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# Trade in Environmental Services and Technology/Clean Technology Initiative (TEST/CTI)

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# I. INTRODUCTION

The Trade in Environmental Services Technology (TEST) commenced in September 30, 1992 with a view to addressing India's industrial pollution problem through long-term linkages between U.S. and Indian providers of environmental services and technologies. The Project was designed to support not only the purchase of Environmental Services Technologies (EST), but also demonstrate the commercial viability of the EST sector through long-term arrangements such as licensing agreements and joint ventures between U.S. and Indian firms. The Project did not focus on a specific industrial sub sector or geographical area. Rather it was demand driven, with an initial implementation foci on technological gaps that cut across industrial sub-sectors and geographical areas. The Project had four components: (1) loans and conditional grants to firms; (2) technical assistance, including trade and investment tours and support for information networks; (3) support to the implementing developmental finance institution, the Industrial Credit and Investment Corporation of India (ICICI); and (4) support to trade and provincial associations.

In June 1997, USAID and ICICI decided to pursue the next phase of TEST project though a strategic redirection. In the second phase, TEST implemented a Clean Technology Initiative (CTI) that was redirected towards improving incentives for and development of institutional capacities of key sectors rather than emphasizing finance. During this phase which continued till 2002, assistance was providing in promoting the acceptance and use of clean technologies and services in selected industrial sectors and firms. The third phase of the project commenced in September 2002. During this phase the objective was to strengthen incentives for the adoption of clean technologies and certified environment management systems, as well as to enhance the capacities of Indian industry to evaluate and incorporate such technologies and practices into their operation. This effort was focused primarily on select rapidly growing industrial sectors which are major polluters and that are likely to accelerate the use of clean technologies and improved environmental management systems if they receive targeted assistance. As a result of this amendment, it was agreed that this phase of the project would focus geographically in the Municipality of Agra, and the company Louis Berger was selected to implement this component. Another aspect of this phase was the incorporation of USAID's special program mechanism such as Global Development Activities in the project.

The project successfully completed its activities on September 30, 2007. A project meeting with partners was organized by Louis Berger on September 18, 2007 in New Delhi to provide a forum for partner reflections on design, management and impact. This report summarizes the deliberations at the meeting.

## II. PROJECT INFORMATION

### **I. Basic Information:**

|                             |   |
|-----------------------------|---|
| Project Name:               | <b>Trade in Environmental Services Technology</b> |
| Project Number:             | 386-0530  |
| Project Period:             | FY1992-2007                                       |
| Life of Project authorized: | \$29,950,000                                      |
| Total obligation:           | \$24,591,000                                      |

### **2. Principal Implementing Partners:**

Industrial Credit and Investment Corporation of India (ICICI)  
The Louis Berger Group  
Confederation of Indian Industry (CII)  
International Resource Group (IRG)  
Sanders International  
Tetra Tech  
Federation of Indian Chambers of Commerce and Industry  
Ahmadabad Textile Industry Associations  
Center for Science and Environment  
Society of Indian Automobile Manufacturers  
Consumer Association and Research Center

## III. SUMMARY OF WORKSHOP

### PROCEEDINGS HELD ON 9/18/07

The Agenda for the workshop is provided in Attachment A. The lists of participants at the workshop are provided in Attachment B.

Welcome Address by Glenn Whaley, Office Director, Energy Environment and Enterprise: Glenn welcomed all participants to the workshop on behalf of USAID and said that it was unfortunate that the TEST project was coming to an end. He said this represents the end of an era. TEST is one of the last of an earlier generation of projects. It is also the last project which focused solely on environmental activities. He specially welcomed the key partners, Louis Berger, Confederation of Indian Industry, ICICI bank Limited and Green Business Center. He also extended a special warm welcome to Mr. Ram Berry (ex-USAID staff member and ex-TEST project manger) as a participant in this workshop.

Glenn mentioned that TEST had evolved over the span of its 15-year life. It is now focused on the Taj Trapezium Zone. Most recently, Clean Technology Initiative (CTI) has addressed issues of solid waste management. This workshop represents the formal, final project assessment and close out. The workshop proceedings will be useful to meet USAID close-out requirements. He thanked the organizer, Louis Berger, and the facilitator, Ms. Mona Chhabra, for putting up the workshop. He hoped that the discussions would be interesting and he was looking forward to the proceedings.

