

# Climate Adaptation through Sustainable Urban Development, Can Tho, Vietnam

Enhancing the effective and sustainable urban water system for Can Tho, Vietnam, a rapidly growing city in one of the world's largest deltas, and highly vulnerable to a changing climate.



## The issue

The largest urban centre in the Vietnam Mekong Delta, Can Tho, has a population of 1.2 million, 60% of whom live in urban areas. The city is located on the Mekong River, about 170km southwest of Ho Chi Minh City. During the last two decades, the economic growth and urbanisation of the region have increased at an immense rate. Residential, commercial and industrial areas have developed rapidly. As a consequence of the rapid urbanisation, Can Tho is now struggling to meet some of the basic requirements that are essential to a growing city, such as providing access to clean water



“ Many results from the project, such as the strategic options, GIS database and City Water Atlas, household survey and the demonstration of rainwater harvesting systems are precious science-based or evidenced-based references for developing an adaptation plan of the city,” (Mr Ky Quang Vinh, Director of Can Tho CCCO).

and adequate sanitation. In addition, water-related health problems are widespread across many parts of the city. Cities and communities in low-lying coastal and delta regions, such as Can Tho, need to factor in adaptation to longer term challenges such as climate change when planning for the future.

## Key lessons for development

- By prioritising improved sanitation and using a combination of centralised and decentralised wastewater infrastructure, the impact of urban pollutants on water is reduced and health outcomes improve.
- Government, NGOs and science and community stakeholders have very different perspectives on urban water services problems and solutions. This requires multi-stakeholder planning processes in order to understand and integrate the differing views.
- Multi-stakeholder planning, while time-consuming, greatly enhances participants' capacity by catalysing innovation, new partnerships and empowering communities.

## What did the project deliver?

**A participatory planning method** combined with systems thinking was developed by researchers from Can Tho University (CTU) and CSIRO, encouraging local stakeholders to depart from traditional 'silo' management to an approach that reflected more integrated thought and collaboration.

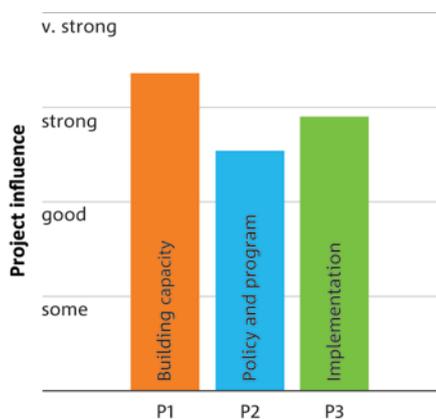
**A City Water Atlas** summarising current issues and challenges for urban water management, is being used to assist planners in local departments to identify and target the most vulnerable areas for action. The Atlas and its Web-GIS database has been officially adopted by the city's agencies as a collaborative platform for knowledge building and development of practical adaptation solutions.

**'No regrets' adaptation strategies** (i.e. strategies that deliver benefits even in the absence of climate change) were developed to improve the water services and environment, with integrated assessments of both the benefits and feasibility of those strategies. A pilot study area was used to demonstrate the planning and designing of sustainable water service options using CSIRO's award-winning sustainability assessment framework. This provided Can Tho City decision makers with a practical tool for sustainable development of its water services. The project also demonstrated two rainwater harvesting pilot systems, and developed a Rainwater Harvesting Guidebook for the Mekong Delta.

## Project evaluation and impact

In April 2014, CTU and CSIRO undertook an evaluation to assess the project's influence on participants' adaptive capacity. The project consisted of three linked phases to identify where impact had been achieved. Phase 1 focused on 'building planning capacity and tools'. This enabled Phase 2 'policy and program development', which was followed by Phase 3 'implementation, adoption and scaling out'. Phase 1 encompassed the project's activities, while Phases 2 and 3 were out of the project team's direct control. Parts of Phase 2 and all of Phase 3 'impact with beneficiaries' extend beyond the life of the individual projects and are dependent on key stakeholder support over time.

The results showed that the participatory approach and training have significantly built the capacity of the Can Tho research team in exploring and prioritising options for the supply of safe drinking water



Summary evaluation results for the three phases of the project impact pathway



for Can Tho City. These skills and the project's participatory planning process have influenced management plans and cross-sectoral partnerships in Phase 2, resulting in unexpected positive impacts as a result of NGOs using project results to inform their efforts with vulnerable communities through NGOs in Phase 3.

For example, international NGO, Save the Children, has applied rainwater harvesting infrastructure in over 220 households in Dong Thap province, based on project guidance. The HSF Foundation (Germany) has set up a rainwater harvesting system using this project as a baseline. Stakeholders felt that vulnerable beneficiaries benefited from the project, with clean water an urgent need of communities, especially women and children.



## Project partners

This four year collaborative project was led by CSIRO and the Can Tho University (CTU) College of Environment and Natural Resources, DRAGON Institute, and involved local and Australian partners including University of Technology Sydney, The Can Tho Water Supply and Sewerage Company and the Climate Change Coordination Office, Save the Children, and the Australian Department of Foreign Affairs and Trade (DFAT).



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