



FINAL REPORT
CityLinks Post-Tsunami Recovery Program in
Cuddalore and Nagapattinam, Tamil Nadu-India

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I. List of Acronyms

ADB	Asian Development Bank
CAD	Computer Aided Design
CMATN	City Managers Association Tamil Nadu
CMA	City Managers Association
ICMA	International City/County Management Association
IMaCS	ICRA Management Consulting Services Limited
M&E	Monitoring and Evaluation
NGO	Non Governmental Organization
ULB	Urban Local Bodies
UMC	Urban Management Centre
US	United States
USAID	United States Agency for International Development

II. Executive Summary

Introduction

On December 26, 2004, the Indian coastline experienced the most devastating tsunami in recorded history. Almost all the countries situated around the Bay of Bengal were affected. Nearly 80 percent of deaths along India's southern coast were centered in Tamil Nadu, which incurred approximately two-thirds of the property damage. Within Tamil Nadu, the cities of Nagapattinam and Cuddalore incurred much of the worst damage and loss of life.

In response to the tsunami, The United States Agency for International Development (USAID) USAID awarded the CityLinks Post Tsunami Recovery Program in Cuddalore and Nagapattinam, India to The International City/County Management Association (ICMA) in April 2005. The program provided disaster management assistance and guidance on the improvement of the delivery of municipal services to citizens for the local governments in Cuddalore and Nagapattinam. A key component of the program was the CityLinks Partnership between Cuddalore and Nagapattinam and Palm Bay, Oldsmar and Port Orange, FL. Like Tamil Nadu, Florida continually prepares for natural disasters that include unrelenting hurricanes throughout the state. Local and regional government officials from cities like Palm Bay, Oldsmar and Port Orange not only have first-hand disaster response experience, but also provide good service delivery to their citizens.

To capitalize on the knowledge and expertise of Florida city officials, ICMA facilitated a working partnership between Florida, Cuddalore and Nagapattinam to help prepare for and mitigate future disasters along the southern Indian coastline, as well as build the capacity of both governments to provide basic services to their citizens. ICMA, Florida and the Urban Management Centre (UMC), herein after referred to as the CityLinks Team, provided pro-bono hands-on technical assistance, capacity building training and focused exchanges, complemented by small and targeted project assistance funding for disaster preparedness, CAD mapping, park/playground development, water delivery, flood mitigation, model street development and financial management. The partnership and program have led to lasting relationships and tangible results that will continue to improve the quality of life for the citizens of both cities.

CityLinks Program Accomplishments

CAD Mapping

In the area of disaster and flood mitigation, the CityLinks Team created CAD base maps for both cities with detailed data layers of all relevant geographic features, public infrastructure systems and facilities, land uses and building structures, including topography (for mapping vulnerable flooding areas), municipal boundaries, building foot prints, open spaces/water bodies/ parks, road network, railways, current land uses including port and fishing industry activity, storm shelter facilities and temporary housing projects. The cities are now better equipped to evacuate during emergencies, are able to respond to vulnerable populations more quickly and are prepared to plan, prepare for and develop infrastructure based on current municipal information and citizen needs. The CAD Maps were also used throughout the CityLinks Program by the project team and by Cuddalore and Nagapattinam for planning and implementation purposes.

Flood Mitigation

The CAD Maps were particularly beneficial in the CityLinks drive to decrease seasonal flooding. Once the land features had been mapped, the CityLinks Team identified low lying areas and drainage issues for communities that were routinely affected by seasonal flooding. The CityLinks Team provided written recommendations in a report entitled *8 Ideas that Work* to these communities and to self-help groups on ways to combat flooding. The CityLinks Team removed the silt from drains to allow for a freer flow of water during monsoon seasons, including over 750 running meters of

drainage in Cuddalore. By cleaning the drains, the cities mitigated the affects of monsoons and allowed communities greater access to the drains, which had historically been clogged with trash, debris and snakes.

In addition, the CityLinks Team hired a local Indian firm to survey both cities to determine and provide recommendations for the best way to tangibly mitigate seasonal flooding. The CityLinks Team worked closely with local communities and municipal officials in Cuddalore and Nagapattinam to design responsive flood mitigation projects. As a result, working designs were developed for both cities and a flood mitigation pilot project was completed in Nagapattinam. Ponds and water bodies were cleaned and linked together, through the widening of 7 ponds that were historically interconnected to reduce flooding for citizens.

Coastal Restoration and Park Development

During the December 2004 tsunami, parks in Cuddalore and Nagapattinam were destroyed. To revitalize these community spaces, the CityLinks Team built two neighborhood playgrounds, soliciting the involvement of over 300 school children, ages 8-12 years old, their parents, teachers and members of the community. These school children drew pictures of their ideal parks, which formed the basis for the final designs that were approved by both communities during stakeholder meetings. The playgrounds were built by hand, within 5 days at each site and with approximately 4000 hours of labor donated by citizens. In-kind contributions were donated by citizens, the government, ICMA and through public private partnerships. In addition to the playground, the CityLinks Team designed and constructed 2 parks, allowing for increased urban greenery and improved gathering spaces for the tsunami-affected communities in Cuddalore and Nagapattinam.

