

# Cuddalore and Nagapattinam, India— Port Orange, Palm Bay, and Oldsmar, Florida

- ▶ **Disaster Preparedness, Management, Mitigation, and Emergency Response**
- ▶ **Flood Mitigation**
- ▶ **Park and Playground Development**
- ▶ **Improved Citizen Access to Services**
- ▶ **Model Street Development**

On December 26, 2004, the Indian coastline experienced the most devastating tsunami in the area's recorded history. Nearly 80 percent of deaths along India's southern coast were centered in state of Tamil Nadu, which also incurred approximately two-thirds of the country's property damage. Within Tamil Nadu, the cities of Nagapattinam and Cuddalore suffered much of the worst damage and loss of life.

In response to the tsunami, in April 2005, the U.S. Agency for International Development (USAID) awarded a grant to ICMA for the CityLinks Post Tsunami Recovery Program in Cuddalore and Nagapattinam. This CityLinks program provided the local governments in Cuddalore and Nagapattinam with disaster management assistance and guidance on improving the delivery of municipal services. A key component of the program was the CityLinks partnership between Cuddalore and Nagapattinam and three cities in the state of Florida: Palm Bay, Oldsmar, and Port Orange. Like Tamil Nadu, Florida continually prepares for natural disasters such as hurricanes. Local and regional government officials from Florida not only have first-hand disaster response experience, they also provide good service delivery to their communities' citizens.

To capitalize on the knowledge and expertise of Florida city officials, ICMA facilitated a working partnership between the three Florida communities and Cuddalore and Nagapattinam. The partnership worked to help prepare for and mitigate future disasters along the southern Indian coastline, as well as to build the capacity of the Cuddalore and Nagapattinam municipal governments to provide basic services to their citizens. To assist the India cities, a CityLinks team was formed, composed of ICMA staff, officials from the three Florida cities, and representatives from the Urban Management Centre (UMC), which is an organization that is based in the Indian city of Ahmedabad and that works in collaboration with ICMA in trying to professionalize urban management in India.

**India partner cities:** Cuddalore, Tamil Nadu state, and Nagapattinam, Tamil Nadu state.

**Population of the Indian cities:** Cuddalore, approximately 159,000; Nagapattinam, approximately 93,000.

**U.S. partner communities:** cities of Palm Bay, Port Orange, and Oldsmar, Florida.

**Program dates:** April 2005 to September 2007.

**Key program issues in India:** preparing for and mitigating future disasters along the southern Indian coastline, as well as building the capacity of local governments to increase revenue generation so that they can provide basic and reliable services to their citizens.

*"I am deeply grateful for the educational and cultural opportunities provided to me as a participant in the CityLinks Post Tsunami Recovery program."*

**Roger Smith, public utilities director, Port Orange, Florida**

The CityLinks team helped Cuddalore and Nagapattinam with pro-bono, hands-on technical assistance, capacity-building training, and focused exchanges, complemented by small and targeted project assistance funding for disaster preparedness, computer-aided design (CAD) mapping, park and playground development, water delivery, flood mitigation, model street development, and financial management.

## **Accomplishments in 2007**

### **Disaster Preparedness, Management, Mitigation, and Emergency Response**

In 2006 the CityLinks team completed CAD base maps for Cuddalore and Nagapattinam, with detailed data layers used for disaster management, infrastructure development, and emergency response. To ensure that Cuddalore and Nagapattinam take ownership and will update the base maps in the future, the CityLinks team encouraged both cities to obtain CAD mapping software. As a result, in 2007 the Tamil Nadu state government purchased and distributed the software to Cuddalore and Nagapattinam, as well as to other cities in the state. By investing in this software, each of the cities can monitor infrastructure, land use, and property changes, which will improve future services provided to citizens. In addition, to promote lasting sustainability, the CityLinks team identified and trained municipal staff in how to update the maps so that they are relevant after the close of the program. By procuring the CAD software, at a cost of \$25,000, the Tamil Nadu state government showed a strong financial commitment to sustaining the CAD mapping usage.

### **Flood Mitigation**

Cuddalore and Nagapattinam struggle with flooding, which is a result of heavy rains, storm surges, and tsunamis. The 2004 tsunami highlighted the importance of building the capacity of both cities to respond to natural disasters, to plan for seasonal and inclement weather, and to determine ways to mitigate flooding. The CityLinks team structured technical assistance and designed pilot projects with these capacity-building and flood mitigation efforts in mind. In September 2007, ICMA completed the widening and cleaning of seven ponds in Nagapattinam that were historically interconnected to prevent flooding. ICMA connected the ponds to allow for a free flow of water during storm surges and to provide a natural system for draining the water that accumulated as a result of inclement weather. Stakeholder meetings were held with residents and businesses in the pilot project area to ensure community support to maintain the pond connections. After soliciting approval from the stakeholders, drainage cleaning and pond connection initiatives were implemented and will lead to decreased flooding for approximately 6,500 people in Nagapattinam. The interconnected ponds will improve

the community's ability to deal with seasonal flooding in future years and will create a safer living environment.

### **Park and Playground Development**

During the 2004 tsunami, parks in Cuddalore and Nagapattinam were destroyed. To ensure environmental sustainability and to revitalize community spaces, the CityLinks team redeveloped coastal areas and parks.

In January 2007, the CityLinks team, in partnership with Leathers & Associates and Palm Bay, Florida, helped plan and construct community playgrounds in Cuddalore and Nagapattinam. Leathers & Associates is a U.S.-based firm that specializes in designing community playgrounds and in supervising "community playground build" events.

