

Can Tho, Vietnam

REAL-TIME MONITORING FOR RESPONDING TO SALINE INTRUSION

2012–2014 | Partners: Can Tho CCCO, Center for Natural Resources and Environment Monitoring (CENRM) of Can Tho City, Can Tho Software Park, Department of Agriculture and Rural Development (DARD), Can Tho television stations, DRAGON Institute of Can Tho University, ISET-Vietnam



Installing position of Salinity Measuring Equipment



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CONTRIBUTIONS TO URBAN CLIMATE RESILIENCE



SYSTEMS

Developing a real-time network of salinity monitoring stations linked to public warning systems via salinity maps published on public website, SMS alert system, and news on local media.



AGENTS

Providing information to Can Tho households reliant on surface water; public official charged with designing, installing, and maintaining salinity-sensitive infrastructure; and water utility managers.



INSTITUTIONS

Identifying saline intrusion thresholds and potential responsive actions as a guideline for local people and decision-makers to develop plans and organize responses.

For more information about The Climate Resilience Framework, please visit: www.i-s-e-t.org/CRF

Summary

Can Tho City, lying at the heart of the Vietnamese Mekong Delta, is crossed by canals and waterways that are the primary source of water in the city. The Can Tho municipal piped water supply draws from surface water and as many as two thirds of all Can Tho households use surface river water directly for drinking, cooking and other domestic uses. Farmers use river water to irrigate rice, fruit and vegetable crops. Freshwater aquaculture is a common livelihood in rural areas of Can Tho. All of these activities are highly sensitive to salinity.

Located more than 65 km from the sea, and with year-round, unimpeded flow from the north, the waters surrounding Can Tho have remained fresh. There are indications that this may change in the coming decades, however. Recent detection of inland salinity in recent years suggest that the city's surface water system may be threatened by saline intrusion as a result of sea level rise and changing Mekong river flow.

Saline intrusion would have a major impact on the livelihood and health of Can Tho people, especially the poor who have limited

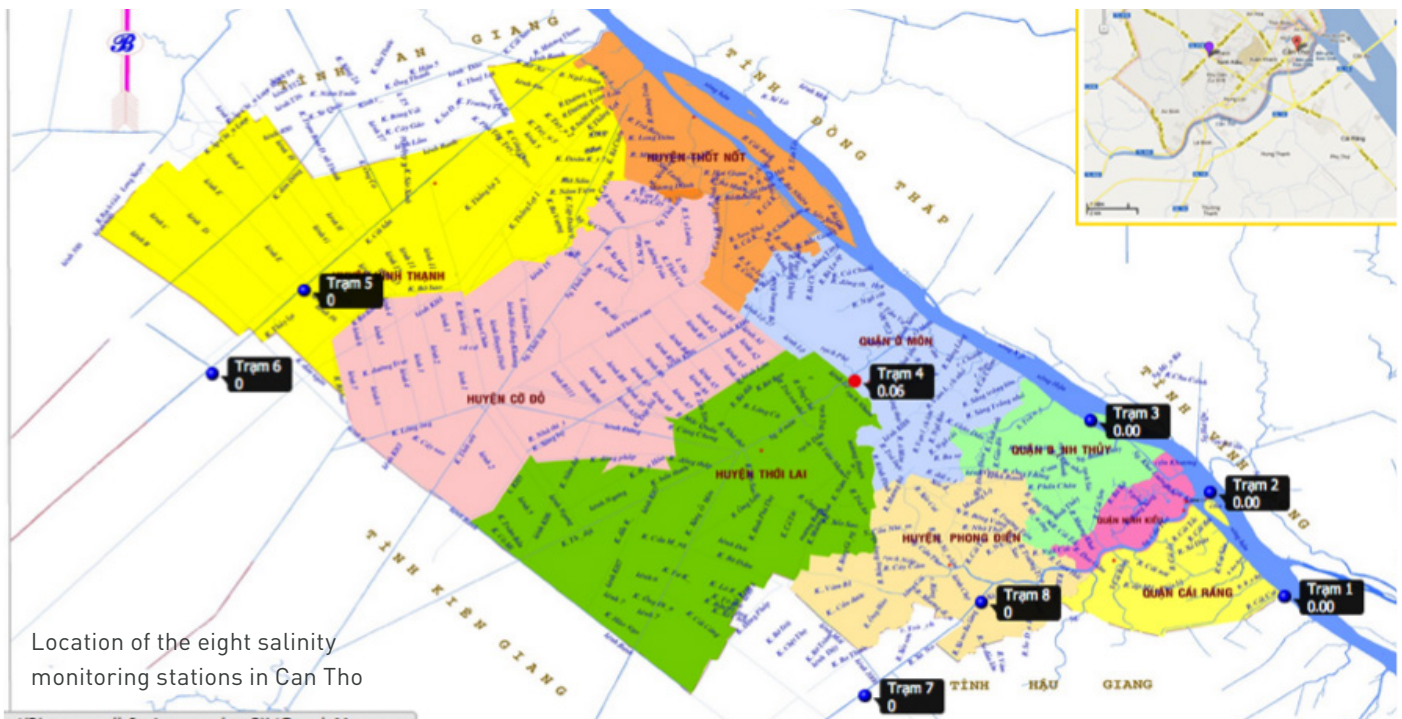
access to clean water supply and whose livelihood depends primarily on water resources. Yet currently salinity monitoring is only conducted twice a year in rainy and dry season, with data available to only a restricted group.