Financial Management

In the area of financial management, the City Links Team worked with Cuddalore and Nagapattinam to increase their own-source revenue generation. More than \$800,000 in back taxes were identified through financial management assistance and, as a result, more than \$500,000 in actual revenues was collected by both cities. The increase in revenue was successful because the CityLinks Team worked hand-in-hand with local government and finance specialists to strengthen their financial skills and institutional capacity. By the close of the project, both cities had updated their financial records, identified outstanding tax payments owed to them and improved the tax collection process. The increase in revenues has allowed Cuddalore and Nagapattinam to pay for and provide better services to citizens.

Improved 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 Cuddalore and Nagapattinam. After diligent 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 coli form and e-coli content in Cuddalore and Nagapattinam. Chlorination is a low cost, sustainable and effective way to treat water, and is a proven means for decreasing disease among citizens. Pressure meters allow the city to determine when the flow of water has been interrupted, so that they can insure citizens receive regular water 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 hook up to the water system because they were wary of the water quality and questioned the regularity at which water was being provided. The campaign publicized the improvements in service delivery through the launching of a video on government television stations, an audio/street campaign,

leaflet distribution and house-to-house meeting. Citizens were educated on the improved quality of the water. 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. By the end of September 2007, approximately 1200 applications were distributed in Cuddalore and 980 applications were filed by citizens to request water connections. The filing of applications to hook-up to the municipal water supply shows a significant change in the perceptions of citizens in their belief in water quality, as well as their interest in supporting the municipal water system. By successfully hooking citizens up to the municipal water systems, Cuddalore and Nagapattinam have the capacity to increase revenues by at least \$150,000 USD per year.

Model Street

During an exchange visit to Florida, Indian representatives were intrigued by the well-planned streets and sidewalks that were built to accommodate citizens, 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 advocated with municipal/state governments to provide funding support model street development initiatives. Concept papers and proposals were submitted for funding from the State Government of Tamil Nadu, which is pending approval.

Conclusion

The CityLinks Program was successful because it remained a dynamic partnership that responded to municipal needs, was demand driven and improved the quality of life for citizens in Cuddalore and Nagapattinam. Although the program officially ended on September 30, 2007, the partnership fostered lasting international relationships between local government professionals in Florida and India that will continue for years to come. The attached Final Report provides detailed information on the successes summarized above, actual program results reported by Cuddalore and Nagapattinam, as well as mitigating circumstances that may have limited or impeded achievement of the initial benchmarks set forth in the CityLinks Project.

III. Comprehensive Report

A. Background

On December 26, 2004, the Indian coastline experienced the most devastating tsunami in recorded history. The tsunami was triggered by an earthquake of magnitude 9.0 on the Richter scale, off the coast of Sumatra, in the Indonesian Archipelago. Almost all the countries situated around the Bay of Bengal were affected. By any measure, and in any context, the loss of life and property in India was massive. Nearly 80% of deaths along India's southern coast were centered in Tamil Nadu, which also incurred approximately two-thirds of the property damage. Tamil Nadu suffered approximately \$109 million in damages to life and property. Within Tamil Nadu, Nagapattinam and Cuddalore incurred much of the worst damage and loss of life: Cuddalore estimated Tsunami damage restoration at Rs. 128.6 million (equivalent to \$3.2 million USD), while Nagapattinam estimated the cost at Rs. 200 million (equivalent to \$5 million USD).

Though the disaster passed, much work needed to be done to restore and revitalize communities. While Tamil Nadu and the cities of Cuddalore and Nagapattinam responded quickly and efficiently to the immediate challenges posed by the tsunami, the long-term recovery and basic needs taxed their human and financial resources. Availability and resumption of basic services is one of the most important determinants of the quality of life in urban and rural settlements, however, Cuddalore and Nagapattinam had access to limited resources before the tsunami, which became scarcer afterward. Even as both cities struggled to balance their finances and provide for citizens, the tsunami caused significant public and private destruction that had implications for capitol investment, for reconstruction and even greater loss of revenues from damaged properties. Elected and appointed officials that served these communities of nearly 250,000 citizens were hard-pressed to respond to the enormity of the needs their citizens faced and resuming daily delivery of services was difficult.

