

WATERWORKS 2017 RDI FUNDED PROJECTS BOOKLET

Project: Research-based Assessment of Integrated approaches to Nature-based SOLUTIONS

Acronym: RainSolutions

Outcomes and expected impact:

(Selected outcome and impact examples only:)

Contributions to the Goals of the Call:

RainSolutions directly contributes to the goals of the call by (a) enabling sustainable management of water resources by developing new guidelines and knowledge management approaches; (b) promoting adaptive water management for global change; (c) supporting the integrative management by implementing natural water retention measures including groundwater recharge; (d) strengthening socio-economic approaches to water management; (e) integrating economic and social analyses into decision-making processes; (f) promoting the reuse of water; (g) enhancing new governance and knowledge management approaches; and (h) providing numerical tools for sustainable integrative water management.

Publications:

RainSolutions will disseminate the academic project findings via peer-reviewed high impact journals such as Water, Bioresource Technology, Ecological Engineering, Environmental Modelling and Software, and Journal of Hydrology. Furthermore, key findings will be published in new chapters of the third edition of Prof. Scholz's current textbook published by Elsevier.

Software Applications:

Creation of guidelines for cost-effective urban water resources restoration and ecological rehabilitation measures such as an evidence-based geo-spatial model integrating multiple functions of NBS for supporting participatory NBS planning. RainSolutions will create a decision-support framework, etc.

List of deliverables expected:	
Report summarising the state-of-the-art and gaps in knowledge regarding case studies, nations and international scene.	
Report on environmental improvements evidenced by indices through NBS benefitting case studies and partner countries.	
Report and a prototype of geo-spatial model (to be delivered to WP5) on urban resilience benefitting case studies and partner countries.	
Report on NBS benefitting social inclusion, particularly in case studies located in deprived areas and partner countries.	
Framework provision based on input from WP1 to 4.	
Report on case study applications of the framework and recommendations for improvements to be undertaken in WP5 (iterative consultation process between WP).	
Communication and public engagement strategy	
Initial public engagement consultations case study areas.	
Final public engagement consultations case study areas.	
Journal review paper summarising the state-of-the-art and gaps in knowledge.	
Journal paper(s) on outcomes of W2 to W4.	
Framework (open access) and journal paper(s) on framework.	
Journal paper(s) on framework applications.	
Expected research results to communicate and disseminate (in very general terms)	Target groups for communication and dissemination activities:
Assessments of the state-of-the-art and gaps in knowledge regarding case studies, nations and international scene.	Local authorities, environmental agencies. public health institute, research and development, non-governmental organizations, municipalities, policy makers, and industry
Environmental improvements evidenced by indices through NBS benefitting case studies	Local authorities, environmental agencies, public health institute, research and development, non-governmental organizations, schools,

and partner countries.	local communities, end-users, municipalities, policy makers, general public, and relevant public initiatives
Prototype of a geo-spatial model on urban resilience benefitting case studies and partner countries.	Local authorities, environmental agencies, research and development, non-governmental organizations, municipalities, policy makers and industry
Nature-based solutions benefitting social inclusion, particularly in case studies located in deprived areas and partner countries.	Local authorities, environmental agencies, public health institute, schools, local communities, end-users, municipalities, general public, and relevant public initiatives
Framework provision.	Local authorities, environmental agencies, research and development, non-governmental organizations, municipalities, policy makers and industry
<p>Case studies:</p> <p>Case Study 1 – Sustainable Drainage Systems in Malmö and Lund Region (led by MALMO and supported by ULUND in collaboration with Sweden Water Research, a water utility industry-association).</p> <p>Case Study 2 – Tromsø, Northern Norway (led by UIT).</p> <p>Case study 3 – Tartu, Estonia (led by UT).</p> <p>Case Study 4 – Irish case studies such as Waterford and Tolka Valley Park, Dublin (see attached letters of support), Ireland (led by VESI).</p> <p>Case study 5 – Participatory planning of NBS for urban resilience in the Amsterdam Metropolis, The Netherlands (led by WUR, but not addressing themes 2.2 and 3) in collaboration with Amsterdam Institute for Advanced Metropolitan Solutions, Amsterdam Rainproof at Waternet, Amsterdam water managing company and Deltares.</p> <p>Case Study 6 – Parets del Vallés City, Spain (led by TYPESA in collaboration with the Catalan Water Agency to undertake pond technology-based experimental and modelling development work benefitting industry as well).</p> <p>Case Study 7 – Johannesburg and Pretoria, South Africa (led by UJ and supported by UP): Climate resilience, legal and institutional frameworks to sustain NBS in informal settlements.</p> <p>Case Study 8 – Londrina, of Paraná, South Region, Brazil (led by UTFPA).</p>	

Water Policy context / project contribution to policies (National, European, International – UN SDGs):

By including social inclusion as an aspect of implementing NBS, the society as a whole will benefit via substantially improved quality of life and well-being due to innovative NBS used which, in turn, will help reduce the risk of flooding and droughts whilst restoring urban ecosystems and adding to the amenity value of the urban environment. The new guidelines and recommendations are expected to ultimately make its way into new policy.