Local officials have prioritized addressing this issue in the context of a changing climate. With support from ACCCRN, they have developed an approach to understanding more about the salinity threat, providing a reliable, timely source of information on saline levels, and developing potential response strategies.

Our approach

This project is supporting Can Tho city to provide regular, accurate information on salinity levels and identify critical saline thresholds. It seeks to:

- **Establish real-time salinity-monitoring stations:** Eight salinity-monitoring systems recently installed around Can Tho (see map above) are each equipped with a wireless



Location of the eight salinity monitoring stations in Can Tho

telemetry data transmission system transmitting to a central data collection hub every 30 minutes. Data from the central data collection hub will be linked to an online database system to create a real-time salinity map. The map will be accessible publically on the website of the Can Tho Climate Change Coordination Office (CCCCO).

- **Identify critical saline intrusion thresholds:** Using information compiled from surveys and focus groups, researchers will identify levels at which salinity becomes hazardous and public alerts are required. The research will also help identify potential response strategies to minimize the impact of salinity on sectors and populations.
- **Develop a system of public alerts for high salinity levels:** Project staff are devising a warning system to alert the public when thresholds are reached through local television, radio stations, newspapers, and a new SMS alert system that will send text messages to subscribers.
- **Launch of public awareness on salinity information, hazards, and possible responses:** Partners are leading an educational campaign—incorporating singing, dancing and drama—with local communities that have saline sensitivities. They will also provide training on saline risks and responses to staff from relevant agencies and departments.

The project also includes the potential to pilot intervention models, should saline intrusion be detected as a significant risk in the near future.

Lessons and Learning

- **The Can Tho system provides impetus and a model for regional monitoring:** The salinity monitoring system in Can Tho is the first automatic system to record and publish the real-time salinity data in the Mekong delta. The International Fund for Agriculture Development (IFAD) has visited Can Tho and discussed its intention to support one salinity monitoring system for the Mekong region as a whole, linking with Can Tho’s existing system.
- **Salinity is a long-term problem that requires information in the short-term:** Government officials are highly concerned about saline intrusion in Can Tho and are eager to test infrastructure intervention actions such as construction of reservoirs. In contrast, research from the DRAGON institute, IWMI-SEA, and the Mekong River Commission suggest that salinity is unlikely to affect Can Tho directly for 20-30 years. The public likewise has limited concern and low awareness about saline intrusion, as farmers and other residents do not have direct experience with it. Some have advocated therefore that the city seek downstream partners, whose salinity issues are more urgent but where responding early could help prevent problems in Can Tho later on. The project team will determine whether and where to pursue infrastructure interventions based on monitoring results in 2013.

ISET-Vietnam Contact Information

Country Coordinator:	Address:
Ngo Le Mai	22A 1/42, 1 Au Co, Tay Ho
lemai@i-s-e-t.org	Tel: 04.371.867.02
	Fax: 04.371.867.21