Tsunami Recovery in India—3 Years On

The report, published 3 years after the devastating tsunami struck on 26 December 2004, endeavors to record key achievements and lessons learned during the ADB supported recovery and reconstruction efforts in areas affected by this tragedy. Affected states included the Union Territories of Andaman and Nicobar Islands and Pondicherry, as well as the coastal districts of the States of Andhra Pradesh, Kerala and Tamil Nadu, covering approximately 2,260 kilometers of coastal area.

About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries substantially reduce poverty and improve the quality of life of their people. Despite the region’s many successes, it remains home to two thirds of the world’s poor. Nearly 1.7 billion people in the region live on $2 or less a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance. In 2007, it approved $10.1 billion of loans, $673 million of grant projects, and technical assistance amounting to $243 million.
TSUNAMI RECOVERY IN INDIA 3 YEARS ON

Asian Development Bank
It is very thoughtful on the part of the Asian Development Bank (ADB) to bring out this booklet, "Tsunami Recovery in India—3 Years On," giving details of the programme implemented by Government of India for the restoration and rehabilitation of the people affected by the Tsunami with the assistance of ADB.

On 26 December 2004, the Indian Ocean Tsunami hit the Indian coast causing unprecedented damage and destruction in the Andaman and Nicobar Islands, Pondicherry, Tamil Nadu and Kerala. Besides loss of more than 10,000 lives and damage to property of over $1.5 billion, the tsunami caused extensive damage to infrastructure. The challenge of restoring the livelihoods of the affected people was urgent and daunting. This was a challenge to which the Government of India and the State Governments responded with sympathy, urgency and alacrity.

On the very next day of the tsunami, ADB came forward to offer its support of assistance. ADB put in place a high level mission for consultation on relief work in the third week of January, 2005. A Joint Assessment Mission of ADB, World Bank and UNDP, in close association with State level organizations, submitted its report in March 2005. Within a period of less than five months of the catastrophe, agreements were signed for the Tsunami Emergency Assistance Project on 12 May 2005 for ADB loan and grant of $100 million each.

The areas identified for relief aid reconstruction work were: rebuilding of infrastructure including roads, bridges, ports, jetty, power sector, urban development, housing and livelihood restoration. Over the last three years, all concerned including ADB, State Governments, local government bodies, NGOs and most importantly, the affected people themselves were engaged in the restoration activities. There were many challenges along the way: delayed start up due to preoccupation of government machinery with rescue and relief work, need to avoid allegations of corruption in the massive reconstruction work, emphasis on consensual and participative approach in reconstruction efforts, acceptance of communities of the new livelihood interventions, the need for creation of awareness on monitoring practices and design of disaster-resistant construction and capacity building for all the stakeholders, government, affected communities, NGOs or self-help groups.

These efforts in partnership have produced valuable results. The tsunami recovery and reconstruction work covered 364 villages in 13 districts of Tamil Nadu and 160 villages in 9 districts of Kerala. Infrastructure rehabilitation has started to make a positive impact on the lives of the tsunami-affected people. Under the project, 2 ports in Kerala and 2 minor ports in Tamil Nadu and a total of 10 fishing harbours were restored. Water supply systems in 26 villages and 5 towns in Kerala, and 6 towns and 430 villages in Tamil Nadu were restored or upgraded. In Tamil Nadu, work on 760 kilometers of village, town and urban roads has been completed.
230 public buildings have been upgraded. Restoration of damaged electricity distribution and street lighting is under way. Construction has started on three new bridges in Kerala, and five bridges are planned in Tamil Nadu. More than 46,000 self help groups have been covered by revolving credit, skill training, replacement of damaged assets and other economic assistance.

There are valuable lessons of experience following from the relief and rehabilitation effort. The approach to disaster management in India has witnessed a paradigm shift at the national level. It has moved from being reactive and relief centric to holistic and integrated with emphasis on prevention, mitigation and preparedness, conserving developmental gains and minimising losses to life, livelihood and property. It has catalysed us to put in place a streamlined institutional techno-legal framework in order to create and preserve the integrity of an enabling regulatory environment and a compliance regime.

The Government of India enacted the Disaster Management Act on 23 December 2005, which envisaged the creation of the National Disaster Management Authority (NDMA), headed by the Prime Minister. Similarly, State Disaster Management Authorities (SDMAs) are headed by the respective Chief Ministers with a disaster management authority at each district level. Various other initiatives are planned such as the establishment of the National Institute of Disaster Management for planning and promoting training and research in the area of disaster management, documentation and development of national level information base relating to disaster management policies, prevention mechanisms and mitigation measures, National Disaster Response Force for the purpose of specialist response to a threatening disaster situation or disaster, the National Disaster Response Fund towards meeting the expenses for emergency response, relief and rehabilitation, and the National Disaster Mitigation Fund for projects exclusively for the purpose of mitigation. The Act also envisages setting up of the State and District Disaster Response Fund and Disaster Mitigation Fund.

I trust this information booklet will help all stakeholders appreciate the scale and magnitude of the disaster relief effort undertaken by India following the tsunami. This booklet is also a tribute to India’s development partners such as the ADB who responded swiftly and sympathetically at a time of national emergency, cutting through their systems and procedures.

D. Subbarao
Finance Secretary
Government of India
4 August 2008
It has been three years since the Tsunami waves hit the Tamil Nadu coast causing death and devastation on an unprecedented scale. Asian Development Bank was one of the institutions which rushed immediately to assist in the rehabilitation and reconstruction process. For the first time in India, Asian Development Bank also came forward to provide a substantial Grant for restoring the livelihoods of families devastated by tsunami. Thanks to the Asian Development Bank along with Government of India and other multilateral funding agencies, the State Government could help each and every citizen affected by the tsunami through a multitude of initiatives. These have not only helped the coastal residents cope with the financial losses but have also lent a helping hand to deal with the consequential social and psychological turmoil.

I am happy to note that the Asian Development Bank funded Tsunami Emergency Assistance Project provided financial resources to Tamil Nadu through Grant and Loan assistance to

- Rebuild the lives of the coastal communities through alternative vocations to provide sustainable livelihood with enhanced income levels to more than 42,515 groups of mostly women touching the lives of 722,755 families. A special feature of ADB’s assistance was the grant given to more than 35,725 physically challenged individuals. TEAP also helped to introduce initiatives like risk mitigation insurance, bio-metric identification and innovative training programmes.
- Provide amenities like sanitation and water supply of higher standards.
- Build better all-weather roads and bridges in vulnerable locations. The TEAP helped the Government of Tamil Nadu to provide for vital links in the coastal habitations serving future generations against emergencies.
- Rebuild ports, harbours and fish landing centres. The revival of Nagapattinam and Cuddalore Ports with ADB assistance has changed the economic profile of these worst affected districts.

I place on record my appreciation of the Asian Development Bank that has brought out this informative booklet “Tsunami Recovery in India—3 Years On.” This highlights the exemplary initiatives of our Government with ADB partnership in the recovery effort to restore livelihoods and rehabilitate and reconstruct damaged infrastructure to higher, cost effective and environmentally sustainable standards.

L.K. Tripathy  
Chief Secretary  
Government of Tamil Nadu  
3 July 2008
I am pleased to know that ADB is bringing out a publication covering the progress of the Tsunami Emergency Assistance Project (TEAP) in Kerala and Tamil Nadu. The implementation of the physical infrastructure and livelihood interventions under TEAP have been a challenging as well as interesting experience for the Government of Kerala and the implementing departments and agencies. We are indeed happy that interventions under TEAP, apart from improving the infrastructure, have helped thousands of poor and vulnerable women and their families in the Tsunami-affected areas. The support provided by the Extended Mission of ADB has been extremely beneficial in the smooth implementation of TEAP in Kerala.

P.J. Thomas
Chief Secretary
Government of Kerala
17 July 2008
I am pleased to introduce the report “Tsunami Recovery in India—3 Years On” of the Asian Development Bank (ADB). The report, published 3 years after the devastating tsunami struck on 26 December 2004, endeavors to record key achievements and lessons learned in recovery and rehabilitation of areas affected by this tragedy. Affected states included the Union Territories of Andaman and Nicobar Islands and Pondicherry, as well as the coastal districts of the States of Andhra Pradesh, Kerala and Tamil Nadu, covering approximately 2,260 kilometers of coastal area.

Today ADB-supported reconstruction efforts have gained significant momentum in the worst-hit areas with resources reaching those in need. A drastic change is evident in the lives of the poor fisher folk who inhabit these coastal areas. People whose lives were torn apart in a matter of seconds when the devastating tsunami struck, today aspire for a new life and livelihood. The Tsunami Emergency Assistance Project (TEAP) in Tamil Nadu and Kerala has restored damaged public infrastructure to a higher, cost-effective, environmentally sustainable standard, while incorporating features critical to disaster prevention.

The reconstruction strategy has been based on a participatory, equitable, flexible, decentralized, and transparent approach. Better management of the coastal environment and reinforced risk reduction were built into the overall social and economic strategy. Projects were formulated after extensive consultations with the community to develop new economic activities with focus on creation and group ownership of assets to raise levels of empowerment in the community.

The evaluation of disaster risk in the context of country strategy and programming, and its review with country authorities is an important tool ADB has to enhance awareness of this threat to development. It is also a critical step for improving the effectiveness of ADB’s development assistance, especially in high-risk countries. Incorporating appropriate risk management in country programming and portfolio management is the cornerstone of ADB’s shift to a proactive stance to improving risk management and enhancing development.

I congratulate ADB’s India Resident Mission in documenting the reconstruction efforts in Tamil Nadu and Kerala in the aftermath of such a tragedy. I hope this report will be of interest to countries similarly affected and assist them in turning misfortune into an opportunity to fast track development.
Preface

The Government of India formally requested the Asian Development Bank (ADB) for assistance on 10 January 2005 for rebuilding infrastructure—both public and private—and for rehabilitation of livelihood of those affected by the tsunami. Three years after the tsunami, major achievements on the long road to recovery have been realized in the face of several challenges in India. The recovery and rehabilitation efforts are now showing positive impacts on the lives of the people. Tsunami recovery and reconstruction projects are being operationalized in 13 districts of Tamil Nadu (364 villages) and 9 districts of Kerala (160 villages) under ADB’s Tsunami Emergency Assistance Project (TEAP) in Tamil Nadu and Kerala. By involving affected communities at every stage of reconstruction, and through proper planning and streamlining of procedures, the recovery effort has been both responsive and relevant.

“Partnerships” have been the underlying force in the tsunami recovery efforts that were jointly executed by ADB, the governments of Tamil Nadu and Kerala, nongovernment organizations, and other development partners. ADB worked in close cooperation with the state government department agencies to execute the disaster recovery projects and has been supported by a clear and responsible government coordination mechanism, and cooperation from various partners.