Over 300 schoolchildren, ages 8–12, drew pictures of their ideal playground, which formed the basis for designs that were approved by both communities during stakeholder meetings. The playgrounds were built by hand, with approximately 650 days of labor for Cuddalore and 540 days of labor for Nagapattinam donated by women, children, and other community volunteers. Public-private partnerships alleviated the cost of the construction, with Leathers & Associates billing for only part of their design and construction assistance in India. In total, Leathers & Associates donated over \$16,000 in labor and travel costs, while the community of Cuddalore collected over \$500 in door-to-door collections and also sponsored three meals per day for all volunteers and carpenters. The

municipality of Nagapattinam beautified the playground site by funding the renovation and repair of community restrooms.

To ensure sustainability, the CityLinks team worked closely with local carpenters, providing job training in power tool usage and donating left-over tools and materials to both cities to use in maintaining the playgrounds in the future.

In addition to the playgrounds, the CityLinks team designed and constructed a park in Cuddalore and another one in Nagapattinam, thus providing increased urban greenery and improved gathering spaces for the tsunami-affected communities. In Cuddalore, the municipal government contributed over \$9,000 for the construction of the park. In addition, both Cuddalore and Nagapattinam

*"India's transportation system is extremely diverse, ranging from buses and cars to rickshaws, motorcycles, bicycles, animal-drawn carts, and pedestrians. This made it especially challenging to develop a model street that safely accommodates all methods of transportation while also providing parking for businesses and residences."*

**Roger Smith, public utilities director, Port Orange, Florida**

**Women and children paint equipment at the new playground in Cuddalore that replaced a public space that was destroyed in the 2004 tsunami.**



*"I especially enjoyed interacting directly with individual shop owners along the model street as we solicited their design input. Similarly, the stakeholder meetings were essential to gaining public support of the final design."*

**Roger Smith, public utilities director, Port Orange, Florida**

have taken a strong interest in the parks and remain committed to their continued maintenance.

### **Improved Citizen Access to Services**

Public service delivery was addressed through the improvement of the municipal water supply and by encouraging citizens to become more knowledgeable on water services provided to them by the governments of Cuddalore and Nagapattinam. After careful surveying of citizen needs, water testing, and review of improvement options, the CityLinks team installed chlorinators and pressure meters to monitor the flow of water and to decrease the fecal coliform and *E. coli* contamination in the water in both Cuddalore and Nagapattinam. Chlorination is a low-

cost, sustainable, effective way to treat water, and it is a proven means for decreasing disease among citizens. Pressure meters allow the city to determine when the flow of water has been interrupted, thus ensuring more rapid restoration of service. The installation of chlorinators and pressure meters increased access to pure drinking water for over 65,000 beneficiaries and showed concrete efforts by Cuddalore and Nagapattinam to address both concerns.

Once the chlorinators were installed, the CityLinks team, in partnership with Cuddalore and Nagapattinam, implemented a public relations campaign to encourage citizens to hook up to the municipal water supply and to pay for household water connections. Citizens had previously refused to link up to the water service because they were wary of its quality and questioned the regularity at which water was being provided. The campaign publicized the improvements in water quality and service delivery through a video broadcast on government television stations; an audio campaign using loudspeakers mounted on cars; leaflets; and house-to-house meetings with citizens. By the end of September 2007, 670 applications for water connections were distributed in Nagapattinam, and approximately 365 applications were filed by citizens to request water connections. In Cuddalore, by the end of September 2007, approximately 1,200 applications were distributed, and 980 applications were filed. The filing of those applications shows a significant change in the citizens' perception of the water quality, as

**Schoolgirls contribute their time to help build the new playground in Nagapattinam.**





well as their interest in supporting the municipal water system. By successfully hooking up citizens to the municipal water systems, Cuddalore and Nagapattinam could increase their revenues by at least \$150,000 per year.

### **Model Street Development**

During an exchange visit they made to Florida, Indian representatives were intrigued by the well-planned streets and sidewalks that were built to accommodate citizen, business, and municipal needs. In an effort to recreate these spaces, Cuddalore and Nagapattinam requested that the CityLinks team design and facilitate the construction of a model street in each city. In response, the CityLinks program implemented stakeholder meetings, designed model street sections, identified funding/financial structuring opportunities, and encouraged municipal and state governments to provide funding for model street development initiatives. With Cuddalore and Nagapattinam, the CityLinks team developed concept papers and proposals, which are undergoing funding review by the state government of Tamil Nadu.

**In Nagapattinam, children, women, and other volunteers donated 540 days of labor to help build the new playground.**

### **Looking Forward**

Although it officially ended on September 30, 2007, the partnership fostered lasting international relationships between local government professionals in Florida and in India that will continue for years to come. The CityLinks program was successful because it remained a dynamic partnership that responded to municipal needs and was demand-driven. By continuously interacting with citizens, municipal officials, state representatives, and other stakeholders, the CityLinks team provided the necessary assistance to help rebuild stronger communities after the tsunami, as well as facilitated training and skills development in revenue generation and service delivery. These strong ties with Cuddalore and Nagapattinam have led to tangible results that have improved the overall quality of life for citizens in those two cities.

*“The model street project introduced a model approach for soliciting stakeholder participation in the community development process. Once constructed, these streets will stand as a testament to the power of ordinary citizens and business owners to shape the future of their communities.”*

**Donna Steinebach, assistant to the city manager, Port Orange, Florida**

