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Title: **Robust, multifunctional flood protection zones in the Dutch Rural Riverine area**

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The paper's aim is to provide an overview and analysis of strengths, weaknesses, opportunities, and threats associated with robust, multifunctional flood defense zones in rural riverine areas in Netherlands. Semi-structured interviews with experts and stakeholders are the bases for such analysis; moreover, plans and ideas for innovative dike reinforcement at five locations are analysed. The paper has two goals: to expand insights on opportunities for implementing robust, multifunctional flood defense zones and to formulate recommendations concerning strategies for adapting to the effects of climate change in the Dutch riverine area.

Although interesting results are described in section 4, it is not clear to the reader how such results are linked to/supported by the analysis of the five case studies and conducted interviews. I suggest re-drafting the paper in order to make this central point clearer, before its publication.

In the following, major criticisms and specific comments are discussed. I reserve to add more specific comments in a next version of the paper.

Major criticisms

1. Section 1 is quite interesting but not so relevant for the paper. I suggest to notably reduce sub-sections related to the history of flood defence in Netherlands and give more space to explain robust, multifunctional approaches as this is the focus of the paper (no Dutch readers can be unconfident with them); limiting their explanation to Table 1 is not enough. Specifically, differences between a "delta dike" and a robust, multifunctional flood defense should be explained as the two terms are sometimes used as synonymous and sometimes used to point at different tools.
2. Section 3.1.6; this is the most critical part of the paper. A reader would expect that identified solutions are carefully explained, discussing how the latter meet (or not) locations requirements (as this is the objective of the paper, isn't it?).
3. Section 3.2; why this section is not included in section 4?
4. Section 3.3; If "Stakeholders' opinions about opportunities, constraints, points of concern, and recommendations for achieving synergy are reported in detail in Van Loon-Steensma (2011)", what is this paper about? Which are the differences among the following discussion and the quoted paper?
5. Section 3.4; why this section is not included in section 4? Where is the result about initiator revealed? Nor tables or the SWOT refer to this point
6. Section 4; this section is somehow confused; in detail it should be better linked with the SWOT and be more clearer about what can be inferred from there and which is the current literature/state of art on the topic. Moreover, it is not clear why some results are discussed within section 3 and others in section 4.

7. Conclusions; it is not clear how recommendations are linked to results in section 3 and 4. How three pilot locations have been identified and why?
8. Multi-functional use of defenses should be better discussed in the paper, specifically on what concerns non-structural measures of dealing with flood risk (e.g. emergency route or refugee during emergency, implementation of activities which are not prone to flood risk, etc.). This would also increase the value of the paper in the context of the special issue on integrated flood risk management.

Specific comments

Abstract

Pg. 3858 line 14: "These provide possibilities for co-financing as well". This aspect is not explicitly handled in the paper.

Section 1

Pg. 3861 line 6: "As indicated in Fig. 1, the dose–response relationship is far less abrupt for a robust, broad dike compared to narrow dikes". This Figure does not match with the contents of the paragraphs (i.e. resistance of dikes). Moreover I am not sure that it is appropriate to talk about dose-response relationship in this case, maybe "damage function"?

Section 2.3

Pg. 3864 line 5: "Stakeholders were asked about their roles, interests, and activities concerning dike reinforcement projects, along with background information". How these variables influence results (i.e. answers) is not discussed in the paper. As this information is also reported in Table 9 (which distinguishes among different stakeholders) I suggest to comment on it or simply remove.

Section 4

Pg. 3870 line 4: "Analysis of the five locations revealed that for each several suitable robust flood defenses could be identified that would contribute to the envisaged functions and ambitions for the area". This point is not discussed, see major criticisms above.

Conclusion

Pg. 3873 line 4: "We analyzed the pros and cons of "unbreachable" or robust, multifunctional flood safety zones in riverine areas of the Netherlands, looking at both technical criteria and opinions expressed by stakeholders". What do you mean with technical criteria? No technical considerations are present in the paper.

Table 1 and Table 8 should be better discussed. See previous comments

Figure 4 should be better discussed. See previous comments. The quality of the figure must be improved.

Bibliography

Ministerie van Economische Zaken Landbouw & Innovatie: Gebiedendocumenten Natura 2000 Gebieden, available at: <http://www.synbiosys.alterra.nl/natura2000/gebiedendatabase.aspx?subj=n2k> (last access: 27 June 2013), 2013 → 2011 in the paper, please correct

Stowa: Deltafact Deltadijk, available at: www.deltaproof.stowa.nl/publicaties/deltafact/Deltadijk (last access: 20 June 2013), 2012 → 2011 in the paper, please correct

N.B. Most of references are in Dutch (only 3 of 27 quoted references are in English). This limits the possibility of verify/document the paper.