

Comments:

This paper is interesting in that it adapts a qualitative conceptual framework to the assessment of irrigation efficiency improvements and their impact (positive and negative) – a topic discussed and debated across disciplines.

This paper could be improved in the following ways:

1. Discussion of this subject draws on a large and diverse literature; therefore, the findings of that literature and how they motivate the study could be addressed at greater length. The paper does not thoroughly cite or discuss contemporary publications on irrigation efficiency. It is unclear how this paper departs uniquely from the literature that is referenced.
2. The problem statement, research questions, methods, and purpose/goals are not clearly stated. It is difficult to determine whether the authors' primary goal is to propose and illustrate new definitions; develop a new conceptual framework (or borrow from an existing one) for assessment of efficiency paradoxes; or present case studies of the described efficiency paradoxes.
3. There is a lack of clarity (on study methods and purpose in particular), and vague language that make the paper difficult to follow. For example, the abstract and introduction offer what appear to be two different purpose statements (see Page 9944, line 17-21 vs. Page 9945, line 18-22). These statements may actually have different meanings, or may simply appear different due to vague language.
4. The authors do not clearly articulate what new insight is revealed from application of the proposed conceptual framework to debates or concerns surrounding irrigation efficiency.