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Nature Based Solutions: Reporting and analyzing insights from Europe

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The challenges imposed by climate change and urbanization require a paradigm yet holistic shift that considers the trade-off between ecosystemic conservation, social needs and economic growth. By concomitantly providing socioeconomic and environmental benefits, Nature Based Solutions (NBS) according to the European Commission (EC) present viable, resource-efficient and adaptable tools for ensuring the above-mentioned transition. Accordingly, NBS are high on European and French priority agendas, and are believed to be the way forward. The abundant scientific literature on NBS solidifies their potential through the various advantages they present. Evidently, NBS are win-win resolutions to environmental challenges (climate change, natural risks, food and water security), they support greener economies, conserve biodiversity, promote sustainability, support adaptive capacities, and reduce natural/socioeconomic sensitivities. In spite of their potential, NBS are faced by many obstacles. Conceptual obstacles include contested definitions of NBS, reduced reporting on uncertainties, and overlaps with sister notions that make the NBS concept somewhat vague. Systemic challenges include governance barriers, public willingness to adopt NBS and stakeholder participation (acceptance, perspectives and engagement). Implementation challenges encompass limited funds or budgets, difficulties of upscaling what works and maintaining-monitoring progress. Accounting for the above-mentioned elements, this study will use France as a micro scale and the European continent as a macro scale, to provide a local and regional inventory of NBS' potential and limits. First, an in-depth bibliographic analysis and text mining techniques are carried out for providing detailed science-based evidence on the performance of NBS. For the national scale, peer-reviewed literature from the Scopus database and official UN bodies or international organizations reports are used. For the European scale, deliverables of several Horizon 2020 projects serve the purpose. Subsequently, an analysis of stakeholder profiles, categories, and participation for mapping NBS actors in both contexts will follow. By combining theoretical investigations and stakeholder analysis, a holistic representation of the NBS framework is ensured. The logic behind this approach is to draw up scientific and technical evidence on NBS to mainstream their integration into development projects. Accordingly, the objective of this research work falls under one of the several actions of the Life ARTISAN project, action A1: reporting on obstacles and levers for Nature Based Adaptation Solutions. Under this scope, the project ARTISAN standing for "Achieving Resiliency by Triggering Implementation of nature-based Solutions for climate Adaptation at a National scale" aims to achieve the plans set in France's second national climate change adaptation plan by leveraging NBS. Beyond the national scale, by capitalizing on past experiences

and grouping dispersed findings, this study will provide deeper insights on NBS, and will allow a prioritization of research and knowledge building needs.