The report documents the recovery from tsunami through photographic footage and individual stories that illustrate how TEAP has enabled coastal communities to overcome their misfortune by opening up new avenues of sustainable employment. Restoration of harbors is showing an increase in port operations and revenues. Construction of new bridges and upgrading of roads will ensure better evacuation routes in case of a future tsunami and also improve connectivity to markets, health, and education facilities for fisher folk and their families.

The report takes stock of work accomplished and lessons learned in shared commitment and harmonization of development support for disaster recovery. I would like to acknowledge the contribution of the India Resident Mission staff and staff in the Extended Mission in Tamil Nadu and Kerala in bringing out this knowledge product. I look forward to its wide dissemination among development partners.

Tadashi Kondo
Country Director
India Resident Mission
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The Disaster

A massive earthquake that triggered the Indian Ocean tsunami on the morning of 26 December 2004 left in its wake death and destruction on an unprecedented scale. In India, the calamity affected almost 3 million people, and left more than 12,000 dead, and hundreds of thousands of people homeless. The tsunami caused extensive damage to life and property in the Union Territories of Andaman and Nicobar Islands, and Pondicherry, as well as in the coastal districts of the States of Andhra Pradesh, Kerala, and Tamil Nadu, affecting approximately 2,260 kilometers (km) of coastal area. The tidal waves that struck the mainland varied between 3 meters (m) and 10 m in height and penetrated into the mainland between 300 m and 3 km from Nagapattinam, Chennai, and Machilipatnam, located in the direct line of the epicenter of the earthquake.

Overall rehabilitation and reconstruction needs were estimated at $1.2 billion, requiring financing over the short and medium term. The estimates took into account damaged assets that needed to be replaced with new ones, not only of equal value, but with upgrades to services and infrastructure in order to reduce their previous inherent vulnerability. The largest proportion of the damages was concentrated in fisheries, housing, and infrastructure, with material private asset damages related to coastal fisheries, agriculture, and microenterprise livelihoods in the various sectors.
In view of the devastating nature of the tsunami and the substantial damage to the affected states, the Government of India set up a core group for tsunami recovery and rehabilitation at the Planning Commission, a high-level committee, and an inter-ministerial central team to facilitate assessment, development, implementation, and monitoring of the immediate, short-, and long-term programs. The Tsunami Rehabilitation Program Report finalized by the Planning Commission, in consultation with the states, broadly outlined the impact of the tsunami on the Indian subcontinent; defined the guiding principles for the program; summarized information about damage assessment provided by the states/union territories and the assistance sought for relief, reconstruction, and rehabilitation; and provided Central assistance under the Rajiv Gandhi Rehabilitation Package. It highlighted the needs of areas where financial assistance was required for reconstruction and rehabilitation, and provided a Program Implementation Plan along with an organizational structure for the program.
The program sought to apply the following guiding principles in its implementation—environment-friendly, egalitarian approach; private sector and nonprofit sector participation; gender empowerment; child welfare; structural and nonstructural rehabilitation measures; and transparency and accountability. Based on the comprehensive and objective assessment of rehabilitation needs, the Planning Commission suggested the following components for the Tsunami Rehabilitation Program:

- Housing repair and reconstruction;
- Fisheries;
- Livelihood support programs covering credit support, subsidy to farm implements, and animal husbandry;
- Infrastructure repair and reconstruction covering power, communication, roads and bridges, ports and jetties, irrigation channels, and water supply;
- Social and community development involving health, education, food, and nutrition programs;
- Environment and coastal resource management that would involve setting up an environment management plan and a coastal zone management plan;
- Disaster management, including setting up an early warning system

**Joint Assessment Mission Recommendations**

A Joint Assessment Mission (JAM) was also constituted by the Government of India comprising funding agencies, such as the Asian Development Bank (ADB), World Bank, and United Nations. The JAM conducted site visits on 5–15 February 2005 and submitted its report to the Government of India. JAM undertook an assessment of the socioeconomic and environmental impacts of the tsunami in Andhra Pradesh, Kerala, and Tamil Nadu, and the Union Territory of Pondicherry. As advised by the Government, JAM did not include an evaluation of the impact and losses sustained in the Union Territory of the Andaman and Nicobar Islands. The JAM’s quantification of damages and losses presented a consolidated view that was based on relevant information received and the expertise of the multi-institutional and interdisciplinary JAM team. ADB, World Bank, and UNDP agreed to work closely with the State line agencies to fast-track implementation. Such cooperation was expected to help streamline the delivery of financial support, prevent duplication of programs, and ensure no one is left behind or missed out.

The JAM, composed of experts and specialists who analyzed the damage and losses, recorded the needs expressed by the relevant state authorities and union territory administration, made field visits to the most affected districts, and undertook—on a sample basis (there were more than 1,000 affected villages)—consultations with local experts, members of civil society, and nongovernment organizations (NGOs).

The JAM recommended the national and state authorities to pursue a risk-mitigating reconstruction process in the face of damages resulting from specific recurrent hazards that the tsunami had put in clearer perspective. A disaster of this nature is a “wake-up call” to better evaluate vulnerability and improve risk management. A risk-mitigating reconstruction

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**Preliminary Post-Tsunami Reconstruction Needs ($ million)**

<table>
<thead>
<tr>
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<th>Short-Term Reconstruction</th>
<th>Medium-Term Reconstruction</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andhra Pradesh</td>
<td>26.0</td>
<td>46.6</td>
<td>72.6</td>
</tr>
<tr>
<td>Kerala</td>
<td>83.8</td>
<td>73.9</td>
<td>157.7</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>248.6</td>
<td>619.7</td>
<td>868.3</td>
</tr>
<tr>
<td>Pondicherry</td>
<td>41.6</td>
<td>72.8</td>
<td>114.4</td>
</tr>
<tr>
<td><strong>TOTAL (by state)</strong></td>
<td><strong>400.0</strong></td>
<td><strong>813.0</strong></td>
<td><strong>1,213.0</strong></td>
</tr>
</tbody>
</table>

**Selected Sectors**

<table>
<thead>
<tr>
<th></th>
<th>Short-Term Reconstruction</th>
<th>Medium-Term Reconstruction</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>160.0</td>
<td>329.0</td>
<td>489.0</td>
</tr>
<tr>
<td>Health and education</td>
<td>11.9</td>
<td>5.5</td>
<td>17.4</td>
</tr>
<tr>
<td>Agriculture and livestock</td>
<td>10.4</td>
<td>11.3</td>
<td>21.7</td>
</tr>
<tr>
<td>Livelihoods (microenterprise and others)</td>
<td>70.6</td>
<td>108.1</td>
<td>178.7</td>
</tr>
<tr>
<td>Rural and municipal infrastructure</td>
<td>23.5</td>
<td>74.0</td>
<td>97.5</td>
</tr>
<tr>
<td>Transportation</td>
<td>41.5</td>
<td>27.7</td>
<td>69.2</td>
</tr>
<tr>
<td>Coastal protection</td>
<td>19.5</td>
<td>18.6</td>
<td>38.1</td>
</tr>
<tr>
<td>Hazard risk management</td>
<td>8.1</td>
<td>9.2</td>
<td>17.3</td>
</tr>
</tbody>
</table>

* Joint Assessment Mission estimates based on states’ statements and memoranda.
process can reduce vulnerability in the medium term; increase resilience to specific local multi-hazards; and insert itself in the larger district, state, and national development strategies. Seen in this context, the disaster was seen to be an opportunity to improve and accelerate the entire development process.

The JAM analysis highlighted the crosscutting nature of the disaster’s impact and, thus, the multisectoral, inter-institutional, and multidisciplinary approach needed for the reconstruction process. Better management of the coastal environment and reinforced risk reduction were seen as part of the overall social and economic strategy, resulting in the adoption of realistic and attainable goals in the short and medium term. There was a need to promote increased participation of the community in risk transfer insurance, community-level risk management, and disaster prevention, while giving assistance to those affected. The report was presented to the Government on 3 March 2005.
The Response
The 2004 Indian Ocean tsunami was one of the worst disasters in recent memory. ADB responded to the crisis by launching the largest grant program in its history. As of 30 June 2007, ADB’s total approved assistance and cofinanced funds for tsunami-affected countries stood at $892.0 million. Of this, $725.1 million, or 81%, is grant funding. Much of the grant funding came from the $600.0 million Asian Tsunami Fund (ATF), which ADB established soon after the disaster. ADB also identified $175.0 million to be redirected from ongoing projects to tsunami assistance.

In India, the immediate response from the Government, state authorities, international community, and civil society formed the basis of a strong collaborative relief and recovery effort to rebuild the shattered lives of those affected. As part of this response, ADB pledged $200 million in loan and grant assistance aimed at restoring livelihoods, and rehabilitating and reconstructing damaged infrastructure in Tamil Nadu and Kerala.

Although the Government of India and the state governments in Tamil Nadu, Kerala, and Andhra Pradesh, and the Pondicherry Administration were caught unawares by the tsunami, they responded quickly. Reconstruction has taken longer than anticipated primarily because of the large spread of works, the need for coordination between various district- and state-level agencies,
Source: Government of Tamil Nadu.
the participatory processes to involve beneficiaries in implementing disaster-mitigation measures, and the rise in cost of construction materials.

Three years after the tsunami, major achievements on the long road to recovery have been realized in the face of serious challenges in India, such as the need for statutory clearances in awarding major contracts, lack of requisite staff in field offices, delays in and the complexity of the budget process, lack of familiarity with ADB’s safeguard requirements and procurement procedures, severe floods in 2005 in Tamil Nadu that disrupted recovery efforts, escalation of prices, and the Government’s own capacity to undertake construction work. After a measured start, ADB-supported reconstruction efforts have gained significant momentum in the worst-hit areas.

ADB has taken a lead in working to ensure transparency in the fund distribution process. In July 2006, ADB approved a technical assistance grant to strengthen transparency, accountability, and efficiency in tsunami recovery programs by helping affected countries exercise effective leadership over external assistance.1 The grant is consolidating the progress made in tracking tsunami aid and results, increasing data comprehensiveness and accuracy, and providing analytical products that support better decision making and resource allocation.

ADB has taken a community-driven approach to reconstruction and rehabilitation in the tsunami-affected areas. By fully integrating the community’s needs into the rebuilding process, ADB has succeeded in not only replacing infrastructure but rebuilding it to a higher standard, leading to long-term, sustainable communities.