Workshop Objectives by Peter Downs, Project Development Officer, Program Support: The history of TEST goes back to 15 years. It is unusual for a project to be operational for such a long time. We have lot of lessons to learn from this project. We will take the recommendations and capture them in a formal document. The results will help explain the project activities. USAID is striving to be at the cutting edge of development. The proceedings of the workshop will be helpful in this regard.

I hope we can discuss the validity of assumptions. Some of the issues we hope to address are: (1) Did TEST achieve the purpose? We will examine partnerships in the project and what kind of impact these had. (2) Was the project responsive to environment? (3) How effective was the implementing mechanism, and how effective were the amendments. (4) Following completion, Can the project achieve sustainability? Will it continue the good work it started?

#### Partner introductions and background:

1. Ms. Anju Varma, Louis Berger: She has worked on Agra activities
2. Mr. Parasnis: He was overseas before he came back to work with Louis Berger.

3. Mr. Raghupathy from the Green Business Center (GBC)/CII
4. Mr. Arvind Reddy from Winrock International: He was involved with solar financing capacity building (SFCB) activity which was a GDA activity under TEST/CTI solar power.
5. Mr. Subrata Mazumdar, Louis Berger: He is the chief of party and has been with Louis Berger for over 12 years.
6. Mr. Ram Berry, Consultant: He is an ex-USAID staff member. He recalled that in 2001 the mission was considering whether or not to close down the project. However it was refocused with partnership, leveraging and application of technology as central themes. Further, it was narrowed to the Agra region. Also, the GBC activities were supported. The project has achieved a lot. He mentioned that the credit goes to the implementers. The project has seen four implementers, namely International Resources Group (IRG), Sanders International, Tetra Tech and LBG with an Indian partner ICICI.
7. Mr. Anil Malhotra, Project Manager, ICICI: He has been associated with USAID projects for a number of years.

*Introduction and Methodology by Mona Chhabra, Workshop facilitator:*

Mona explained the format of the workshop and initiated the discussion with a question to the participants – “If we have to capture the project achievement in a headline for tomorrow morning’s edition, what will it be?”

The participants’ responses were as follows:

“Public-Private Partnership;”

“Linking partnerships to a cleaner environment;”

“Sustainability through environmental excellence;”

“The project’s stated rationale was the idea of protecting the Taj Mahal, India’s most renowned national treasure. Everybody understands the need to reverse deterioration of the Taj monument;”

“Human and monumental survival through clean environment;”

“Improved quality of life could be tagged with environmental excellence.”

*Presentation on TEST/CTI: major Activities by N.V.Seshadri, Project Manager TEST:*

Mr. N.V.Seshadri captured the achievements of the project in a presentation. The presentation is provided at Attachment C.

Presentation by Mr. Anil Malhotra, Chief Manager, ICICI Bank:

Mr. Anil Malhotra from ICICI Bank made a presentation of the ICICI Bank activities which is provided in Attachment D. The ICICI Bank has been the prime implementer of the TEST project.

Presentation by Mr. Subrata Mazumdar, Chief of Party, Louis Berger:

Louis Berger is the technical assistance provider for TEST. Mr. Mazumdar's presentation is provided at Attachment E.

Presentation by Mr. Raghupathy Senior Director and Held CII-GBC:

TEST has supported the Green Business Center (GBC) which was implemented in partnership with CII. Mr. Raghupathy made a presentation on the GDA activity under the project and his presentation is provided in Attachment F.

Discussion

Following the presentations, an open house discussion took place on the highpoints and low points under the project. The summary discussion is highlighted below in bullet points:

- a. Highpoints
  - TEST was instrumental in promoting and introducing new environmental technology.
  - The ISO certification process was introduced first in TEST which helped many industries.
  - The project was an Indo-U.S. activity. It was visionary project. The TEST project has been instrumental in motivating ICICI to start up venture capital projects with their own funds with contributions from other institutions..
  - To do whatever we have done it would not have been possible without ICICI.
  - A long-term strategic partnership with ICICI assured success.
  - Credibility of ICICI also helped us to get some agreements through. Fund flow was cumbersome under projects. Thankfully ICICI was advancing the funds to projects.
  - The reason why TEST has been successful is because it emphasizes close monitoring and working together. The monitoring aspect should not be ignored.
  - GBC benefited from guidance from USAID. The GBC program adopted a holistic approach. There was continuous access to expertise and the linkages were excellent.
  - The Solar Financing Capacity Building program was implemented through training of bank officials on lending to solar projects. This was a great effort supported by USAID, and a very successful effort.

