over a wet season, field measurements of tank capacity and sluice outflow, and a simple method (White) to estimate recharge and ET. The study is the only one I know of that systematically measures the water balance of a cascade of tanks, and adds very useful information to understanding of such systems. The authors are to be commended for making a comprehensive set of field measurements and analyzing me in a useful way. The paper is very well written and easy to read.

Thank you

I have mostly minor comments, with some more substantive questions about interpretations of "waste" flows and management implications.

Specific comments: see attached PDF for additional details and suggestions. I think there may be some errors in table 2, the ratio of irrigated area to water surface area. See comment in the PDF.

We have added responses to specific comments on the pdf below.

A little more information (one sentence) on the Strange method would be helpful. Is it a regression equation? Water balance similar to Thornthwaite?

We will add the following details:
The Strange method is an empirical method that is widely used by government departments in India, including the public works department of Tamil Nadu, for computing the runoff yield from the catchments of irrigation tanks and small reservoirs (Latha et al. 2012). In this method, daily runoff is calculated as a percentage of daily rainfall, based on tabulated values in which % runoff is expressed as a function of (a) rainfall on that day, (b) antecedent rainfall conditions, and (c) catchment characteristics (Shanmugham & Kanagavalli, 2005). For example, with a 50-mm rainfall, runoff could range from 10% for a dry catchment to 34% for a wet catchment, with the catchment condition (wet, damp or dry) being determined based on the days since last rainfall and the intensity of the preceding rainfall events. The Strange Method has been shown to provide results comparable to those obtained with the more commonly used SCS Curve Number method (Latha et al. 2012), but is more representative of the south Indian conditions that are the focus of our study.

L566 refers to "surplus sluice outflows". Next lines say that they will be lost to evaporation or runoff. But runoff is already low (5% of precipitation) and the surplus could also recharge groundwater through channel infiltration or infiltration in irrigated fields, which would not be "wasted". Flow out of the watershed could be important for downstream users, as suggested in other parts of the text. I would argue that excess sluice outflows are only "wasted" if they end up in pools and evaporate, or perhaps if they are evaporated by riparian systems downstream of the tanks and don't contribute to "beneficial ET", sensu Molden. We don't really know what happens to those extra sluice flows, and they may be beneficial or not.

Thank you for the comment. We absolutely agree and will modify the section accordingly.

The authors should refer to other work on watershed-scale water balances of tanks and smaller water harvesting structures in southern India, including:

Thank you for the references. We will add them to the Introduction.

Batchelor, C. H., Rama Mohan Rao, M. S., & Manohar Rao, S. (2003). Watershed development: A solution to water shortages in semi-arid India or part of the problem? Land Use and Water Resources Research, 3, 1–10.
Bouma, J. A., Biggs, T. W., & Bouwer, L. M. (2011). The downstream externalities of harvesting rainwater in semi-arid watersheds: An Indian case study. Agricultural Water

Management, 98(7), 1162–1170.
Calder, I., Gosain, A., Rao, M. S. R. M., Batchelor, C., Snehalatha, M., & Bishop, E. (2008). Watershed development in India. 1. Biophysical and societal impacts. Environment, Development and Sustainability, 10(4), 537–557.
Calder, I., Gosain, A., Rao, M. S. R. M., Batchelor, C., Garratt, J., & Bishop, E. (2008). Watershed development in India. 2. New approaches for managing externalities and meeting sustainability requirements. Environment, Development and Sustainability, 10(4), 427–440.
Garg, K. K., Karlberg, L., Barron, J., Wani, S. P., & Rockstrom, J. (2012). Assessing impacts of agricultural water interventions in the Kothapally watershed, Southern India. Hydrological Processes, 26(3), 387–404. http://doi.org/10.1002/hyp.8138
Garg, K. K., Wani, S. P., Barron, J., Karlberg, L., & Rockstrom, J. (2012). Up-scaling potential impacts on water flows from agricultural water interventions: opportunities and trade-offs in the Osman Sagar catchment, Musi sub-basin, India. Hydrological Processes, n/a–n/a. http://doi.org/10.1002/hyp.9516.

Comments from the attached pdf

1. Comment 6-1: Line 153: Thanks for pointing this out. We will modify the section to explicitly state that the North-east Monsoon season (Oct – Dec) contributes to 50% of the rainfall, the Southwest monsoon (Jun-Sep) season contributes to 25% of the rainfall, while the remaining 25% falls between Jan-May.
2. Comment 11-1: Rainfall was used as the input, which along with catchment area and runoff coefficients was used to estimate runoff into the tank. We will add text, as elaborated above, to describe this in greater detail
3. Comments 13-1 and 13-2: We will make these corrections
4. Comment 19-1: Apologies for the confusion. Here, we refer to the reduction in functioning due to sedimentation. It is often assumed that 70% of functionality of tanks is lost due to sedimentation, which is the number that is used here. We will add a sentence to clarify and add reference for the 30% number
5. Comment 20-1: Will change
6. Comment 20-2: We don't know the answer to that question. Probably, historically they were better maintained. But, I think now even when they are rehabilitated, the entire village is not as much invested in its rehabilitation, which thus suffers
7. Comment 20-3: Yes, and we will add that detail;
8. Comment 21-1: Yes, it might. We will add one sentence that reflects that
9. Comment 21-2: Yes, we will add that sentence
10. Comment 22-1: Thank you. We will add that
11. Comment 22-2: That is true. We will change that
12. Comment 34-1: Thanks for catching that. There was an error in the current tank capacity column. This is how the new table looks like:

Tank #	Soil Type	Maximum Depth (m)	Maximum Tank Surface Area (ha)	Tank Command Area (ha)	Command Area/Surface Area Ratio	Tank Capacity (m^3)		Current Capacity/ Historical Capacity
						Historical	Current	
Tank 1	Alfisol	3.2	28	27	0.96	357,700	276,405	0.77
Tank 2	Vertisol	3.4	59	45	0.77	656,500	407,513	0.62
Tank 3	Vertisol	4.0	20	19	0.93	237,000	217,633	0.92
Tank 4	Vertisol	3.3	19	24	1.25	168,000	139,270	0.83

13. Comment 43-1: Thanks for noticing it. Indeed the axes were not perfectly aligned. We will change that.