Remarks and criticism Reviewer 2	Our response
General	We would also like to thank reviewer 2 for the constructive remarks. The suggestions from this reviewer point especially at the importance of better defining and explaining terminology. There is a tension between providing complete and precise explanations of key concepts and at the same time keeping the text well readable. While we already provide some important definitions and associated references to support these in the answers below, we would like to introduce a separate section or box with definitions of all key-concepts in the revised paper to solve this problem.
the term unbreachable is often used (sometime between brackets, sometimes not) , but for me it is not clear how it is defined. The question that need to be addressed is: how to design these flood defences form a flood risk perspective. page 3859: with a frequency of once in 1250 yr up to once in20 10 000 yr ; These are averages, hence: with a frequency of on average once	The term unbreachable dike refers to the design principle of a dike, whose width, height or internal structure make them so strong, that the risk of total failure and subsequent total inundation is virtually zero (Deltacommission, 2008), even when the flood level is temporarily higher than the top of the dike (when overflow will lead to damage in the hinterland, see our Figure 1). Unbreachable is placed between brackets, because one can never achieve complete safety; even an over-dimensioned and perfectly maintained dike does not guarantee complete protection (as was already stressed by Kundzewics (2004)). Silva & van Velzen (2008) define unbreachable dikes as dikes with a 100 time higher 'safety level' (i.e. 1/125,000 (= 0.0008%) for the upper river area, and 1/1,000,000 (=0.0001%) for the coast along the province of 'Noord-Holland'). We think it is better to give this range (1:125,000 - 1: 1,000,000) than an average (of about 1:562,500) or a weighted average.
Specific comments	
page 3859 (also 3868): Dutch flood protection policy mandates robust design of dike reinforcements: what is the definition of robust?	In the current Dutch flood protection policy mandates, 'robust' means that dikes are dimensioned to anticipate on future (foreseen) changes as well as for (some) uncertainties in these expected changes over an agreed timeframe, and to reserve a spatial zone to allow for dike reinforcements in the future (Rijkswaterstaat, 2007). This means dikes are designed slightly over-dimensioned according to the actual assessment standards. However, in scientific literature on this topic 'robustness' is defined as the ability of a system to remain functioning under disturbances, where the magnitude of the disturbance is variable and uncertain (e.g. Mens et al. 2011).

page 3860:....and are slightly over-dimensioned: also during its expected life-time? What is the definition of over-dimensioned?	The dikes are designed such that they are slightly over-dimensioned in relation to the actual assessment criteria, to account for expected changes during their life-time as well as for uncertainties in these changes. This means that during its (foreseen) life-time this (designed) over-dimensioning will decrease towards zero at the end of the planning period. However, in reality, most dikes have to be reinforced far before the end of their life-time due to changed insights, new norms or boundary conditions, and appear not te be over-dimensioned during their planned life-time.
page 3860: the development of “delta dikes”, which are virtually unbreachable due to their width, height, or inner construction.: what is meant by virtually unbreachable? How to design these dikes?	The 2nd Delta Committee described 'Delta Dike' as dikes which are either so high or so wide and massive that the probability that these dikes will suddenly and uncontrollably fail is virtually zero. Silva & van Velzen (2008) define unbreachable dikes as dikes with a 100 times higher 'safety level' (i.e. 1/125,000 (= 0.0008%) for the upper river area, and 1/1,000,000 (=0.0001%) for the coast along the province of 'Noord-Holland'). Although such a delta dike can be constructed by inner constructions (such as sheets and walls) and heightening of the dike, in most explorative studies on the impacts of these dikes compared to traditional reinforcement, increased strength is realized more effectively by enlarging of the inner berm. This is illustrated in our Figure 2.
page 3864: For each of the five locations, the flood-protection task to be accomplished...: the flood risk reduction only works if it is applied to a dikering, not to a section	We agree with the reviewer that one should be aware that flood risk reduction measures should be assessed on the scale of the dikering. However, in practise, only some sections of the dike do not comply with the prescribed norms (as for the ‘Arnhem’ casestudy). The planned reinforcement task, and the subsequent availability of funds, create opportunities to start enhancing sections. Other sections may follow in a next assessments round. Moreover, even within dikerings differences in flood risk are large (De Bruijn & Klijn, 2009), and increasing flood protection of 'risky places' (i.e. places where many fatalities may be expected due to flooding) seems effective.
page 3868: The second group of stakeholders considered it wise to make flood defenses more robust than current knowledge suggests: they support the current practice?	This second group of stakeholders is in favor of anticipating more on the effects of climate change than what is currently done. They like to see more robust (far more over-dimensioned) designs.
page 3869: over-dimensioned multifunctional flood defenses can be implemented only if all parties voluntarily participate : that is true, but also the taxpayer is involved!	We agree fully with this comment. We meant to refer to the spatial aspects (such as property), as an additional prerequisite for implementation to the availability of financial resources (in which very often the taxpayer is involved, albeit indirectly).

page 3871: the recommendations imply that the authors think that robust, multifunctional flood defences are for dikerings attractive, otherwise you should not perform experiments. This is, however, not based on scientific evidence.	We have indeed not expressed ourselves clear enough. Our recommendations (page 3873) are meant as a plea for an in-depth scientific exploration (by monitoring the process and learning from the experiences) of all aspects of robust multifunctional flood defences at appropriate locations. This plea is made in a context where research on the effectiveness of robust multifunctional dikes in relation to other alternatives has already been carried out (e.g. by Ligtvoet et al. 2011).
page 3978: the table is not complete. Example: advantage is: greater flood protection (is that correct English), but weakness is than that is far more expensive, so it only works if additional functions pay for it. Also, the governance is much more complicated. The table is only based on interviews, do the authors think it is complete?	We agree with the reviewer that by summarizing the results of the interviews very briefly (in order to generate a concise and general overview) we have lost some valuable details. A thorough analysis of scientific literature and of experiences in other countries, as well as (the recommended) monitoring of processes on pilot locations will certainly contribute to a more complete picture. However, we think it is beyond the scope of the current study to include all of these. Therefor we will in the revised manuscript discuss the possibilities of these future research activities.
Figure 1: This concept of broad dikes only works if it is applied to the total dikering length: the damage curves do not apply to a dike section, but to a dike ring	See also our answer to comment 7. We agree with the reviewer, and refer also to Mens et al. (2011) who explored system robustness. In the revised manuscript we will adjust the figure labelling and caption accordingly.