- Innovativeness in financing methods, technology and partnerships are the hallmarks of this project.
- Because of USAID, project partners had access to bureaucrats which was important for the implementation of the project.

b. Lowpoints

- Leadership change and maintaining continuous commitment by stakeholders are some of the practical ground realities in implementing the project. Also, some of the technologies that were developed lacked a plan to move forward to the next stage.
- One of the common question asked is why USAID is giving funds to companies which can get funds from commercial markets.
- A balance needs to be struck between commercial projects and development projects.
- It is important to keep the Governments informed/involved from the outset.

Future

The TEST has successfully ended on 9/30/07. USAID will not be having a follow on project. However the activities under the project will be continued. Also ICICI is administering the reflows from funds provided as loans to sub partners. In addition, Title III funds are available with ICICI for supporting agribusiness ventures. The details on local currency funds are provided in Attachment G.

**Attachment A**  
**Workshop agenda**

# AGENDA

## TEST/CTI Project Lessons Learnt Workshop on September 18, 2007

At Jahanara Hall  
Taj Palace Hotel, New Delhi

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1. 9.30 a.m. to 10.00 a.m. Registration and Coffee
  2. 10.00 a.m. to 10.05 a.m. Welcome Address: Glenn Whaley, Director, Office of Energy, Environment and Enterprises, USAID/India
  3. 10.05 a.m. to 10.10 am Workshop Objectives: Peter G. Downs, Project Development Officer, Office of Program Support, USAID/India
  - 10.10 a.m. to 10.20 a.m. Introduction and Methodology: Mona Chhabra, Workshop Facilitator
  4. 10.20 a.m to 10.30 a.m. Presentation on TEST/CTI: Major Activities by N. V. Seshadri – Program manager, CTI, USAID/India
  5. 10.30 a.m. to 10.50 a.m. Presentation by Project Counterpart: Anil Malhotra, Chief Manager, ICICI Bank
  6. 10.50 a.m. to 11.05 a.m. Presentation by Implementing Partner: Subrata Mazumder, Chief of Party, CTI Project
  7. 11.05 a.m. to 11.15 a.m. Comments by CII Environment Division & CII GBC – K P Nyati – Principal Advisor and Head Environment Policy Division, CII and S Raghupathy, Sr. Director and Head – CII – Sohrabji Godrej Green Business Centre
  8. 11.15 a.m. to 11.30 a.m. Group Photograph, Coffee and Networking
  9. 11.30 a.m. to 13.20 p.m. Facilitated Discussion focused on key issues \*
  10. 13.20 p.m. to 13.30 p.m. Vote of Thanks by N Ramesh, Program Development Specialist, Office of Program Support, USAID/India
  - 11 13:30 Lunch
-

**\* Issues for Discussion:**

1. **Project Design**
  - a. Effectiveness and validity of assumptions to serve the project purpose.
2. **Impact**
  - a. Of various activities (technical assistance, training, grants, partnerships etc).
  - b. Global Development Alliance (GDA) type activities, its relevance and implications
3. **Responsiveness** to changes in the environment sector and new requirements.
4. **Management** of the project by USAID and counterpart institutions
  - a. Challenges faced
  - b. Mechanisms established for project implementation.
5. **Effectiveness of implementing mechanisms**
  - a. Contracts, grants, cooperative agreements, funding to local institutions etc.
  - b. Role of Project Review/Advisory Committees
6. **Sustainability**
  - a. Of the project results
  - b. Opportunities for continuation of activities under new mechanisms.
7. **Recommendations / Suggestions** which can be useful for future programs

