**Title of the topic area:** Water resilience in the city: underserved citizen participation and behaviour change through Nature Based Solutions

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This project nests with a Horizon 2020 application – ACQUA - as investment to ensure a strong research outcome to a research need whether or not that project is funded. The PhD will have a particular focus on participation and behaviour change *within particular underserved groups, working in a Bristol case-study*. **Its precise focus will be negotiated with the PhD co-funders (see below)**. It will involve new collaboration with Bristol City Council and Wessex Water (tbc), as well as possibly withThe Centre for the Study of Behaviour Change and Influence (CSBCI; Faculty of Business and Law; UWE) and Science Communication Unit.

*Background context*: Climate change mitigation, adaptation to extreme weather effects and the sustainable water management are key challenges facing cities. Communities increasingly have to cope with challenges such as ‘heat island’ effects and increased flood risk. Nature-based solutions’ are a potentially invaluable way to address these issues. By reshaping built environments to include greater use of natural resources, it is known that cities can utilize NBS to protect communities and enhance their quality of life through a series of collateral benefits. NBS are one of many tools currently being adopted by cities, however, the processes of design, implementation and maintenance tend to focus on the mainly ‘technical’ interventions. For these reasons, they often fail to achieve significant potential impacts as a result of limited concern for the non-technical barriers to adoption of NBS, with particular attention to citizens and communities as one set of stakeholders.

*Possible PhD research*: When NBS do engage citizens, these tend to be ‘easy to access’ groups, frequently around wildlife interests. For the positive aspects of NBS to be realized, it requires more than a change to city design and urban development. What is needed is better understanding of NBS by diverse citizens (e.g. by demographics, age, gender, culture, disability), with variable existing capital, and other stakeholders regarding the long-term co-benefits of NBS e.g. capital building, social cohesion etc. This requires research into the participation processes of engaging different underserved groups (in design, implementation, maintenance) with particular attention to social learning, and adaptation/behaviour changes. This research proposes using the frames of social learning, water security and resilience and hydrocitizenship to research how ‘integrated participatory approaches’ towards the implementation of NBS increase chances of successful adoption of NBS amongst *underserved* citizens and stakeholders. This evidence has potential to increase the effectiveness and scalable replicability of NBS beyond the local.