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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Infiltration well to reduce the impact of land use changes on flood peaks: a case study of Way Kuala Garuntang catchment, Bandar Lampung, Indonesia" *by* D. I. Kusumastuti et al.

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1. Interesting and systematic approaches. 2. No details on characteristic of the study area such as topography (topographic elevation), geomorphology, hydrology (hydraulic length or flow path, flow direction), number and location of the meteorological station, hydrogeology (depth of shallow groundwater level, hydrogeologic or rock unit), soil permeability. 3. Typing errors: 3.1 Page 3 Line 15, full stop: should edit from the original as 'Juahir et al., 2010;' 3.2 P 3 L 19, Space: 'discharge. Information' 3.3 P

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Interactive Discussion
Discussion Paper

3 L 28, P 10 L10, P10 L16, Capital letter: 'Van Breen Method' 3.4 P 4 L 9, Capital letter: 'Indonesia' 3.5 P 4 L 10, Capital letter: 'Sunjoto, 1993; 1994)' 3.6 P 4 L 15, plural: 'roofs' 3.7 P 4 L 20, year: 'Indriatmoko, 2010' 3.8 P 8 L 18, parameter: '(Awell base × K)+(Awell wall × K) 3.9 P 10 L 26, article: 'the Quantum GIS' 3.10 P 12 L 12, numbering: 'Fig.10' 3.11 P 12 L 25, wrong number: 'infiltration well per 500 m2 means implementing 104 120 wells' 3.12 P 13 L 3, wrong number: 'only be 26 030 wells'

4. No Quantum GIS citation both in text citation and reference. 5. How much area of a small catchment that valid for the rational method? 6. Check the format of references: Bappeda, 2010; Triatmojo, 2008 Check writting references in English: Arafat, 2008; Bappeda, 2010; Indriatmoko, 2010; Iriani, et al., 2013; Suripin, 2004; Triatmodjo, 2008. 7. What is 'the requirement of National Standard' (on P 8 L 10)? Should clarify the meaning of this word. 8. How would you get the criteria and numbers for determining the suitable areas? 9. Heading 2.2 Infiltration well application (more descriptive): 9.1 How about the well wall? Is it screened continuously along the bore or at specific depth intervals? It may be modified the well wall in Fig. 1 that seems cement wall. 9.2 How would you get the soil permeability? Is there any difference between the soil permeability in vertical and horizontal directions? (The number of infiltration wells will be changed when the permeability change.) 9.3 Symbols: soil permeability should be 'k', well radius should be 'r'

10. Figures: 10.1 Fig.1: How about the well wall? 10.2 Fig.2, 3, 7 and 9 are not clear (should be used 'pattern fill') and their scale bar are not inconsistent (may be 0 to 5,000 m.) 10.3 Fig. 2: adding the index map showing the location of the study area (catchment) in Indonesia, location of the main city. 10.4 Fig. 3: Is there no 'Green Land' in the existing land use map? 10.5 Fig. 4: should edit from 'rainfall,mm/hr' as 'Rainfall, mm h-1' and from 'duration, hours' as 'Duration, h'. 10.6 Fig. 6: Capital letter 'Van Breeen' 10.7 Fig.7: should be descriptive (a) Scenario 1 (C=0. 45), (b) Scenario 2 (C=0.47), (c) Scenario 3 (C=0. 74), (d) Scenario 4 (C=0.72) 10.8 Fig.8: How about the peak discharge (flood peak) of the current land use and each scenario? Where

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is description about this calculated value? 10.9 Fig. 9: The suitable area is not clear. Maps of soil permeability, depth to groundwater table, and slope should be included. 10.10 Fig. 10: Should be using the word ‘infiltration well’ instead of ‘absorption well’. Flood peak reduction shown in this figure is of the current condition or not?

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 11, 5487, 2014.