**Attachment B**  
**List of Participants**

## TEST/CTI Project

Lessons Learnt Workshop on September 18, 2007

Hotel Taj Palace, New Delhi

### LIST OF PARTICIPANTS

| S.NO. | NAME             | ORGANIZATION                                 |
|-------|------------------|--|
| 1.    | Anil Malhotra    | ICICI Bank, Mumbai                           |
| 2.    | K.P. Nyati       | CII, Environment Division, New Delhi         |
| 3.    | S. Raghupathy    | CII, Green Business Center, Hyderabad        |
| 4.    | Arvind Reddy     | Winrock International India, New Delhi       |
| 5.    | Subrata Mazumder | The Louis Berger Group, New Delhi            |
| 6.    | Mandar Parasnis  | The Louis Berger Group, New Delhi            |
| 7.    | R.K. Berry       | Consultant, New Delhi                        |
| 8.    | Glenn Whaley     | USAID, New Delhi                             |
| 9.    | Peter G Downs    | USAID, New Delhi                             |
| 10    | N. Ramesh        | USAID, New Delhi                             |
| 11.   | N.V. Seshadri    | USAID, New Delhi                             |
| 12.   | Uma Ravi Kumar   | USAID, New Delhi                             |
| 13.   | Mona Chhabra     | Consultant, New Delhi (Workshop Facilitator) |
| 14.   | Anju Verma       | The Louis Berger Group, New Delhi            |

**Attachment C**  
**Presentation by Mr.N.V.Seshadri**

# Trade in Environmental Services & Technologies (TEST)

Lessons Learnt Workshop  
September 18, 2007

Presentation on Project Overview

By N.V. Seshadri

Project Officer, USAID

# Background

- Project Commencement: September 1992.
- Project Goal: Increase environmental protection and enhance the productivity of Indian industry on a sustainable basis.
- Purpose: Assist Indian industries to adopt environmentally sound practices while promoting sustainable linkages between U.S. and Indian firms.

# Background

- Project Agreement signed: September 30, 1992
- Signatories: The Industrial Credit & Investment Corporation of India Limited (ICICI)
- Project Components: Loans & conditional grants to trade and professional organizations; Technical Assistance; grants to NGO's

# Project Design Missions and Mid-term Evaluation

- Missions environment program portfolio reexamined in 1995 and 1996 through project design missions.
- Mid-term evaluation conducted in late 1996.
- These exercises recommended that:
  - a. Assistance should be continued in promoting the accelerated use of clean technologies and services in selected cities, industrial sectors and energy firms.
  - b. This assistance should be redirected towards improving incentives for and institutional capacities of key sectors rather than emphasizing finance.

## Project Design Missions and Mid-term Evaluation (contd.)

- These program redirections were consistent with the original objectives of TEST.
- TEST program was restructured as Trade in Environmental Services and Technologies/Clean Technology Initiative (TEST/CTI).
- It was decided that TEST would be extended till 30<sup>th</sup> Sept. 2002 as the main vehicle for the environmental program activities of the mission.

# Project Amendment

- Accordingly, in June 1997, project was amended to include:
  - Incentive and capacity improvement in Indian industry focusing on: Benchmarking Environmental Performance, voluntary environmental performance standards; implementation of ISO 14,000 certification in selected sector; supplier chain environmental practices and environmental reporting and disclosure.
  - Improved Industrial Environmental Management focusing on: Promoting industrial extension systems through collaboration among partners in technology improvement; Professional and institutional capacity development.
  - Commercially-oriented technology cooperation focusing on: Technology adaptation and transfer by enhancing networks for environmental technology/service information exchange and providing financial support for technology demonstrations

# Project Re-focus

- The third phase of the project commenced in September 2002.
- During this phase, the objective of TEST/CTI was to help strengthen incentives for adoption of clean technologies and certified environment management systems and to enhance the capacity of Indian industries to evaluate and incorporate such technologies and practices into their operations.
- Another aspect of this phase was the incorporation of USAID's special program mechanism such as the Global Development Alliance (GDA), with ICICI Bank continuing as the projects primary implementation partner.

