



SDI Review Form 1.6

Journal Name:	American Journal of Experimental Agriculture
Manuscript Number:	2014_AJEA_15969
Title of the Manuscript:	Quality Assessment of Tubewell Water for Irrigation and Impact on Soil and Crops in Central Punjab, Pakistan
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

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PART 1: Review Comments

	Reviewer's comment	Author's comment <i>(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Compulsory REVISION comments	The work tries to correlate the agricultural soil quality, agricultural yield with the salts/salinity present in the tube well water. The work aims to highlight how soils are becoming infertile due to poorer quality of water utilized. 1. The authors should provide statistical parameters for each of the data provided since the measurements would have to be multiple (triplicates or more) from the perspective of reproducibility. 2. Salinity increase/EC increase could also be due to chemical fertilizers applied. The authors have not provided any information on the type and quantity of fertilizers applied in the sample fields. 3. Data on salinity/soil parameters could be projected as a function of time (eg 3-6 months) rather than as aggregate annual data. Similarly location wise data is missing. 4. Line 86-87, any data on harvested good yields? 5. Figure 2, Fit, Marginal Fit and Unfit classification basis?	1. Statistical parameters are provided. 2. Mentioned in Section 2.5. "Crop Yield Data and Statistical analysis" 3. Data in Table 2 have been revised. Location wise data are given in Table 3. 4. Data are incorporated 5. Tubewell water samples were classified on the basis of EC,RSC and SAR. Information



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	6. Line 107-109 any rainfall measured data in mm for the said period and location?	is added in Soil and Water Analyses section 6. Data are provided.
<u>Minor</u> REVISION comments	<i>Fig.4. Estimation of the amount of soluble salts added to soil with tubewell water.</i> Is it linear? How the correlation is arrived at? <i>Fig.5. Effect of water quality on the yields of crops at farmer's fields. EC of TW ranged from 1.00 to 2.82 dS m⁻¹ in Chichawatni and 1.12 to 3.62 dS m⁻¹ in Sahiwal.</i> Yield decrease seems to be very limited;	Fig.4. simply showed the amount of salts added to soil when TW water used for irrigation having 3309 mg L⁻¹ TDS. The calculations were made on the basis of consumptive use by crops in rotation. Now this Figure 4. is replaced by Table 2 that indicated the amount of salts for each crop. The yield decrease is very limited because the farmers did not use tubewell water alone. They occasionally mixed a limited quantity of available canal water with tubewell water. Secondly, the soil texture of the study area almost loam to loamy sand. Thirdly, the progressive growers of maize and potato used heavy inputs in terms of FYM, Gypsum, DAP, SSP and urea to harvest 16 to 17 t ha⁻¹ potato and 8 to 10 t ha⁻¹ spring maize.
<u>Optional/General</u> comments	The paper needs revamp and additional data needs to be incorporated in order to qualitatively arrive at conclusions.	