1. Line 44-49. The author responds that
   "*The condensate of the soil layer in the semi-arid area is indeed an important source, but the groundwater level in this area is about 7 meters deep, so the groundwater replenishment on soil moisture for shallow soil layers less than 2.2 m deep is essentially negligible. Therefore, the source of condensate at a depth of 2.2 meters comes solely from precipitation, and we can still use the water balance principle to calculate the distribution of precipitation-induced infiltration in each soil layer*."

   First of all, as I commented, even the groundwater is very deep down to hundreds of meters, you still can find continuous upwards vapor flow (either driven by thermal gradient or soil matric potential gradient)[1,2]. This is essentially important source of water in desert area like your study site. There are also relevant studies implemented over the Badain Jaran Desert, indicating the important role of vapor transport in the sand, and how it affects infiltration and land surface evaporation[3-7]. Furthermore, the vapor transport is also important for freeze-thaw cycles in soil[8,9]. As such, the statement of "the source of condensation at a depth of 2.2 meters comes solely from precipitation" cannot be hold.

   To this reviewer, it is ok you can use simplified equation to derive how much water leave the root zone, and how much infiltrated by precipitation etc.. On the other hand, the total ignorance on the importance of other mechanisms will let readers (incl. this reviewer) to question the scientific rigorousness on this study.

2. Line 108. "the amount of vapor transmission is small, so it is not considered"
   Over moist region, it is ok to neglect this vapor transport mechanism. However, in arid and semi-arid area, the vapor transport is dominant, or at least the same important as the liquid flow in the soil. See my point 1 and relevant literatures.

3. Line 109 "It is impossible for it to return to atmosphere … and it can only keep going down to recharge the deep soil"
   This is a very rough and not necessarily correct statement. As here, the author only assume gravitational potential and ignore the soil water flow driven by soil matric potential gradient.

   Although the author assumed that 60cm is the capillary rise, as such, any water below 180cm is essentially kept in the soil. This assumption is very strong, and lacking rigorous physically-base proof. Furthermore, in this site, you still have a thick unsaturated zone between the bottom of 1.8m to the groundwater table 5-7m. Such assumption of all soil water within this thick unsaturated zone is purely driven by gravity is essentially not correct.

References:

1 Scanlon, B. R. WATER AND HEAT FLUXES IN DESERT SOILS .1. FIELD STUDIES. *Water Resources Research* **30**, 709-719, doi:10.1029/93wr03251 (1994).

2 Scanlon, B. R. & Milly, P. C. D. WATER AND HEAT FLUXES IN DESERT SOILS .2. NUMERICAL SIMULATIONS. *Water Resources Research* **30**, 721-733, doi:10.1029/93wr03252 (1994).

3 Zeng, Y. & Su, Z. Reply to comment by Binayak P. Mohanty and Zhenlei Yang on "A simulation analysis of the advective effect on evaporation using a two-phase heat and mass flow model". *Water Resources Research* **49**, 7836-7840, doi:10.1002/2013WR013764 (2013).

4 Zeng, Y., Su, Z., Wan, L. & Wen, J. A simulation analysis of the advective effect on evaporation using a two-phase heat and mass flow model. *Water Resources Research* **47**, doi:10.1029/2011WR010701 (2011).

5 Zeng, Y., Su, Z., Wan, L. & Wen, J. Numerical analysis of air-water-heat flow in unsaturated soil: Is it necessary to consider airflow in land surface models? *Journal of Geophysical Research Atmospheres* **116**, doi:10.1029/2011JD015835 (2011).

6 Zeng, Y. *et al.* Diurnal pattern of the drying front in desert and its application for determining the effective infiltration. *Hydrol. Earth Syst. Sci.* **13**, 703-714, doi:10.5194/hess-13-703-2009 (2009).

7 Zeng, Y. J. *et al.* Diurnal soil water dynamics in the shallow vadose zone (field site of China University of Geosciences, China). *Environmental Geology* **58**, 11-23, doi:10.1007/s00254-008-1485-8 (2009).

8 Yu, L., Zeng, Y. & Su, Z. Understanding the mass, momentum, and energy transfer in the frozen soil with three levels of model complexities. *Hydrol. Earth Syst. Sci.* **24**, 4813-4830, doi:10.5194/hess-24-4813-2020 (2020).

9 Yu, L., Zeng, Y., Wen, J. & Su, Z. Liquid-Vapor-Air Flow in the Frozen Soil. *Journal of Geophysical Research: Atmospheres* **123**, 7393-7415, doi:10.1029/2018JD028502 (2018).