



OCTOBER, 2018

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ROTTERDAM AND SURAT TAKE AN INTEGRATED APPROACH TO RESILIENT WATER MANAGEMENT

Rotterdam and Surat were officially paired as part of the IUC programme in 2017, but have been collaborating since 2015 within the 100 Resilient Cities network. Both cities have a resilience strategy in which resilient water management and climate resilience are a priority. The cities are focusing their IUC partnership on tackling issues related to water management, such as improving the quality of drinking water, mitigating water pollution from industrial and agricultural run-off, protecting against flooding, and effectively treating sewage.



EXECUTIVE SUMMARY

Surat is facing serious water management challenges on a scale unknown to most European cities. As part of their collaboration, Rotterdam is sharing their experience of managing water in their own city, with a particular focus on how to link water management aims to other sustainable development goals.

For Rotterdam, the key word in approaching the issues raised by water management and climate adaptation is "integration" - linking challenges rather than dealing with them in isolation to achieve the best results.

For their part, Surat has inspired the Dutch city to look at the scalability of their climate resilience and adaptation activities. A series of study visits as well as regular exchange via phone has allowed the two cities to get to know each other and to establish a successful working mode.

In Rotterdam, Surat has found a knowledgeable partner with a wealth of water management experience. In Surat, Rotterdam has found a city dealing with issues on a much larger scale, which has already inspired the Dutch city to think differently about the challenges they face.



CHALLENGES AND SOLUTIONS

One of the primary focuses of the pairing is improving the water quality from the Tapi River, which provides Surat with drinking water.

A mixture of industrial and agricultural run-off and untreated sewerage has meant that the water must be filtered extensively before it can be made drinkable. Combined with a quickly growing population that require large reserves of potable water, improving the river's water quality is a major concern for the Indian city.

Flooding is also an issue in Surat, one that will be exacerbated by sea-level rise as a result of climate change. Heavy monsoons striking the city in times of high-tide have the capacity to do extensive damage, so the pairing is exploring ways to protect the city from flooding, particularly through developing river-banks in a more attractive and secure way.

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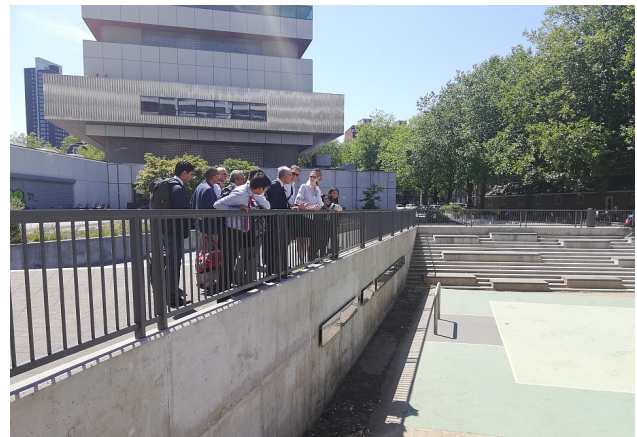
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The third challenge is the drainage of rain water and the treatment of sewage. Due to the rapid growth in population, much of Surat's sewage goes untreated. Treatment plants do not currently have the capacity to deal with the demand, so the city is exploring the construction of new treatment plants, both within the city limits and in the countryside surrounding the city.

Early in the cooperation, a delegation from the City of Rotterdam visited Surat on a reconnaissance mission to see specifically what challenges the city was facing. The trip was used to discuss the potential focus of the collaboration. It was also decided to hold calls every two weeks to further discuss possible actions and to establish a more concrete working mode.

In July 2018, city representatives from Surat visited Rotterdam. As part of their visit, the delegation went to a number of locations to discuss water topics with different organisations. Having this overview of the various stakeholders and actions taking place resulted in the cities establishing a clearer picture of what action they wanted to focus on, ultimately deciding that the integrated approach to water management was most important.



Water management in the face of climate change was found to be a mutually interesting topic: Surat faces serious issues in that area, while for Rotterdam, water management and climate adaptation are priority areas. Both cities are aiming to connect their work on the topic to other city goals. "The focus is not only water management and the availability of drinking water, it's also about urban planning and how the city is managed," said Corjan Gebraad, Strategy Advisor with the City of Rotterdam.

The Local Action plan being developed by the pairing will outline the connection between their IUC work and several of the UN Sustainable Development Goals.

While the phone calls are useful, it was found that it is more effective to have face to face meetings. Meeting in person helped to speed up the collaboration and address items in a way that was not possible over the phone.



RESULTS AND IMPACT

As a result of their prior cooperation through the 100 Resilient Cities programme, and as the two cities undertook mutual study visits early in the IUC programme, the pairing was quickly able to develop a solid idea of what actions they intend to undertake.

While Surat is well-capable of providing technical solutions (such as constructing treatment plants) on its own, the added value of the IUC cooperation is in Rotterdam's experience with linking challenges to each other, providing an integrated approach on the city level and on the river basin level.



One specific area of cooperation is water quality monitoring. At present in Surat, several parties are responsible for monitoring water. These parties, however, are not connected to one another, meaning the methodology applied can differ. This makes it difficult to compare results and have an agreed upon water quality reading in the city. Surat was inspired by Rotterdam's integrated water management approach (now common across the Netherlands), where several parties monitor water quality aligned to collectively set goals and methods. The results are then collected and analysed centrally.

"Through our visits and our regular telephone exchanges, we have gotten to know each other more too, which is also an important result," said Gebraad. "If we didn't have a visit last year and we started only in July, it would be too late. I would encourage other pairings to have a visit as quickly as possible."

One outcome of the cooperation has been that Surat's approach to water topics has inspired Rotterdam to think in a different way. Tackling water management on a much grander scale has encouraged the Dutch city to look at the scalability of its own efforts on climate resilience.

Surat in turn is benefitting from Rotterdam's experience of water management. Through the exchange, Surat finds not only inspiration but also tangible support, including from Dutch businesses, to help solve their water challenges.





LESSONS LEARNED



Taking a holistic approach to challenges can result in significant cross-sectoral benefits. Instead of looking at problems in silos, try connecting the different elements of a system so that you can approach it as a whole. This often means working with other departments and stakeholders.



Don't underestimate the importance of communication. Being in contact on a regular basis is the best way to understand how your partners think and work.



As a result of the distance, and also because of differing cultural backgrounds, it takes time for cross-border partners to get to know each other. That's difficult to do from afar - face to face visits can speed up the process.



It takes time to establish a basis for collaboration and to agree on actions to take. Start as early as possible in terms of kicking off the cooperation,

THE IUC PROGRAMME

The International Urban Cooperation (IUC) programme enables cities in different global regions to link up and share solutions to common problems. It is part of a long-term strategy by the European Union to foster sustainable urban development in cooperation with the public and private sectors, as well as representatives of research and innovation, community groups and citizens. Through engaging in the IUC, cities will have the chance to share and exchange knowledge with their international counterparts,

building a greener, more prosperous future. The IUC programme is an opportunity for local governments to learn from each other, set ambitious targets, forge lasting partnerships, test new solutions, and boost their city's international profile. Its activities will support the achievement of policy objectives as well as major international agreements on urban development and climate change, such as the EU Urban Agenda, the UN Sustainable Development Goals, and the Paris Agreement.



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