**ADB’s approach in reconstruction and restoration interventions is build-back-better**

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1 Curbing Corruption in Public Procurement in Asia and the Pacific presents the findings of the ADB/OECD Anti-Corruption Initiative for Asia and the Pacific’s 2005–2006 thematic review on curbing corruption in public procurement. It highlights trends, approaches, and achievements covering the initiative’s 25-member countries and jurisdictions in Asia and the Pacific in a comparative overview that provides details on existing policies and key elements of legal and institutional frameworks.
Tsunami Emergency Assistance Project in India
In India, ADB approved a $200 million assistance for tsunami rehabilitation and reconstruction efforts in Tamil Nadu and Kerala under a loan (2166-IND) and grant (0005-IND): Tsunami Emergency Assistance (Sector) Project (TEAP). The total funding ($100 million in grant and $100 million in loan) was apportioned as $143.75 million to Tamil Nadu ($76.20 million in grant and $67.55 million in loan) and $56.25 million to Kerala ($23.80 million in grant and $32.45 million in loan). The project design is based on the Joint Assessment Mission (JAM) assessment undertaken in February 2005 by ADB, UNDP, and World Bank. The project closing date is 31 October 2008. The tsunami livelihood and physical works cover 364 villages in Tamil Nadu and 160 villages in Kerala, spreading over more than 1,500 km of coastline. ADB’s assistance includes support for:

- restoring the livelihoods of the affected people, with focus on poor and low-income households through self-help groups (SHGs) supported by NGOs;
- rehabilitating damaged sections of state and district drainage structures, construction of bridge connections to replace temporary crossing arrangements and new bridge crossings on evacuation routes in preparedness of future disasters;
• rehabilitation and reconstruction of ports and harbors;
• restoring and upgrading damaged rural and municipal water supply systems;
• rehabilitating and upgrading village and municipal roads, drainage canals, public buildings, electrical networks; and
• capacity building and project implementation.

A detailed component-wise allocation of ADB’s assistance to India is given below:

### TEAP Finance Allocation ($ million)

<table>
<thead>
<tr>
<th>Component</th>
<th>Tamil Nadu</th>
<th>Kerala</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grant</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livelihood</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livelihood Restoration</td>
<td>49.15</td>
<td>8.85</td>
<td>58.00</td>
</tr>
<tr>
<td>Rural and Municipal Infrastructure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Supply and Sanitation</td>
<td>21.88</td>
<td>13.00</td>
<td>34.88</td>
</tr>
<tr>
<td><strong>Capacity Building and Implementation Assistance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design and Construction Supervision and Technical Support Consultancy</td>
<td>1.67</td>
<td>1.20</td>
<td>2.87</td>
</tr>
<tr>
<td>Incremental Administration</td>
<td>3.50</td>
<td>0.75</td>
<td>4.25</td>
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<tr>
<td><strong>Subtotal Grant</strong></td>
<td>76.20</td>
<td>23.80</td>
<td>100.00</td>
</tr>
<tr>
<td><strong>Loan</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roads and Bridges</td>
<td>15.97</td>
<td>18.70</td>
<td>34.67</td>
</tr>
<tr>
<td>Ports and Harbors</td>
<td>14.64</td>
<td>8.20</td>
<td>22.84</td>
</tr>
<tr>
<td>Rural and Municipal Infrastructure</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Municipal Infrastructure</td>
<td>11.41</td>
<td>0.00</td>
<td>11.41</td>
</tr>
<tr>
<td>Rural Infrastructure</td>
<td>25.53</td>
<td>5.55</td>
<td>31.08</td>
</tr>
<tr>
<td><strong>Subtotal Loan</strong></td>
<td>67.55</td>
<td>32.45</td>
<td>100.00</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>143.75</td>
<td>56.25</td>
<td>200.00</td>
</tr>
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</table>

Source: Financing Agreement, TEAP
ADB approved a $5 million grant to help fishing communities and others affected by the December 2004 tsunami in Tamil Nadu and Kerala restore and diversify their livelihood. The grant project, from the Japan Fund for Poverty Reduction (JFPR), financed by the Government of Japan, will pilot new ways to generate income in the fishing communities that have less risk, are more productive, and are less vulnerable to natural disasters in selected districts. It will set up a fully serviced fishing village complex that will help about 1,000 people and that will serve as a model for replication in other districts. The fishing village will support a range of fishing-related activities, such as fish curing, vending, marketing, and trading, and even ice production supply. The village will also nurture fish processing and marketing through special outlets, as well as new low-energy fish processing techniques and coastal market infrastructure for hygienic fish marketing. In addition, cooperative retail outlets will be established.

To diversify livelihood activities for about 5,000 people, the project will restore 1,000 acres of small farmlands, establish small-scale milk dairies with market links, develop organic vegetable farms, establish agro-processing cooperatives, and provide training to improve production process of traditional products. Environment-friendly fish-breeding activities, such as inland aquaculture farms for breeding high-value fish and cage farming in the backwaters, will also be supported to provide long-term jobs for about 1,000 people and increase fish production. “To accelerate economic recovery in the affected areas, there is a need to restore, initiate, and facilitate the development and implementation of sustainable livelihood activities,” says Tadashi Kondo, Country Director of ADB’s India Resident Mission. “It is especially important to expand livelihood development to fishing and nonfishing areas, which are dependent on the coastal economy.”

Fishing is the dominant industry along the coast, so its destruction by the tsunami adversely affected all communities in the area. Many people had fisheries-related jobs or businesses that suffered, while the whole local economy experienced a serious slump. Affected persons were not typically offered any compensation since their losses—jobs and livelihoods—were not physical assets, such as boats and nets. The Government, nongovernment organizations, and beneficiaries will contribute $700,000 equivalent toward the project’s total cost of $5.7 million. The Disaster Management and Mitigation Department in Tamil Nadu and the Department of Disaster Management in Kerala are the executing agencies of the project, which will be carried out over 3 years.

JFPR was set up in 2000 with an initial contribution of ¥10 billion (about $90 million), followed by additional contributions of $155 million and a commitment of $50 million.
Rehabilitation and Recovery
ADB’s Extended Mission in Tamil Nadu and Kerala

In August 2005, ADB’s India Resident Mission (INRM) established two extended mission offices in Chennai and Thiruvananthapuram in the states of Tamil Nadu and Kerala with full-time staff consultants to assist and guide the executing agencies and implementing agencies. This intervention has provided direct institutional strengthening through the transfer of management skills. This, in turn, has helped strengthen ownership of the project with state government, executing, and implementing agencies, as well as community beneficiaries. The extended mission supervises and monitors the use and contracting of funds in compliance with ADB’s guidelines and safeguard policies. ADB’s Extended Mission in Tamil Nadu and Kerala (EMTK) has been instrumental in coordinating INRM review missions and supporting VIP visits to the tsunami reconstruction works and livelihood projects.

ADB’s EMTK has also played a crucial role in resolving general and project-specific financial and disbursement problems and speeding up project implementation. It has given ADB a distinct advantage over other donors in Tamil Nadu and Kerala. “The practice of adhering to ADB guidelines for environmental and social safeguards has instilled a discipline among local bodies and the way they function,” says Mr. C.V. Sankar, Project Director of the Tsunami Emergency Assistance Project (TEAP) in Tamil Nadu.
Working with NGOs

Nongovernment organizations (NGOs) in Tamil Nadu and Kerala have been playing a crucial role in supporting the state governments to mitigate the tsunami loss in affected communities. Extensive consultations with NGOs were conducted when formulating the livelihood restoration strategy and identifying livelihood activities. The consultations have included representatives from various civil society organizations (CSOs), such as the Integrated Rural Technology Centre; Kottapuram Integrated Development Society; Quilon Social Service Society; Evangelical Social Action Forum; Empowerment through Knowledge, Skill and Training; Ecogreen; Sri Khetra Dharmasthala Rural Development Project; Livelihood Business School; Dhan Foundation; CARE India; World Vision; Health, Environment, Agriculture and Village Education Network; and several government agencies. Inputs from field- and village-level officers of the local administration, elected representatives of the community, and NGOs have guided the formation of community-based organizations (CBOs), such as self-help groups (SHGs) and fishing cooperatives among affected poor and low-income households.

Microenterprise development. Funds amounting to $10 million for Tamil Nadu and $3.5 million for Kerala have been allocated for this activity. Consultations with SHGs and individuals to form sustainable microenterprises have led to activities with forward and backward market linkages. The program has a provision for special assistance to the disabled, deserted, widowed, orphaned, and marginalized groups. In Tamil Nadu, 3,102 microenterprises with an average grant assistance of $3,160 per

“The practice of adhering to ADB guidelines for environmental and social safeguards has instilled a discipline among local bodies and the way they function.”

—C.V. Sankar, Project Director
Tsunami Emergency Assistance Project (TEAP) in Tamil Nadu
group have been approved for activities, such as manufacture of seafood products, sanitary napkins, cultivation of seaweed, and crab fattening. Some affected households in Seemancheri have been provided with auto rickshaws and driver’s licenses, some of whom are women. The Kerala State Cooperative Federation for Fisheries Development (MATSYAFED) and Society for Assistance to Fisher Women (SAF) have been recruited to provide technical support for marketing and branding, quality control, and capacity building, while NGOs guide and handhold implementation of microenterprises.

Capacity Building and Implementation Assistance. A total of $7.12 million ($5.17 million for Tamil Nadu and $1.95 million for Kerala) has been allocated to support the preparation of subproject appraisal reports in accordance with Government and ADB requirements and selection criteria, incorporation of disaster resistance into the planning, design, and implementation of the works, ensuring quality control and transparency among contractors and communities, and for technical and institutional support for community participation. Approximately $2.9 million in Tamil Nadu and $0.4 million in Kerala have been utilized until end of 2007 for assistance to the State, CSOs, and beneficiaries toward social mobilization, skill upgradation, and risk mitigation through community involvement and participation of SHGs, NGOs/ CBOs, and panchayats. In Tamil Nadu, extensive training sessions with all stakeholders have been conducted for skill upgradation, enterprise development, and project preparation and implementation. Linkages are being established with insurance agencies for life, medical, accidental, and asset insurance as part of risk-mitigation measures. In Kerala, Training of Master Trainers by the Integrated Fisheries Project has been initiated and sensitization workshops for 250 implementing staff of the Department of Fisheries for effective project implementation, and an orientation workshop for elected representatives have been conducted.

Water supply has been restored (top) and sustainable microenterprises (above) have been set up in Tamil Nadu and Kerala that are giving women and other marginalized groups opportunities to learn new skills and become self-sufficient.
Improved and reconstructed village roads in Tamil Nadu (above), and the building of the Kochidajetty Bridge in Kerala (top)
**Restoration of Public Infrastructure**

**Water Supply and Sanitation.** A total of $34.88 million ($21.88 million for Tamil Nadu and $13.00 million for Kerala) has been allocated to restore and upgrade damaged water supply systems, sanitary complexes, solid waste management facilities, and environmental and sanitation awareness campaigns. In Tamil Nadu, 23 works are ongoing and, in Kerala, 163 water supply works spread over six districts have been completed, and 2 major water supply works are on-going.

**Roads and Bridges.** A total of $34.67 million ($15.97 million for Tamil Nadu and $18.70 million for Kerala) has been allocated for financing the rehabilitation of tsunami-damaged state roads, including damaged drainage structures, such as culverts and side drains. In Tamil Nadu, construction of five new bridges for future emergency evacuation routes is in progress for which the environmental compliance studies/clearances and necessary land acquisition processes have been completed. Similarly, in Kerala, construction of three bridges is in progress for which environmental and social due diligence has been carried out.