Discussions with the city governments and the Collectors of Cuddalore and Nagapattinam revealed a strong drive to build back better. Though the tsunami was a tragedy, many officials in Tamil Nadu viewed the disaster as an opportunity for planned redevelopment through implementation of appropriate procedures, processes and systems. To help Cuddalore and Nagapattinam respond to these needs, The United States Agency for International Development (USAID) awarded the CityLinks Post Tsunami Recovery Program in Cuddalore and Nagapattinam, India to The International City/County Management Association (ICMA) in April 2005. The program provided disaster management assistance and guidance on the improvement of the delivery of municipal services to citizens for the local governments in Cuddalore and Nagapattinam. A key component of the program was the CityLinks Partnership between Cuddalore and Nagapattinam and Palm Bay, Oldsmar and Port Orange, FL. Like Tamil Nadu, Florida continually prepares for natural disasters that include unrelenting hurricanes throughout the state. Local and regional government officials from cities like Palm Bay, Oldsmar and Port Orange not only have first-hand disaster response experience, but also provide good service delivery to their citizens.

To capitalize on the knowledge and expertise of Florida city officials, ICMA facilitated a working partnership between Florida, Cuddalore and Nagapattinam to help prepare for and mitigate future disasters along the southern Indian coastline. ICMA and Florida provided pro-bono hands-on technical assistance, capacity building training and focused exchanges, complemented by small and targeted project assistance funding for disaster preparedness, CAD mapping, park/playground development, water delivery, flood mitigation, model street development and financial management. The partnership and program have led to lasting relationships and tangible results that will continue to improve the quality of life for the citizens of both cities. The CityLinks Post Tsunami Recovery program ended on September 30, 2007, culminating in the implementation of a wrap-up symposium which highlighted USAID's and the CityLinks Team's support for the overall recovery of Indian communities, the return of Cuddalore and Nagapattinam to normalcy and the rebuilding of sustainable and self-dependent communities.

B. CityLinks Program Components

1) Partnership Obligations, Council Approval and Memorandum of Understanding (MOU)

U.S. cities participating in the CityLinks Program generally enter into an agreement with ICMA, local partner organizations and the partner city(ies) to provide specific short-term technical assistance. This assistance is provided primarily by city staff, but may also, under the city's direction, be provided by other individuals from the larger community [e.g., universities, chambers of commerce, non-profit organizations]. Prior to engaging in the partnership, the U.S. city is required to have its council ratify an agreement to participate. In so doing, the city will have strong support for continued participation in the program despite any unexpected staff changes.

In the case of the CityLinks Post-Tsunami Recovery Program, Palm Bay, Port Orange and Oldsmar, FL (U.S. Partners) received the necessary council approvals before the program began, which ensured a strong commitment to Cuddalore and Nagapattinam. A formal Memorandum of Understanding could not, however, be signed due to a dynamic political environment, staff transfers and changing priorities at both the state and local levels in India. At the request of the State Government of Tamil Nadu, the CityLinks Team agreed to forgo the signing of a formal MOU. In place of this MOU, The CityLinks Team, the State Government of Tamil Nadu and the municipalities of Cuddalore and Nagapattinam worked closely to define program activities and assistance needs, providing the necessary written approvals and buy-in throughout the life of the project. The lack of a formal agreement did not affect the overall implementation of the partnership, which remained responsive to government and citizen needs, benefited from the continued support of the municipalities and fostered a strong relationship between various departments, staff and officials at all levels of government.

2) Inaugural Visit to India (July 2005)

The partnership and technical assistance were inaugurated during two visits to Cuddalore and Nagapattinam in July 2005. The participants for the Cuddalore exchange included city managers and city planners from the three Florida municipalities of Oldsmar and Port Orange. The participants in the Nagapattinam exchange included Florida city managers from Palm Bay and Palm Beach Gardens. Achievements during the exchanges included: development of a draft work plan and program activities, implementation of meetings with key stakeholders and community leaders, as well as coordination with other donors working in Tamil Nadu, to learn more about their program activities. Based on these inaugural meetings, the partners determined priority assistance areas for Cuddalore and Nagapattinam, which included: financial management, service delivery improvement, coastal management, GIS mapping, disaster mitigation, park redevelopment and overall rehabilitation of tsunami affected communities.

3) Inaugural Visit to Florida (January 2006)

In January 2006, 10 municipal and state officials, as well as local CityLinks Team staff members, traveled to Florida to see disaster mitigation and management tools, service delivery initiatives, mechanisms for facilitating citizen participation and basic management techniques for implementing daily functions of the government. The exchange included state relief commissioners, state commissioners of municipal administration, municipal medical officers, municipal engineers and municipal commissioners/collectors. During the exchange, participants were involved in plenary sessions on disaster management, economic development, coastal management and water/sewage plants. Site visits were conducted to water utility operations, retention ponds, city parks and dune restoration sites. In addition, the delegation was exposed to development of disaster mitigation plans and strategies for building sustainable local economies.

4) Development of Work Plan

ICMA believes strongly that improved local governance is best achieved by ensuring sound financial management practices, effective service delivery, support of economic development initiatives and encouragement of community participation. By adhering to these principles, cities are well-positioned to provide a decent quality of life for citizens who are, in turn, more willing to participate in community decisions, pay taxes for quality services and raise revenues that allow the government to grow and remain self-sustainable. All program activities and pilot projects implemented under the

