

***Interactive comment on* “The use of GIS and remote sensing for the assessment of waterlogging in the dryland irrigated catchments of Farafra Oasis in Egypt” by M. El Bastawesy and R. Ramadan Ali**

Anonymous Referee #1

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Comments on Manuscript hess-2011-279 The aim of the manuscript as stated on Page 10540, line 1-4 is to “monitor and assess water logging and salinisation hazard rapidly developed as a result of adding new cultivated areas in the higher fringes of old cultivated lands”. The paper has largely dealt with derivation of the drainage networks using a DEM.. The paper has not adequately dealt with waterlogging and salinisation. The monitoring aspect which is included in the aim of the paper has not been addressed. How did the authors identify the waterlogged areas using satellite images? How were

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the areas affected by salinisation identified? Besides the 2 photographs included in the paper, Fig 7 & 8, the results presented do not cover waterlogging and salinisation.

Other Comments Throughout the manuscript the authors use the phrase “fluvial channels”. All channels are of fluvial origin unless they have been excavated by human beings. Therefore, the word “fluvial” should not be included. The authors sometimes use the word “waterlogging” and at other times write this as “water logging”. They should decide on the correct word or phrase to use. The authors use both SI and non SI units when referring to sizes of areas on page 10538. Hectares and acres are used within the same paper. They should not use non-SI units, such as “acres” but should use “hectares”. The authors should get the assistance of a good English writer to improve their paper. There are several incomplete sentences in the manuscript, or improper use of verbs. Page 10536, line 6, change “ These new cultivations” to “ This new cultivation”. Page 10536, line 12, change “new cultivations have been” to “new cultivation has” Page 10537, line 4, change “dryland” to “drylands”. Page 10537, line 9, replace “agricultural” by “cultivation” Page 10537, line 16, delete “Notwithstanding”. Page 10537, line 18-19, what do you mean by “the disturbance of these areas hydrological balabnce”? Page 10538, line 14, replace “seepage for” by “seepage from”. Page 10538, line 21, what is the meaning of “converted from basin to perennial”? Page 10539, line 1, replace “collected” by “collect”. Page 10539. Line 3, replace “significance” by “significant”. Page 10539, line 6, correct the spelling of salinisation. Page 10539, line 8, replace “expansion in” by “expansion of”. Page 10539, line 9, delete “developed”. Page 10539, line 10 replace “time-effective” by “timely”. Page 10539, line 15, delete “essentially”. Page 10539, line 22, replace “integrated catchment hydrological processes” by “integrated catchment management. Page 10540, line 7-8, Remote sensing and GIS cannot mitigate water logging. These are techniques for collecting and analysing spatial data. How can a technique mitigate against water logging?

Page 10540, line 14, the sentence starting “Where natural discharges” is incomplete. Page 10543, line 18, the sentence starting “Where the Nubian Sandstone” is incom-

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plete. Page 10544, line 21, the sentence starting “However, selecting” is unclear. Page 10545, line 17, what is the meaning of “catchments are relaxed”? Page 10546, line 7, the author use the phrase “the control of geomorphology and landforms on dynamics”. Geomorphology is the study of landforms or processes that form the landforms and the resulting landforms. Therefore the authors should not use geomorphology and landforms in the same phrase. Page 10549, line 1-4, what is the relevance of discussing transboundary catchments?

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 10535, 2011.

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