**Ports and Harbors.** A total of $22.84 million ($14.64 million for Tamil Nadu and $8.20 million for Kerala) has been allocated for dredging of ports, harbor basins, and approach channels; and rehabilitation of breakwaters, damaged facilities, wharfs, and piers.

**Rural Infrastructure.** A total of $31.08 million ($25.53 million for Tamil Nadu and $5.55 million for Kerala) has been allocated for rehabilitation and upgrading of village roads, drainage channels, public buildings, and damaged electricity line networks and distribution transformers.
TEAP in Kerala
In Kerala, the Tsunami Emergency Assistance Project (TEAP) is being implemented by the Disaster Management Department (DMD). Principal Secretary, Revenue and DMD, is the Project Director. The Implementing Agencies (IAs) are the Public Works Department (PWD), Harbor Engineering Department (HED), Kerala State Electricity Board (KSEB), Kerala Water Authority (KWA), and Department of Fisheries (DOF). The Project Implementation Unit (PIU) of the DOF is the overall implementing authority for livelihood activities and is supported by district Accounts Rendering Units (ARU) and district offices of DOF. The technical and managerial support for specific subprojects is provided by organizations, such as Kerala State Cooperative Federation for Fisheries Development (Matsyafed), Fisheries Resource Management Society (FIRMA), Integrated Fisheries Project (IFP), Society for Assistance to Fisher Women (SAF), Central Institute of Fisheries Technology, Agency for Development of Aquaculture in Kerala (ADAK), Kerala State Civil Supplies Corporation (Supplyco). Kudumbashree (the Kerala State poverty eradication initiative) has been providing field-level coordination; facilitation; handholding; community mobilization; information, education, communication; and capacity development to SHGs/CBOs/ beneficiaries based on their needs.

Other institutions have been recruited to provide necessary technical support, including marketing and branding expertise,
quality checking, capacity building, and field support assistance, for effective and sustainable implementation of microenterprises.

Livelihood

With a total grant assistance of $8.85 million for rehabilitation and development of livelihood activities, the Government of Kerala is assisting poor and low-income households affected by the tsunami through capacity building, enterprise training, financing of economic activities, and reconstruction of tsunami-affected, community-based infrastructure. The Department of Fisheries, along with Matsyafed (an apex federation of fishermen cooperative society in Kerala), has been engaged in implementing livelihood restoration works in all the nine affected districts of the state and includes developing strategies for rejuvenation and promotion of community groups, technology upgradation, and branding and institutional linkages for marketing.

In Kerala, a livelihood action plan and implementation schedule was developed through stakeholder participation. The project has engaged Kudumbashree to facilitate implementation at the field level by working with SHGs, technical organizations, CBOs, and other stakeholders. Livelihood restoration activities worth $1.8 million, which focused on urgent relief to fisherfolk by providing boats, repairing boat engines, providing fishing nets, accessories, and working capital, were undertaken, benefiting 10,000 groups/families.

As part of the planning and design phase, a survey of 13,000 SHGs and community groups was conducted to assess the situation, problems faced, requirements, and role of NGOs and villages in fishery-related livelihood activities. This survey also helped advise local communities of the programs available and to obtain local ownership. Assistance amounting to $0.5 million has been allocated for Community Level Convergence in Kerala. An innovative community resource centre (CRC) model has been developed to provide a single-window livelihood facilitation and community development interface with SHG, village panchayat, and NGO participation. This has been initiated in the worst-affected village of Alappad in Kerala, which will be scaled up to other areas with funding from the Tsunami Rehabilitation Program of the Government of India. Stakeholder consultations for CRC have been conducted. Land has been provided by the panchayat, and foundation stones have been laid by the minister for cooperatives, Government of Kerala.

Under the livelihood component of TEAP, all activities have been planned to build on existing systems and programs. The strategy adopted is to allow flexibility to work with other agencies and integrate activities with ongoing and upcoming government programs. Partnerships in livelihood activities provide the synergy with existing activities and ensure sustainability. The livelihood component is being implemented by the PIU of DOF, Government of Kerala, with the support of affected panchayats and local bodies, community groups, NGOs, poverty alleviation agencies, such as Kudumbashree, research and development organizations, technical/managerial specialists, and other recognized training establishments and professional institutes.

In Kerala, where the SHGs are smaller (5–6 members compared to 18–30 members in Tamil Nadu) and largely composed of women, microenterprises—such as tailoring, coir processing, vermi-composting, artificial flower bouquet making, hand embroidery, and soap making—are functioning out of households. Technical and managerial support for specific subprojects engaged in fish processing, storage, and marketing in Alappuzha district, such as the “Fresh Fish Express,” “Seafood Kitchen,”
and “Solar Fish Dryer,” is being provided by organizations, such as Matsyafed and SAF. Such support has accelerated poverty alleviation and reduced the vulnerability of poor coastal communities. Such organizations have helped the enterprises follow practices of due diligence and fiscal discipline, thereby ensuring government acceptance.

The challenges that these microenterprises face lie in the diverse skill sets of the group members, longer periods of support and training, and establishing linkages with government programs, such as Kudumbashree, that will ensure their sustainability. The involvement of Kudumbashree and NGOs is a time-bound facilitation of an intermediary nature and will have a phased withdrawal strategy. SHGs, their federations, and the community at large will eventually be in charge of the assets/enterprises over time. Panchayats and local bodies have been involved regularly in the entire process of livelihood activities implementation.

In Kerala, the “Fresh Fish Express” where women SHG members use the vehicles provided under TEAP assistance to transport and market fish; mussel farming, ornamental fish breeding, and microenterprises are some success stories. The Central Institute of Fisheries Technology is providing viable technological solutions and developing the entire value chain for coastal microenterprises. It has developed concepts, such as an integrated fish utilization center at fish landing centers, and cold storage facilities. The Kerala Institute of Entrepreneurial Development is assisting in identifying and developing microenterprises that are needs-based, commercially viable, and environmentally and socially sustainable, such as coir rope manufacturing, cold storage, etc. The IFP is supporting TEAP in training, providing technology for processing and packaging fishery products, quality control, and marketing of fish products through its marketing network spread across the country. It is partnering TEAP in a master trainers program and has facilitated the training of the first batch of young entrepreneurs in value-added products and industrial psychology.

“TEAP has given an opportunity to improve the quality of life of the coastal population in Kerala comprising people from the lowest economic strata, to a level which is hopefully much better than pre-tsunami.”

—Nivedita Haran, Project Director

TEAP, Kerala

Transportation

TEAP has been financing rehabilitation of tsunami-damaged state roads in the affected districts of Kerala, including damaged drainage structures, such as minor bridges, culverts, and side drains; creation of bridge connections for un-bridged crossings; and replacement of temporary-crossing arrangements or river-crossing ferries from a future disaster relief perspective. A total of $18.7 million has been allocated for roads. Fifteen road works estimated to cost about $1.0 million have been completed, and five road works worth $6.22 million are ongoing. Three bridges worth $10.6 million are under construction over the TS Canal in Kollam and Alappuzha districts. Ports and harbors rehabilitation has an allocation of $8.2 million and is being used for the dredging of ports and approach channels; rehabilitating breakwaters, damaged facilities, wharfs, and piers; and rectification of fishery roads. In Kerala, 4 ports, 6 fishing harbors, and 53 fishery roads are being rehabilitated.

Water Supply and Sanitation

In Kerala, 165 water supply works spread over six districts and amounting to $2.39 million have been contracted, and works worth $1.69 million have been completed and disbursed. This grant-financed component includes restoration and upgrading of damaged water supply systems. A total of $13.0 million for Kerala has been allocated. Comprehensive water supply schemes in Kollam and Alappuzha districts, costing about $10.8 million, are being implemented, covering 5 villages and one municipality.

Rural and Municipal Infrastructure

Other rural and municipal infrastructure that is being rehabilitated and upgraded through loan financing include village roads, drainage channels, and damaged electricity line network and distribution transformers, with a total allocation of $5.55 million.
Alternative Livelihoods Options for Fisherwomen

A coir mat unit in Pollethai, Alappuzha district, and a tailoring unit in Manassery, Kochi district, run by six-member women’s microenterprises are showing the way toward self-reliance and profitability. They demonstrate how middlemen can be excluded from a business process through effective technical assistance and market linkages.

The Karmalanadha coir mat unit manufactures coir mats for the domestic market and for export. With dwindling catches after the tsunami, this alternative livelihood option has helped fisherwomen earn an income again and supplement their family income. The unit is assisted by TEAP and implementation is facilitated by the Society for Assistance for Fisherwomen (SAF) under the Department of Fisheries. Technical assistance and marketing linkages are being provided by the Coir Board. The women have learned the skill of mat weaving using local raw materials in a cost-effective way. After the tsunami, the women were in debt and had lost their means of livelihood. They now have a start-up activity with an initial investment of Rs100,000 (62.5% ADB grant, 25% bank loan, and 12.5% own contribution) where they have procured looms to weave the mats. Mr. Girish, the mission coordinator, helps the group in procuring raw materials and marketing the finished products. According to Sreelu, Assistant Director of the Fish Farmer’s Development Agency (FFDA), “The women depended solely on their day’s catch of fish. With increasing orders, the women plan to cut out middlemen and hire wage labor to meet the demand for their products.” The activity is carried out in the home of a member who is compensated for the space she provides for the activity. A member earns up to Rs50 per day. The backyard activity enables the women to work long hours to meet demand as their children are at hand and food is provided by the homeowner.

“The women in Pollethai (above left and top right) have learned the skill of mat weaving using local raw materials and this backyard enterprise provides them and their families a steady income; the Sunshine Tailoring Unit in Manassery (above) have been turning out ready-to-wear women’s garments that are in demand in Kannamali, Kattiparambu, and Chellam.”

— Sreelu, Assistant Director of the Fish Farmer’s Development Agency (FFDA)
Mobile Fish Vending

This subproject is being implemented by Matsyafed in Thiruvananthapuram, Kollam, Alappuzha, Ernakulam, Thrissur, and Kozhokode districts of Kerala. Two hundred women self-help groups (SHGs) involved in fish vending are expected to benefit. Six-member activity groups have been formed from selected SHGs, which are linked under primary cooperative societies.

Fish vending is done mainly by women in the fishing community who have to transport fish from landing centers to market or to homes. “My day starts at 5 a.m. at the fishing harbour, and I return home after selling fish at 5 p.m. Selling fish has been my business for the last several years,” says Vyakulam, 45, of Neendakara village in Kollam district of Kerala. Vyakulam is a widow with two children. Life has been hard after her husband’s death in the tsunami. She would carry 20–30 kilograms of fish and ice in a cheruwam (aluminium container) on her head from the fishing harbor to the villages or the market to sell fish as she was not permitted to board a bus with her fish.

