

Interactive comment on “Modeling relationship between runoff and soil properties in dry-farming lands, NW Iran” by A. R. Vaezi et al.

Anonymous Referee #2

Received and published: 29 May 2010

This paper presents results from extensive field runoff experiments under natural rainfall in a semiarid area of NW Iran at plot scale, relating surface runoff processes to soil properties. The data in this paper are worthwhile to be made available, but the presentation, description, and discussion of this data base are rather weak in its present form. I recommend it should be returned to the authors for major revisions, the specific comments are listed as follows:

(1)Title: Although authors attempted to establish a model concerning runoff and soil properties in dry-farming lands, actually they just presented regression equation, so it would be better to revise the title focusing the main points of the text.

(2)Introduction: It would be better to rewrite introduction. Although authors discussed runoff generation mechanism in arid areas, however, it did not include such contents

C968

in text. Generally, the objectives are not clear, introduction should clearly point out knowledge gap and new contribution of this work. Obviously, modeling is not the main point, while authors can consider focusing on controlling factors for runoff-infiltration process and predicting equations.

(3)Material and Methods: It is not very clear about figure 1, it can be separate it into two parts, clearly show layout of experimental setup, moreover, I would like authors include photograph about landscape and runoff plots for good understanding. I wonder if topographic positions and land surface types (crusting. . .) have effect on runoff in this area? Plough and harrow were mentioned in the text, however, how and what effect on surface roughness were not discussed in detail.

(4)Page 8: To determine soil properties influencing runoff, soil samples (0-30 cm depth) were taken randomly from three locations within each plot before plowing. Since runoff were measured in tilled soil, I suspect whether soil samples before plowing can represent real conditions?

(5)Results and discussions: This part needs major revisions. Since runoff generation was dominated by infiltration-excess process in semiarid areas, I expect rainfall characteristics (particularly rainfall intensity) were main controls for most runoff events. So authors should discuss these in text. It would be better to include rainfall and soil parameters as well as soil surface index into predicting equations.

(6)English writing is poor; it would better to be corrected by a native speaker.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 2577, 2010.