# Project Amendment

- In September 2002, the project was amended to :
  - Focus primarily on selected rapidly growing industries located in and around Agra that are major polluters and are likely to accelerate the use of clean technologies and improved environmental systems if they received targeted assistance.
  - This phase covered the following program elements:
    - Incentive and capacity improvement in Indian industry with special emphasis on small and medium industries to adopt environment management system (ISO 14001, Benchmarking and Green the Supply Chain Mechanism) and cleaner production technologies.
    - Commercially oriented technology cooperation by catalyzing availability of information, co-financing and technical assistance to accelerate use of improved cleaner production technology including promoting the use of renewable sources of energy.
    - Facilitating partnerships to leverage resources using other USAID mechanism such as GDA to address development issues related to energy and environment.

# PACD Extension and Funding Summary

- Original PACD was September 30, 1997.
- In June 1997, the Project Assistance Completion Date (PACD) was extended from September 30, 1997 to September 30, 2002.
- Subsequently, the PACD was further extended to September 30, 2007.

## Funding Summary

|                                 |                     |
|---------------------------------|---------------------|
| Planned Life of Project Funding | - \$30.340 Million  |
| Obligations                     | - \$ 26.848 Million |
| Commitments                     | - \$ 26.848 Million |
| Expenditures                    | - \$ 26.700 Million |

# Major Implementation Mechanisms

- **USAID Technical Assistance Contracts:**

- Sanders International
  - International Resources Group
  - TetraTech EM Inc
  - Louis Berger Group

- **USAID Grants:**

- Environmental Law Institute
  - US Hydropower Council for International Development

- **Funding through ICICI:**

- Loans
  - Grants and Conditional Grants
  - GDA activities

Thank You

**Attachment D**  
**Presentation by Mr. Anil Malhotra, ICICI**



# Trade in Environmental Services and Technologies (TEST)

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# TEST Programme

- Objectives
  - environmental protection
  - establish Indo-US sustainable business linkages
- Mechanism
  - Indo-US technology linkages
  - risk sharing financing (conditional grant) for technology adaptation
- Focus Areas
  - clean and climate friendly technology
  - green house gas emission reduction
  - pollution abatement and prevention



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# Programme fund position

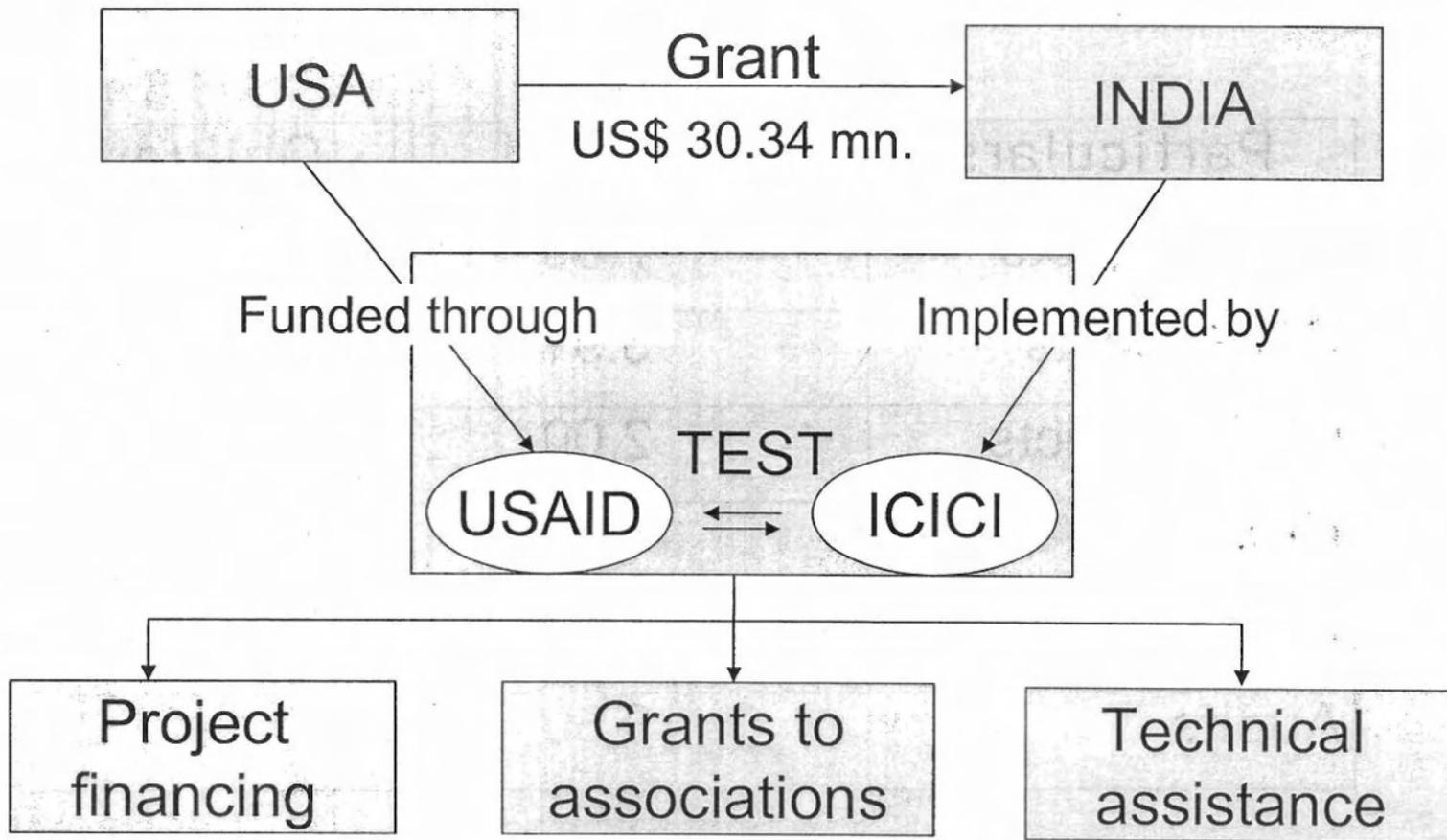
Line Item where ICICI Bank responsible:

US \$ in million

| Particulars      | Budgeted | Obligated |
|------------------|----------|-----------|
| Test Projects    | 7.05     | 7.05      |
| CTI Projects     | 3.91     | 1.90      |
| GDA Projects     | 2.00     | 2.00      |
| Grants to Assoc. | 4.00     | 3.00      |
| Support - ICICI  | 1.10     | 0.80      |
| Audits           | 0.30     | 0.12      |



# Programme structure



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# TEST/CTI Programme-Milestones

- 1997 - TEST programme (earlier launched in 1992) covering 17 projects (Phases I & II) was restructured as Trade in Environmental Services and Technologies-Clean Technology Initiative(TEST/CTI)
- 1999 - programme restructured for reduction of GHG through energy efficient projects
- Sep 2002 - programme extended for another 5 years (2002-2007)
- May 2003 – Phase III launched with special focus on polluting industries in Taj Trapezium Zone



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# Focus sectors (Phase I & II)

- Automotive
- Iron and steel
- Industrial townships
- Thermal power
- Textiles and dyes
- Transportation
- Paper and pulp
- Cement
- Ceramic and glass
- Electronics
- Hospitality
- Petroleum and Refinery
- Pharmaceuticals



Projects to cause  
GHG emission reduction



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## Bottlenecks & perceptions (Phase I & II).

- Adoption of new/ innovative concepts and technologies not tried earlier
- Technology projects are risky since
  - first of their type
  - no benchmarking available
  - long moratorium
  - industry and sponsor outlook
- Hence require finance with risk-sharing or lower cost elements.



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# TEST - Projects Summary (Phase I & II)

|                             | <u>No</u> |
|-----------------------------|-----------|
| ● Air Pollution control     | 8         |
| ● Wastewater treatment      | 5         |
| ● Hazardous waste treatment | 1         |
| ● Energy efficiency         | 2         |
| ● Waste heat recovery       | 1         |
|                             | <hr/>     |
|                             | 17        |

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## Phase I & II Projects

- ISO 14000 pilot
  - CII - EMD, New Delhi
- Environmental Information Networking
  - FICCI, New Delhi
- Green Supply Chain Management pilot
  - Ahmedabad Textile Industry's Research Association (ATIRA)
- Energy Efficiency Testing Facilities
  - Consumer Education & Research Centre (CERC), Ahmedabad



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# Phase I & II Projects

- Development of Air Pollution Indices for Delhi
  - Centre for Science & Environment (CSE)
- Environmental Performance Benchmarking
  - 2 sectors - Cement and Paper & Pulp
- Inspection and Maintenance clinics for two-wheelers
  - Society of Indian Automobile Manufacturers (SIAM)