Today, life has vastly changed for Vyakulam and members of her SHG, thanks to the “Fresh Fish Express,” a mobile cold storage facility provided to the SHG of six women under the Tsunami Emergency Assistance Project (TEAP). TEAP provides a comprehensive package that includes the vehicle, capacity development, working capital, weighing machine, ice box, crates, tool box, uniforms, and branding and marketing support. The women are now being trained in “group dynamics,” communication skills and etiquette, entrepreneurship development, hygienic handling of fish, as

“My average monthly income rose from rupees (Rs)5,000 to Rs6,500. As members of an SHG, we women support each other not only in our fish-vending business but also in promoting savings, having a bank account, sharing and learning better home management skills, health, and education. My dream is to save enough to build a pucca (concrete) house in place of my present hut.”

—Vyakulam, self-help group member
Ownership of the vehicle is vested with the activity group while fisherfolk’s primary cooperatives act as facilitators who coordinate the activity groups and resolve operational problems. The daily operational expenses are equally shared by the group.

The women can now deliver fresh fish quickly and hygienically to customers’ doorsteps in half the time without the earlier drudgery. The Fresh Fish Express project has increased their profits by 30–40%. Says Vyakulam: “My average monthly income rose from rupees (Rs)5,000 to Rs6,500. As members of an SHG, we women support each other not only in our fish-vending business but also in promoting savings, having a bank account, sharing and learning better home management skills, health, and education. My dream is to save enough to build a pucca (concrete) house in place of my present hut.”

Ramani, 45, also a fish vendor whose husband is a wage laborer, joined the SHG in Neendakara village. The Fresh Fish Express enables her to earn a monthly average income of Rs4,000–Rs6,000. She now plans to pay off her debt of Rs60,000 incurred on account of her daughter’s marriage and later build a house. Nalini, 44, also of Neendakara village, has been selling fish to support her family since she was married. Her husband is a fisherman, and she has four children. The Fresh Fish Express has been a boon to her family. “My monthly income now touches on an average Rs6,000 per month. My life has taken an unexpected turn for the better after the tsunami,” she says smilingly.

The Seafood Kitchen, which is situated in Neerkunnam town, is a popular eatery on National Highway 47 on the outskirts of Alleppey. Ten women members from the Sreematha Group started the enterprise by renting two rooms at a nominal rate from the district panchayat in a newly built commercial complex. The cheerful and well-lit restaurant area serves up fresh fish dishes to hungry customers comprising students, teachers, and patients from the nearby medical college, as well as to travelers on the highway. The kitchen equipment and restaurant furniture were purchased with TEAP assistance and technical support provided by the Integrated Fisheries Project while managerial handholding was provided by Matsyafed and the local government. Alli Mathew, secretary of the Fisherman’s Welfare and Development Cooperative Society, has a high school degree and manages the day-to-day accounts while the others help in cooking and serving. The women are supported by their families who escort them home when they work late. A sense of achievement and motivation for a better life keep the group together. Says Celin, “We are housewives today, but will be managers and businesswomen one day.”

“My monthly income now touches on an average Rs6,000 per month. My life has taken an unexpected turn for the better after the tsunami.”

— Nalini
member, SHG
Environment-Friendly Microenterprise

A vermi-composting unit in Pallithodu, Alappuzha district, is a microenterprise run by five women who manufacture vermi-compost to sell as organic manure to agricultural cooperatives and nurseries.

Tresa, Magi, Rosily, Elsy, and Alphonsa of the Lotus Activity Group have made vermin-composting a viable and sustainable activity in Thuravoor Grama panchayat, which is well connected by local transport and has plenty of fresh water, raw materials, and power connections.

Raw materials, such as cow dung, worms, and biodegradable organic waste from homes and hotels in the panchayat, are being converted into valuable compost through the application of vermi-composting technology. Soil is excavated in four sheds up to a depth of about 1 foot to prepare the beds that contain the organic waste, vermi-castings, and cow dung. Straw is spread evenly at the bottom of the beds, vermi-castings placed over the straw, and waste material and cow dung slurry poured over to feed the worms. Water is sprinkled every day to keep the beds moist. The beds are covered with gunny bags to keep them dark and keep the temperature cool at 28°C. The waste is turned over once every 2 weeks without disturbing the basal layer. In 3 months, the vermi-compost manure is digested by the worms and converted into a ready-to-use, dark, crumbly compost rich in organic nutritive matter. The women then package the manure in polythene bags, which are sold at a wholesale price of about Rs8,000 a ton. Their monthly incomes are about Rs1,500.

The process is environment friendly as it reduces pollution and provides a valuable substitute for chemical fertilizers. All group members are from tsunami-affected families who were trained to manufacture organic manure by the Society for Assistance for Fisherwomen (SAF) under the Department of Fisheries. The women buy the worms at 50 paise per worm, and the only overhead they have is a cement tub that serves as a compost bed, and vegetable wastes mixed with African weed and water to keep the bed moist. The unit’s annual production is expected to rise to 40,000 kilograms. The project cost has been raised through beneficiary contribution, financial assistance from the bank as loan, and a TEAP grant, making the activity both technically and economically viable.

With plenty of fresh water and African weed (top), the Lotus Activity Group in Pallithodu can produce about 40,000 kilos of compost each year, which they sell by the bag (above) to earn them substantial incomes each month.
New Bridges for Improved Connectivity

The new Kochidajetty Bridge across the Kayamkulam Kayal lake will benefit about 56,500 residents of Thirikunnappuzha and Arattupuzha villages and open up commercial opportunities to 9,500 households of Karthikappally and Kandalloor villages located east of the TS Canal. A comprehensive resettlement plan has been formulated to rehabilitate about 69 affected families whose houses, land, and livelihoods will be directly affected as a result of acquisition of about 1.57 hectares of land for bridge construction. Two roads that suffered extensive damage and would connect the Kochidajetty Bridge with a main road have been taken up for repair and rectification under the Tsunami Emergency Assistance Project (TEAP).

A motorized fishing vessel is dwarfed by the half-finished Kochidajetty Bridge across the TS Canal in Kollam district. Hectic drilling and piling are in progress on the bridge site where prefabricated concrete slabs meet the horizon. Small, country rowing boats continue to ferry fisherfolk to the mainland. The absence of bridges left several hundreds of fisherfolk in Alappuzha and Kollam districts in Kerala stranded when the tsunami struck. The construction of the Kallummoottil Kadavu Bridge across the TS Canal in Kollam district will greatly improve connectivity with the mainland and provide a rapid escape route should another tsunami strike. Fisherfolk will save the 17-kilometer distance from the affected area to the mainland. When completed, these bridges will provide vital links for essential services, such as schools and hospitals, as well as for markets for fresh fish and other produce.

According to Mr. Venugopal, an engineer with the project, fisherfolk are reluctant to relocate to safer sites on the mainland and prefer to rebuild their homes on the narrow, coastal strip where Arattupuzha village is situated. However, most affected populations displayed remarkable resilience in learning and adopting alternate livelihood activities, such as coir manufacturing and vermi-composting.

When completed, these bridges will provide vital links for essential services, such as schools and hospitals, as well as for markets for fresh fish and other produce.
Bridges are being constructed as potential evacuation routes and will also improve connectivity with the mainland. Repair and rehabilitation of breakwaters will restore trade and fishing activities along the coast. On top is the bridge across TS canal at Kochidajetty in Alappuzha district and above is repaired breakwater at Kayamkulam Fishery Harbor.
TEAP in Tamil Nadu
ADB’s President Haruhiko Kuroda, on his visit to the tsunami-hit areas in Tamil Nadu in October 2007, expressed satisfaction with the progress of works in the state and assured that ADB would extend its full cooperation to the Tamil Nadu Government to complete the projects on time. “The district administration has done an excellent job in rehabilitation and building infrastructure,” President Kuroda said. “Out of the $200 million assistance, Tamil Nadu has been granted $143.75 million for carrying out various projects. The financing is designed to enable people to resume normal lives by supporting the restoration of livelihoods and essential services, to rehabilitate and reconstruct critical public and community-based infrastructure,” he said. President Kuroda pointed out that nearly 70% of the works had been completed, and he hoped the remaining works would be completed within the stipulated time frame. He was immensely pleased with the activities of the self-help groups (SHGs) and the physically challenged persons in tsunami-hit areas who had undertaken entrepreneurial activities, utilizing the assistance provided by ADB.

In Tamil Nadu, the Tsunami Emergency Assistance Project (TEAP) is being implemented by the Revenue Administration, Disaster Management and Mitigation
(Clockwise from top left) Admiring the handiwork of the Mazhaimuthu Mariyamman SHG, reviewing the plans for the new Nagapattinam Port, meeting with the collectorate, inaugurating a new road in Puddupatti, and presenting protective eyewear to the Vedaranyam salt farmers.
Livelihoods

Seasonal income and lack of skills were major hurdles that prevented affected people from returning to their normal lives. TEAP has helped improve the economic status of beneficiaries in Tamil Nadu by providing sustainable income sources to coastal communities that are more vulnerable to natural disasters. For the first time, the disabled, widows, and deserted persons, as well as backward tribes, such as the Irulas, have been included in economic activities, such as establishment of petty shops, small provision stores, poultry farming, manning public telephone booths, and have been supported with a grant and bank loan under TEAP.

The development of cluster activities has emerged as one of the effective development instruments to enable microenterprises faced with common opportunities and threats to withstand competition. It enables the collective bargaining power of SHGs/federations and improves their profitability. The choice of activities is based on local resources and skills of the people. The livelihoods component of TEAP has a provision of $49.15 million for formation of new SHGs and strengthening of old SHGs to enable them to restore and improve community assets. Provision of revolving credit to encourage internal SHG and community-based organizations (CBOs) lending activities is a major activity under the livelihoods program.

In a first major initiative under TEAP, women’s groups were initially provided with a Rs30,000 ($770) grant to accelerate internal lending activities. Those that needed additional amounts were provided Rs15,000 as bank loan to be repaid over 5 years. This grant assistance has been the most popular assistance among the coastal communities. The enhanced amount of $770 provided as revolving fund to SHGs accelerated the internal lending within the group, leading to many members retiring their high-interest (estimated at about 36–38% per annum)
debts borrowed earlier from local moneylenders, and has brought them into the fold of mainstream banking.

Motivated by this success, the women soon demanded special training to develop skills with which they could restart their lives and livelihoods. They believed this would earn them the respect of the community and help them gain access to local banks for additional assistance. Many of these women today have broken away from the shackles of the moneylender and are managing their enterprises with little or no liabilities. The amount of $26.2 million has been disbursed through local banks as revolving funds for 38,199 SHGs covering about 572,985 families in the affected regions of Tamil Nadu.

