Interactive comment on "Enhancing resilience to coastal flooding from severe storms in the USA: International lessons" *by* Darren M. Lumbroso et al.

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We would like to thanks Coughlan et al. for their collated comments.

The concept of trust is mentioned several times in the paper. We recognise that trust is a difficult concept to measure. In fact it can be argued that trust escapes a simple measurement because its meaning is too subjective for universally reliable metrics. Where attempts have been made to measures trust (see the paper Glaeser et al., 2000 Measuring trust, The Quarterly Journal of Economics) these have been carried out via quantitative surveys of people's perceived levels of trust in various things. Where we have stated in the paper that "trust is high", it is generally based on quantitative surveys

carried out by others (e.g. Paul and Rahman, 2006; Roy, 2016 in Bangladesh) or from observations such as those by Schuett and Silkwood, 2008 in Cuba. The question as is posed by Coughlan et al. as to whether measuring trust relates to measuring social capital is an interesting one. Economists have tried to identify the impact of social capital by using attitudinal measures of trust from survey questionnaires. In 1997 Knack & Keefer showed that an increase of one standard deviation in country-level trust predicted an increase in economic growth of more than one-half of a standard deviation (see Knack & Keefer, 1997, Does social capital have an economy payoff ? A cross-country investigation, Quarterly Journal of Economics, pp1251–1288). La Porta et al. also found a correlation between an increase in trust and a decrease in government corruption (see La Portaet et al., 1997 Trust in large organizations, American Economic Review Papers and Proceedings, pp333–338). Although of interest such a quantitative investigation into trust was outside the scope of this research, although we believe it could easily warrant another paper.

With regards to the length of the backstory and introductory comments in light of the positive comments made by Referees 1 and 2 we would like to maintain the introduction as it currently stands as many of these facts are not widely known especially to readers outside North America.

The socio-economic and political systems of both Bangladesh and Cuba are different to the USA. The paper has been modified to bring this point out better. Evidence has also been added as to how lessons from Bangladesh and Cuba have been transferred to other countries with different political systems.

Specific comments – responses

With regards to Table 2 on Page 27 we used a systematic review process to analyse the literature. It is detailed in Table 1 of the paper on what basis papers where or where not included. A wide range of papers and literature was reviewed and it was carried out in a systematic review using methods outlined in various papers that we have cited.

The reason that some of the diagrams produced for Bangladesh and Cuba were not produced for the USA is that the idea of the paper is to show that the various measures that have been introduced in these countries have been successful. It was not felt that adding similar diagrams to the paper for the USA would improve its "readability".

A definition of social capital is given in the footnote on page 3 of the paper.

Regarding the point made regarding the catalysing effect of hurricanes in Bangladesh and Cuba and the question posed as to why the United States did not see one following Hurricane Katrina? We would argue that Katrina (and also Sandy) did act as a catalyst for change and that this work, which was funded by the US Army Corps of Engineers, is part of that! There has been a portfolio of structural and non-structural measures implemented or being planned in both New Orleans and New York following Hurricane Sandy so there is evidence to suggest these events in the US had a catalysing effect.

With regards to economic budgets the purpose of this is to provide an evidence base that both Bangladesh and Cuba are both low income countries. It is not a matter of creativity it is a matter of showing that there are methods that can be used in poor and isolated communities, no matter where they are located in the world, that can be used to increase their resilience.

We agree that both Bangladesh and Cuba have centralised government structure. However, the US has FEMA which is a centralised agency. We have modified the paper to show that lessons from Bangladesh and Cuba are transferable.

With regards to technology based strategies this was not the focus of the paper. The US already uses technology based strategies in terms of forecasting hurricanes and planning for evacuations to name just two examples. We agree that it would be very interesting to compare the different communication tools used; however, this would potential need to be covered by another separate paper.

Technical corrections – responses

Page 15 Line 1 The word hurricane has been capitalised

Page 13 Line 26 "This all act" has been corrected to "These all act"

Figure 1 "adsorption" is a typo this has been corrected to "absorption"

Page 6 Line 6 to 7 The question mark has been deleted

Page 14 Line 8 One of the reasons given for high staff turnover in FEMA in many US Government documents is "low staff morale". This has been added to the paper.

Page 7 Line 5 A space has been added

Page 14 Line 20 This citation has been standardised

Page 15 Line 22 This citation has been standardised