

Adopting New Knowledge and Approaches to Sustainable Urban Drainage in Saudi Arabia

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Abstract : Urban drainage in Saudi Arabia is an increasingly challenging issue due to factors such as climate change and rapid urban expansion. The existing infrastructure, based on traditional drainage systems, is not always able to cope with the increased precipitation, sometimes leading to rainwater runoff and floods causing disturbances and damage to property. Therefore, there is a need to find new ways of managing drainage, such as Sustainable Urban Drainage Systems (SUDS). The research has highlighted the main driving forces behind the need for change, revealed by the participants, to the need to adopt new ideas and approaches for urban drainage. However, while moving towards this, certain factors that may hinder the aim of using the experiences of other countries and taking advantage of innovative solutions. The research illustrates an initial conceptual model for these factors emerging from the analysis. It identifies some of the fundamental issues affecting the resistance to change towards the adoption of the concept of sustainability in Saudi Arabia, with Riyadh city as a case study. This was by using a qualitative approach, whereby, through two phases of fieldwork during 2013 and 2014, twenty-six semi-structured interviews were conducted with a number of representative officials and professionals from key government departments and organisations related to urban drainage management. Grounded Theory approach was followed to analyse the qualitative data obtained. Resistance to change was classified to: firstly: individual inertia (e.g. familiarity with the conventional solutions and approaches, lack of awareness, and considering sustainability as a marginal matter in urban planning). This resulted in not paying the desired attention, and impact on planning and setting priorities for development. Secondly: institutionalised inertia (e.g. lack of technical and design specifications for other unconventional drainage solutions, lack of consideration by decision makers in other disciplines such as contributions from environmental and geographical studies, and routine work and bureaucracy). This contributes to the weakness of decision-making, weakness in the role of research, and a lack of human resources. It seems that attitudes towards change may have reduced the ability to move forward towards sustainable development, in addition to contributing towards difficulties in some aspects of the decision-making process. Thus, the chapter provides insights into the current situation in Saudi Arabia and contributes to understanding the decisions that are made regarding change.

Keywords : climate change, new knowledge and approaches, resistance to change, Saudi Arabia, SUDS, urban drainage, urban expansion

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