Extensive consultations with women groups on developing new economic activities with focus on creation and group ownership of assets revealed that SHGs preferred to procure land since land is an immovable asset which, at any point of time, can be given as collateral for accessing further loans from the local banks. As a result, many SHGs were encouraged to form federations and procure land through contributions from each SHG. The ownership and the enthusiasm of the beneficiaries involved in this initiative demonstrate that assistance provided with community consultation, proper planning, and streamlining of procedures brings greater rewards to affected families. Microenterprises numbering 3,764 and with grant assistance of $10 million have already been approved. These include activities such as manufacture of electronic transformers, small electrical circuits, seafood products, dairying, sanitary napkins, cultivation of seaweed, and crab fattening. All these activities have been conceived, developed, and are being implemented by women’s groups.

Many affected households have been given driver’s training and provided with auto rickshaws—a commonly used intermediate public transport. Additionally, larger economic activities involving multiple groups federated into societies—such as 127 master sculptors and 2,000 artisans in Mamallapuram; 917 salt pan owners and about 10,000 wage laborers in the salt pans in Vedranayam; 120 pottery craftsmen in Villupuram; 250 handloom weavers in Kanyakumari—with commitments of about $3 million have been approved. Small public transport vehicles were provided to 9 women and 43 men in Chennai, while many fish transport vehicles have been provided to SHGs as part of the assistance for establishment of microenterprises.

For the first time, special dispensation for engaging disabled, widows, and deserted persons was introduced as against the standard assistance provided for health and cash award. The assistance provided was Rs10,000 ($250) grant, and bank loans were arranged for any additional amounts required to start economic activities. Further, Irulas (one of the listed primitive tribes in southern India) were also assisted to start income-generating activities. Some activities carried out by these affected people include establishing petty shops and small provision stores, growing of hens and turkeys, and manning public telephone booths. About $9.1 million has been disbursed until the end of 2007 to 35,826 such individuals for establishment of sustainable self-employment activities.

Notably, all financial assistance provided under TEAP to SHGs/individuals is linked through local banks to ensure continuity of access to credit from established regular banks in place of local moneylenders.

Youth in the affected areas have been drawn in for additional skills training linked to employment in the local industry/establishments. The target route has been mainly women as they are the managers of the home, which...
needs continuous replenishment of finance to meet the day-to-day needs of the family. Many beneficiaries who were provided with special skills development training, such as business process outsourcing (BPOs), medical transcription, call center services, English-speaking courses, catering, etc., now have regular employment. Dr. Reddy’s Foundation, a social arm of a major pharmaceutical company, in collaboration with the Directorate of Town Panchayats, has offered demand-driven skills development and apprenticeship opportunities under TEAP for unemployed youth in the age group of 18–25 years from underprivileged families and enabled them access to jobs. In Mamallapuram, 70 of the 107 youth trainees have been placed in jobs in BPOs, medical transcription and call center services, and catering. Their monthly salaries range from Rs1,000 to Rs3,000, with free food and lodging. In the second batch of training, 92 of the 114 youth trainees in Kottakuppam town panchayat have been placed in jobs.

In one of the major initiatives in Tamil Nadu, working capital assistance totaling $5.1 million (with $2.5 million from TEAP as grant and balance as loan from local banks) has been provided to 92 fisherman cooperatives operating under South Indian Fishermen Federation across 13 districts. In another initiative, small-boat fishermen totaling about 30,000 (across 12 districts), and their family members (women and children) have been provided with extensive training on sea safety measures as part of the public awareness program under TEAP. This program has attracted additional support in terms of technical and financial inputs from the Bay of Bengal Program and the Food and Agriculture Organization of the United Nations.

The introduction of assets insurance and accidental and health insurance for beneficiaries at the cost of Rs264 ($6.5) per person, with 80% one-time assistance from TEAP has brought social security to many of the affected persons in the municipal areas. Each SHG animator functions as an insurance agent responsible for ensuring renewal of insurance policies annually. The monitoring of these interventions is now being backed up with an SHG identification and monitoring web-based management system. The system will be updated on activities biannually by SHG animators. Currently, the ongoing data entry and issue of biometric cards and training of animators are managed by a private firm engaged by the Commissioner Municipal Administration. Once completed, this system will be able to track the entire financial well-being of each member of SHGs in the municipality, town panchayat, and the tsunami-affected population in Chennai through the Internet. This will further help SHGs to access welfare programs in the future. A similar system for the rural areas is under preparation by the State.

Infrastructure

TEAP has restored water supply schemes and rehabilitated and upgraded municipal infrastructure, such as municipal roads, municipal drainage canals, and public buildings. Other infrastructure works include construction of five new bridges and improvement of one major 20-kilometer (km)-long road stretch to serve as potential evacuation route ($13 million); improvement of two minor ports (Cuddalore and Nagapattinam), and rehabilitation of six small fishing harbors at a total cost $15.00 million. Restoration of about 900-km village roads and 115-km town roads at a cost of $25 million is ongoing. Work has been completed on about 400-km roads. Restoration of about 230 public buildings at a cost of $3 million has also begun.
The Handloom Export Promotion Council (HEPC) and ADB are working towards rehabilitating weavers’ societies in Kanyakumari.

Post tsunami, many weavers engaged in traditional handloom weaving lost their homes and assets and had to resort to wage labor. The demand for handloom products, such as dhotis, sarees, (traditional Indian attire) and towels was also being eroded by mechanization in the textile industry leading to large scale unemployment among weaver cooperatives. HEPC set up a core team consisting of the Directorate of Handlooms, Government of Tamil Nadu, leading exporters from Karur and Madurai (centers for export of textile products) and export cloth manufactures associations to discuss requirements and jointly identify production clusters. Twenty-one cooperatives consisting of over 1000 members were identified in the tsunami-affected areas in Kanyakumari district and six of the worst affected cooperatives have been taken up under the first phase of TEAP assistance. These include The Vadasery Periyarasingan Street P&S Co-operative Society Ltd.; The Eraniel Industrial Weavers’ Co-operative Society; The Kamaraj Industrial Weavers’ Co-operative Society Ltd., Paramarthalingapuram, Nagercoil; The Putheri Industrial Weavers Cooperative Society Ltd., Pachankulam; The Sadayankulam Authiyadi Dr. Ambedkar Industrial Weavers’ Cooperative Society Ltd., Authiyadi; and The Thazhakudy Industrial Weavers’ Cooperative Society Ltd, Thazhakudy.

The proposed TEAP assistance for phase 1 is Rs6,800,000. The phase 2 program is proposed to be taken up under JFPR 9094-IND. The six groups are undergoing skill advancement training and many have already started production of furnishing products for exporters who supply to international chains like Wal Mart. As a part of the strategy, a technical team was sent to assist each cooperative to meet the requirements of the exporters through upgradation of looms, skill training, quality control, and provision of basic infrastructure to upscale cluster production activities. The project is thus rejuvenating weavers cooperatives to meet market demands by bridging the gap between the weavers and exporters.
A Flexible Learning Environment for Unemployed Youth

Dr. Reddy’s Foundation, a nongovernment organization in Kottakuppam town of Villupuram district, is providing employment-linked skills training for unemployed youth. The boys and girls have school-level and, in some cases, graduate-level education but no job opportunities. The Foundation has trained 107 youth from Mamallapuram, of whom 70 have been placed in jobs in business process outsourcing, medical transcription and call center services, and hospitality services with monthly salaries ranging from Rs1,000 to Rs3,000. Similarly, 92 of the 114 trained youth in Kottakuppam Town Panchayat have been placed in jobs. Nazia, who has an undergraduate degree in commerce, had no job opportunities in her hometown. The computer-based skill she has acquired at Dr. Reddy’s has given her newfound confidence. “I shall apply for a government job that will give me a secure future, even if it means leaving my hometown to join my new job,” she says with enthusiasm. Suresh has acquired data entry and word processing skills and is working as an apprentice in an e-publishing company and can support himself.

According to regional coordinator Varaprasada Rao, a survey to ascertain the employment requirements in industries and other enterprises in a 50-kilometer radius around the center was undertaken to analyze and design suitable training programs linked to employment opportunities. Ninety-two youth (57 girls and 35 boys) were selected based on the survey and provided training based on their aptitude for different jobs. Infotech BPO
The Dr. Reddy Foundation has trained 107 youth from Mamallapuram, of whom 70 have been placed in jobs in business processing outsourcing, medical transcription and call center services, and hospitality services with monthly salaries ranging from Rs1,000 to Rs3,000 ($26–$78).

About 100 unemployed youths have received employment-linked skills training based on their aptitude for different jobs; some have already found jobs and are receiving monthly wages to support their families.
An Integrated Approach to Manufacturing Activities

The Yusuf Mehrauli Center (YMC) in Prathabaramapuram is promoting an integrated approach to group manufacturing activities carried out by women self-help groups (SHGs). YMC is not only handholding the manufacturing activities but also helps with branding, packaging, and marketing their products in the domestic and export markets.

Antha Valli SHG (comprising 14 members) and Malargal SHG (with 20 members) are assisted with revolving funds of Rs30,000 each from the Tsunami Emergency Assistance Project (TEAP) as working capital for members, to establish a coconut/groundnut oil extraction unit. The oil extracted is sold among SHG members and families in the area, aside from local vendors. The waste from the extract is sold as cattle feed. Other groups assisted by YMC include Poovai SHG (with 17 members) and Tamil SHG (with 15 members), each provided with Rs125,000 as subsidy and Rs275,000 as bank loan for production of soap and detergent. The Mazhaimuthu Mariyamman SHG (with 17 members) similarly was provided with TEAP assistance of Rs125,000 and bank loan of Rs275,000 for the production of palm-leaf products.

Several self-help groups have obtained working capital from the Tsunami Emergency Assistance Project to start businesses, such as harvesting coconut oil, producing detergent bars and powders (above), and creating decorations from palm leaves (below).
Additional Income from Mud Crab Fattening

Mud crab fattening has become a lucrative additional occupation for seven women self-help groups (SHGs) comprised of fish vendors in Alambarai Kuppam in Kancheepram District. The activity of helping the fisher families was initiated after extensive consultations with the community and SHGs in the area.

The tsunami destroyed the assets of hundreds of fisher families who already lived on the edge of poverty in Edaikazhinadu town panchayat. The 34 members of Alathamman and Nagathamman SHGs were not an exception. The Directorate of Town Panchayats (DTP) came forward and sanctioned a Revolving Fund of Rs45,000 (comprising a subsidy of Rs30,000 by DTP and loan of Rs15,000 by banks) to 135 of the 248 SHGs in Edaikazhinadu town panchayat.

The total cost of the enterprise is $89,745 (Rs3,500,000) of which the Tsunami Emergency Assistance Project (TEAP) has contributed $43,590 (Rs1,700,000) and the community the same amount. The project is being implemented by DGSEA, a nongovernment organization, and the DTP, with training and implementation expertise provided by specialized institutions, such as the Central Institute of Brackish Water Aquaculture, the Aquaculture Foundation of India, and the National Institute of Ocean Technology. Periyar Aquaculture Hatchery is assisting in establishing market linkages and facilitating buy-back arrangements for the fully grown mud crabs.

The farming cycle for fattening crabs is 30 days. The crablings are purchased from nearby hatcheries for about $4.20 (Rs170) per kilogram (kg). After the 30-day growth cycle, the crabs are sold at about $9 (Rs350) per kg. The beneficiaries sell an average of 200–225 kg of fully grown crabs per cycle (taking into account losses in farming) for 9 months in a year, which fetches each SHG an average annual income of $1,800. The total average sale among seven SHGs is $12,600, resulting in an average additional income of $106 (Rs4,130) per member per month. Vanasundari, an SHG member, is more than satisfied with the returns this alternative livelihood brings as she can now send her children to school and pay off her debts after the tsunami. Overfishing has depleted conventional fish stocks and left fisherwomen like herself and Punokodi in deep debt.

Women members from five other SHGs who did not receive TEAP assistance will now get a grant under the Japan Fund for Poverty Reduction for the same activity to benefit an additional 90 families. All 12 SHGs have now formed a federation to leverage collective market access and enhance production and supply volumes.

TEAP has similarly increased incomes of 114 tsunami-affected fisherwomen in Killai Town Panchayat in Cuddalore district through assistance for a mud crab fattening small enterprise. The average annual income of this SHG is likely to touch Rs2.40 lakh and income per member to touch Rs2,700 per month. Another SHG of 28 fisherwomen in Kanyakumari Town Panchayat is engaged in seaweed cultivation that is expected to generate incomes of Rs24,000 per annum for each member.
New Opportunities for Salt Workers in Vedaranyam

Health, Environment, Agriculture and Village Education Network (HEAVEN), a local nongovernment organization partnering with the Vedaranyam Small Scale Salt Manufacturer’s Federation (VSSMF), the Vedaranyam Municipality, and the Nagapattinam District Administration, is assisting in restoring the livelihoods of 225 families of 15 self-help groups (SHGs) and 917 families of VSSMF, and indirectly more than 10,000 daily wage laborers in Nagapattinam district.

The tsunami wreaked havoc in the salt farms in Vedaranyam municipality in Nagapattinam district, one of the worst-affected areas in Tamil Nadu. Internal brine channels were completely destroyed and majority of salt pans were eroded, causing salt pan holders to become indebted. With seasonal incomes of less than Rs12,000 per annum, these families, having lost their livelihoods, were driven to debt. The Tsunami Emergency Assistance Project (TEAP) has assisted in rehabilitating and establishing additional infrastructure in salt farms by de-silting 139,050 cubic meters of internal feeding brine channels, which has resulted in an increase in salt production per acre from 2 months annual average to 10 months per annum with the remaining months being monsoon months. This has reduced their debt burden and increased banking practices for accruing savings.

Creating avenues for additional income generation, such as iodization and packaging of salt, improved land use for salt storage, and establishing a salt marketing cooperative, have all resulted in an increase in the salt farmers’ annual income by more than 20%.

About 31 SHGs are functioning around Vedaranyam. A pulverizer, three iodization plants, five generators, three sack-sealing machines to assist in presale operations, and a tractor to convey the salt to markets have been acquired under TEAP. The farmers also have market linkages for the iodized salt with the government public distribution scheme. Today, the salt farmers have an assured 10-month production cycle, life and accident insurance, and ADB has helped set up revolving funds by which they have cleared more than 60% of their debts.

Creating avenues for additional income generation, such as iodization and packaging of salt, improved land use for salt storage, and establishing a salt marketing cooperative, have all resulted in an increase in the salt farmers’ annual income by more than 20%.
Cargo Vessels Begin to Arrive at Ports

A Chinese cargo ship, M.V. Shun, anchored on 19 January 2008 and offloaded 24,000 metric tons (t) of urea at the Cuddalore port for the first time after the tsunami. A second ship from the People’s Republic of China arrived on 28 January 2008 with 23,400 mt of fertilizers. This has only been possible following the completion of phase I work at the port under the Tsunami Emergency Assistance Project (TEAP). The north and south breakwaters have been deepened at a cost of Rs65 million. Other development works include dredging (Rs40 million), laying approach roads (Rs10 million), installation of high mast lamps (Rs65 million), and creating a wharf facility (Rs1.5 million). Interventions under TEAP have been instrumental in reviving commercial activity at the Cuddalore Port. The arrival of cargo will provide direct and indirect employment to about 2,000 persons. Cuddalore is a minor anchorage port being operated and maintained by the Tamil Nadu Maritime Board. The port-handling capacity is 1,200,000 metric tons per annum (mtpa), and primary items that are handled at Cuddalore are fertilizers and cement. During the tsunami, the entire port infrastructure was badly damaged, along with silting of the navigational channel.

TEAP is assisting in the modernization of the Nagapattinam and Cuddalore ports and in repairing and restoring fish landing centers and fishing harbors, rural and urban roads and improved water supply and sanitation to a pre-tsunami level with improved services and facilities that will enhance maritime safety and port performance. Desilting of the navigational channel and rehabilitation of breakwaters, weighbridge, cargo sheds, illumination facilities, wharf, and cargo stacking areas are in progress in Nagappattinam. TEAP has achieved success in restoring measures for protecting against wind and wave erosion at Nagapattinam port that was among the worst-affected port facilities in the state, as well as the construction of municipal roads, culverts, and water works in and around Nagapattinam and Kanyakumari plus breakwaters at Thangaserry fishing harbor.
Implementation Challenges
ADB support to the tsunami-affected states of Kerala and Tamil Nadu is for sustainable livelihoods and basic community infrastructure. Significant preparatory work was required in establishing the basic institutional structures and undertaking extensive public consultation programs. Contract awards for $96.3 million out of the $100.0 million allocation have been made. Balance contract awards will be made in 2008, which will include commitments for livelihood components and small works in water supply and sanitation. According to Kunio Senga, Director General of ADB’s South Asia Department: “Works are being carried out in close consultation with the local people and in complete coordination with the various agencies implementing the project. The emphasis is on the quality of works being executed and these will have to meet international standards.”

Key Challenges

- The start-up operations for TEAP were delayed initially as the government staff were deployed in priority rescue and relief work. Government capacity was put under great strain because of the doubling of workloads, the loss of human resources and infrastructure, and generally by the unprecedented scale of this undertaking.
ADB has instituted systems that help ensure that reconstruction efforts are not tainted by corruption—this may very well be another reason why money is not being spent as fast as people expect it to be. ADB applies anticorruption guidelines to ensure that despite the intention to do things quickly, this is not done at the cost of integrity, and making sure that good governance principles are followed.

To ensure consensus in reconstruction efforts in Tamil Nadu and Kerala, a participative approach was followed in project implementation, based on consensus building and bottom-up planning. This process has been time-consuming as it entails optimization of resources, result-based approaches, ensuring that social and environmental safeguards are given due consideration in all reconstruction efforts, documentation, and ensuring accountability, which had to be synchronized with the existing government processes.

Acceptance of communities and introduction of new livelihood interventions and the corresponding need for local administrations to infuse additional capital for such activities has been an issue that has slowed the pace of implementation.

Awareness raising among affected people and government staff on standard monitoring practices and design of disaster-resistant construction was required in order to rebuild better. This requires capacity building of all the stakeholders—Government, affected communities, consultants, contractors, nongovernment organizations (NGOs), community-based organizations (CBOs), and SHGs.

**Constraints**

- Over 3 years, costs have escalated, primarily because of the rise in the prices of inputs, general inflation, and depreciation of the US dollar against the Indian Rupee. The shortfall of human resources at the field level and escalation of costs have contributed to slow progress in implementation and lukewarm response from contractors.
- Extensive consultations required with beneficiaries/community and time required for mobilization of the community by civil society organizations, administration, etc., is a time-consuming prolonged process.
- The low level of disbursements may be attributed...
to a number of factors, such as lack of experience and management skills among local executing and implementing agencies to plan and implement emergency reconstruction within a tight time frame; the large number of small contracts, each requiring extensive administration and monitoring; processing time required for obtaining statutory environmental clearances; and delay caused by land acquisition/resettlement and rehabilitation processes in compliance with social safeguard guidelines.

- For all government departments involved in the rehabilitation efforts, the tsunami restoration work was an addition to their normal operations. Among issues hindering smooth project implementation, the most critical has been staffing shortages in project monitoring units (PMUs) and project implementation units (PIUs), which has delayed bid evaluation, preparation of safeguard documents, and land acquisition.
- The governments of Tamil Nadu and Kerala have requested additional funds (both grant and loan) and extension of the project period to achieve the objectives of the project.

Next Steps

- To meet the time lines and project objectives, Project Monitoring Units (PMUs) and Project Implementation Units (PIUs) in both states have agreed that all contracts need to be awarded by end of March 2008. This has required a concerted effort by these agencies and the approving authorities in the states.
  - The award of the remaining contracts and speedy completion need to be expedited for infrastructure works.
  - Remaining interventions under the livelihood component need to be completed. Marketing linkages for products produced under the livelihood programs need to be provided through training of women marketing executives; establishing a chain of sales outlets; quality control, training, and certification; professional branding and marketing support; and linkage with cluster-level production centers.
  - The environmental and social safeguard issues continue to need a proactive approach and better understanding in the implementing organizations and are a major agenda in the ongoing capacity-building exercise.

“Works are being carried out in close consultation with the local people and in complete coordination with the various agencies implementing the project. The emphasis is on the quality of works being executed and these will have to meet international standards.”

—Kunio Senga, Director General
ADB’s South Asia Department
Key Achievements—
3 Years On
ADB’s thrust in Tamil Nadu and Kerala has been on reconstruction and rehabilitation of tsunami-affected areas and populations in line with ADB’s Disaster and Emergency Assistance Policy (DEAP) enhanced by self-sustaining livelihood development and supported by institutional capacity building.

Key Achievements

Partnerships. In India, “partnerships” have been the underlying force in the tsunami recovery efforts that are being jointly executed by ADB, the state governments, NGOs, and other development partners. Today, tsunami recovery and reconstruction projects are being operationalized in 13 districts of Tamil Nadu (364 villages) and 9 districts of Kerala (160 villages).

ADB has worked in close cooperation with the state government departments to execute disaster recovery projects through their line departments, consultants, local NGOs, and local government bodies. ADB has been supported by a clear and responsible government coordination mechanism, as well as cooperation from various partners.

Project Monitoring. In Tamil Nadu, a Biometric Identification and Financial Monitoring System for beneficiaries is being established; this will be replicated by implementing agencies.
In Kerala, the PMU has developed an Oracle-based project performance-monitoring system. This web-enabled Remote Automation System will speed up the progress of reconstruction projects in the state while ensuring fiscal discipline. The system will be implemented initially for the Project Performance Management System in the ADB-funded TEAP, where the project plan, project cost, time schedules, and district- and department-wise accounting and fund flows will be available online. The installation of the server, software, and hardware requirements for implementing the automation system has been funded by ADB. Technical experts believe the system could be replicated to monitor other government projects and ensure timely implementation.

**Disaster Risk Management.** Through its experience in Tamil Nadu and Kerala, ADB has learned important lessons. “Disaster relief strategy needs to be mainstreamed into policy decisions on infrastructure, agriculture, housing, and natural resource management, among others,” according to ADB Vice-President for Knowledge Management and Sustainable Development, Ms. Ursula Schaefer-Preuss at the Second Asian Ministerial Conference on Disaster Risk Reduction organized by India’s Ministry of Home Affairs in November 2007. At the conference held in New Delhi, Ms. Schaefer-Preuss emphasized that disaster relief is an important pillar of poverty reduction.

**Restoration of Public Infrastructure.** Infrastructure rehabilitation has started to make a positive impact on the lives of the tsunami-affected people. Restoration of four fish landing centers/harbors in Kerala and six fishing harbors/landing centers in Tamil Nadu has been completed, thus, restoring the livelihood of the fisherfolk.

“ADB is committed to global initiatives, such as the Hyogo Framework of Action, and to assisting member countries pursue their national disaster action plans, and to participating in regional disaster risk reduction initiatives. ADB has taken heed of the lessons learnt from recent major disasters and is developing additional mechanisms to support hazard management and disaster risk reduction in the Asia-Pacific.”

— Ursula Schaefer-Preuss, ADB Vice-President Knowledge Management and Sustainable Development

Rehabilitation and restoration of four ports and six landing centers/harbors in Kerala and two minor ports in Tamil Nadu have nearly been completed, which has led to increased port operations and revenues.

Water supply systems for 5 towns and 26 villages have been restored/improved in Kerala while, in Tamil Nadu, water supply upgrade for 6 towns and 430 villages has been completed. In Tamil Nadu, 35 sanitary complexes are being rehabilitated. A separate sanitation and environmental awareness multimedia campaign is also being designed for launch in the tsunami-affected areas.

In Tamil Nadu, about 900-kilometer (km) village roads, 215-km town roads, and about 115 km of roads in urban areas are being restored, with work completed on about 760-km roads. In Tamil Nadu, about 230 public buildings are being upgraded. Restoration of damaged electricity distribution and streetlights is also under implementation. Construction has started for three new bridges in Kerala and five high-level bridges in Tamil Nadu, which are planned as evacuation routes in case of future tsunami threats.

The construction of new bridges and upgrading of roads under TEAP will ensure better evacuation routes in case of a future tsunami and also improve connectivity with the mainland for fisherfolk that dwell in coastal belts to main/artery roads. This will enable better and quicker access to markets, health, and education facilities for their families. TEAP has restored damaged public infrastructure to a higher, cost-effective, environmentally sustainable standard while incorporating features critical to disaster prevention.

**Livelihoods.** TEAP has enabled coastal communities to overcome their misfortune by building/rehabilitating infrastructure and restoring livelihood activities. These have opened new avenues of opportunities providing alternative and sustainable employment with infusion of new technologies to increase the scope of income generation. Retroactive financing has helped replace productive assets of affected persons within the first 6 months, enabling them to restart their livelihood activities and overcome the trauma of the unprecedented disaster that had befallen them. The introduction of insurance of assets and accidental/health insurance has brought further security for beneficiaries.

“Convergence” has been recognized as a critical component to ensure effective and sustainable livelihood activities. The first major initiative under TEAP was the disbursement
of a special grant of $660 (Indian rupees [Rs]30,000),
together with bank credit of $330 (Rs15,000), to each of
more than 15,000 SHGs (85% women groups) to revive
internal group lending activity to meet the emergency
requirements of the group members. New economic
activities developed with women’s groups focus on the
creation of group ownership of assets to raise levels of
empowerment in the community. This has increased
their voice in the gram sabha (community-elected
village administration committee) and increased their
bargaining power with local banks. SHGs are being
encouraged to form federations/cooperatives/societies
to enable procurement of land to start joint economic
activities on a larger scale to benefit the local community.
The initiative on land procurement is now being tested
and adjusted in two villages in two districts in Tamil
Nadu, and the transfer of title deeds to the federations is
in progress.

More than 46,900 SHGs have been provided revolving
credit and economic assistance. Microenterprises run
by about 2,400 and 3,764 existing SHGs have been
assisted in Kerala and Tamil Nadu, respectively; while
about 1,200 and 2,000 new SHGs have been assisted
in Kerala and Tamil Nadu, respectively. Damaged
productive assets of 2,000 and 3,748 SHGs have been
replaced in Kerala and Tamil Nadu, respectively. Skill
training has been provided to 575 SHGs in Kerala,
and 155,452 beneficiaries across SHGs and individuals
in Tamil Nadu. Insurance cover has been provided
for more than 1,200 beneficiaries in Tamil Nadu,
and about 35,826 individuals consisting primarily of
disabled persons and widows through small grants for
starting small income-generation activities.

Besides livelihood interventions, and rehabilitation
and reconstruction of existing infrastructure, ADB
is also focusing on restoring and protecting the
environment and disaster risk management.

DEAP has shown the way to a systematic approach
to disaster management that shifts emphasis away
from responding and toward anticipation and
planning for disasters and emergencies. It focuses on
the need for risk and vulnerability assessments and
advocates that ADB partner with regional institutions
that track disasters and support surveillance and
early-warning facilities in DMCs. Today, the principles
underlying DEAP are being followed in ADB’s response
to tsunamis in all DMCs. One of the main lessons
learned from previous experience with emergency
loans incorporated into the new policy that is being
observed is the need for flexibility and increased
preparedness for future emergencies.
ADB’s Integrated Disaster and Emergency Assistance Policy

ADB’s new, integrated disaster and emergency assistance policy (DEAP), adopted in May 2004, aims at enhancing ADB’s capacity and improving its effectiveness in assisting developing member countries (DMCs) struck by disaster. The new policy shifts the emphasis from only responding after disaster strikes to also supporting activities that anticipate and mitigate the likely impact of disasters that might occur. The new policy adopts a systematic approach to disaster management, including emergency prevention and post-conflict reconstruction; mainstreaming disaster risk management as an integral part of the development process; strengthening partnerships to enhance the effectiveness of emergency aid to DMCs; using resources more efficiently and effectively to better support pre- and post-disaster activities; and improving organizational arrangements in ADB for planning, implementing, and communicating effectively on disaster and emergency-related assistance.

Many scientists are predicting a higher probability of natural disasters in the near future because of climate change. ADB recognizes the need to forge strong partnerships to prepare for possible future needs. Partnership among development partner agencies, governments, research institutes, and local communities will be critical in reducing the impact of future disasters.
**Disaster Risk Management**

DEAP sets out objectives that are designed to strengthen support for reducing disaster risk in ADB’s member countries in the Asia and Pacific region, as well as provide rehabilitation and reconstruction assistance following a disaster. A new action plan is being prepared to further embed disaster risk management into ADB’s operational practices, and to develop additional risk reduction measures to further enhance reconstruction projects and climate adaptation projects.

A component of disaster risk reduction ADB undertook following the Indian Ocean tsunami is providing technical assistance with the United Nations Development Programme to strengthen the Tsunami Development Assistance Database, which tracks tsunami aid and provides analytical products to support decision making and resource allocation in four affected member countries (Indonesia, the Maldives, Sri Lanka, and Thailand). ADB’s technical assistance provides capacity development to assist national aid coordination teams, establishes national web portals to provide access to coordinate data, allows regional analysis of tsunami assistance, and collates lessons from the four member countries. Moreover, three of these member countries (Indonesia, the Maldives, and Sri Lanka) have adapted the Development Assistance Database to enable them to manage all development cooperation activities or to use it as a monitoring and planning tool. These are some examples that highlight the various ways in which ADB is actively involved in disaster risk reduction.

DEAP helps strengthen efforts to reduce disaster risk. ADB has utilized several approaches for implementing disaster and emergency assistance. The most obvious is the provision of financial grants and loans following disaster impact. In addition to financing rehabilitation loans, ADB has provided hazard mitigation loans, national and regional technical assistance to reduce natural hazard risk and, in exceptional circumstances, grants to help overcome the impact of major disasters.

DEAP is a partnership between ADB and DMCs that is designed to mainstream disaster risk reduction as an integral part of the development process by ADB:

- Adopting a systematic approach to reducing disaster risk,
- Mainstreaming disaster risk reduction as an integral part of development,
- Working more closely with DMCs to help them adopt an approach that emphasizes preventive measures,
- Strengthening other partnerships to maximize synergies among development and specialized relief organizations,
- Using resources more efficiently and effectively to better support pre- and post-disaster activities, and
- Improving organizational arrangements in ADB for planning, implementing, and communicating effectively about disaster and emergency-related assistance.

In the context of country strategy and programming, the evaluation of disaster risk and its review with country authorities is the most important tool ADB has to enhance awareness of this threat to development and to encourage countries to allocate scarce resources to improve their risk management. It is also a critical step for improving the effectiveness of ADB’s development assistance, especially in high-risk countries. Incorporating appropriate risk management in country programming and portfolio management is the cornerstone of ADB’s shift to a proactive stance to improving risk management and enhancing development. Moving the focus from responding to disaster losses through reconstruction to mitigation and pre-disaster preparedness activities is an important dimension of ADB’s poverty reduction agenda.

ADB’s policy emphasizes longer-term activities for rehabilitating high-priority physical and social infrastructure; revitalizing basic services, particularly education and health care; and jump-starting economic productivity. This includes retroactive financing of emergency and relief activities carried out by governments.

ADB considers multi-stakeholder consultation, popular participation, and local ownership in the reconstruction and development process as essential.

**NGO, civil society, and relief and humanitarian agencies represent significant partners who help bridge the gap between relief and longer-term development programming.**
Tsunami Recovery in India—3 Years On

The report, published 3 years after the devastating tsunami struck on 26 December 2004, endeavors to record key achievements and lessons learned during the ADB supported recovery and reconstruction efforts in areas affected by this tragedy. Affected states included the Union Territories of Andaman and Nicobar Islands and Pondicherry, as well as the coastal districts of the States of Andhra Pradesh, Kerala and Tamil Nadu, covering approximately 2,260 kilometers of coastal area.

About the Asian Development Bank

ADB’s vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries substantially reduce poverty and improve the quality of life of their people. Despite the region’s many successes, it remains home to two thirds of the world’s poor. Nearly 1.7 billion people in the region live on $2 or less a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance. In 2007, it approved $10.1 billion of loans, $673 million of grant projects, and technical assistance amounting to $243 million.

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