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# TEST/CTI Phase III

## Objectives

- Protect Taj Mahal monument from local pollution
  - Emissions from industries
  - Emissions from transport sector
  - Emissions from DG sets

## Focus Industries

- Foundry sector
- Glass and bangle manufacturing sector
- DG set manufacturers
- Leather footwear
- Urban transportation in Taj Trapezium Zone



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# TEST – CTI Programme

- **Programme elements**
  - **Clean technology projects for industries in TTZ**
  - **Adoption of environment management systems by SMEs in TTZ ISO 14000**
    - **Benchmarking**
    - **Greening the supply chain**
  - **Generation & distribution of power (off-grid/ mini grid) – renewable sources**
  - **Awareness/ support for alternate fuel vehicles**
  - **Support to urban local bodies for waste management**
  - **Replicate Ludhiana cluster approach in TTZ**



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# TEST – CTI Projects

- CII-GBC
- Winrock International
- EPTRI
- SIAM
- Kamath Hotels
- Indus Smelters Ltd.
- Agra Iron Founders Association
- Health & Environment Awareness Research & Training Society



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# Test/CTI – New Concepts Supported

- Utilization of Industrial waste
- Solid waste management in urban residential societies
- Ecotel hotels
- Green building
- Environmental help line
- Computerized PUC
- ESCO
- ISO 14000



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# Test/CTI – New Technologies Supported

- Development of smokeless cupola furnace based on natural gas
- Development of steel manufacturing process using iron ore and coal wastes



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## **Test/CTI – Approach**

- **Provisioning of TA component to programme**
- **Availability of technical partner to facilitate**
- **Focused approach to issues**
- **Large leveraging through GDA, building institutions**
- **Flexibility of decision making to ICICI Bank**
- **Informal relationship with partners**
- **Periodic review and updates**
- **Direct release of funds form USAID to ICICI Bank**





Thank You



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## ISO 14000 pilot

- In association CII - EMD, New Delhi
- 3 sectors - Paper & Pulp, Textiles & Automobiles
- 9 units provided technical assistance
- 5 units certified
- Rest units at advanced stage of certification
- National workshop for dissemination of information and cost benefits of ISO certification
- Sector specific manuals would be prepared

Also provided TA to 4 units in Steel sector



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## Environmental Information Networking

- In association with FICCI, New Delhi
- 3 regional centres established Mumbai, Kolkata & Hyderabad
- Centres are providing information on latest Clean and Climate friendly technologies
- Assistance to Indian firms for technology transfer, matchmaking and conducting business
- Information on latest policies, regulations, events
- Website : [www.cleantechindia.com](http://www.cleantechindia.com)



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## Green Supply Chain Management pilot

- In association with Ahmedabad Textile Industry's Research Association (ATIRA)
- Selected a textile major and 5 of its suppliers
- TA provided to ATIRA for capacity building
- National workshop organized for sharing results
- Sector specific manual being prepared by ATIRA



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## Energy Efficiency Testing Facilities

- Set up at Consumer Education & Research Centre at Ahmedabad
- The facilities test electrical appliances for the energy efficient performance
- The results are shared with respective manufacturers for improved products
- Awareness campaigns for end-users
- Publish consumer magazine monthly - INSIGHT



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## Development of Air Pollution Indices for Delhi

- With Centre for Science & Environment (CSE)
- CSE reviewed the existing indices globally
- Past decade data for Delhi analysed
- Technical experts from USA assisted CSE for capacity building
- Indices would be shared through outreach programmes
- Delhi – first city in the world to convert entire public transport to CNG (based on research data of CSE)



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## Environmental Performance Benchmarking

- In collaboration with respective industry associations
- 2 sectors - Cement and Paper & Pulp
- Data analysed for sector specific reports
- US experts provided technical assistance to develop computer model to select cost-effective energy saving technologies
- Results would be shared through national workshops



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## Inspection & Maintenance clinic 2-wheelers

- In collaboration with Society of Indian Automobile Manufacturers (SIAM)
- Camps conducted in Delhi
- Data collected for more than 66,000 vehicles



|   |  |
|---|--|
| <b>Project Name</b>   | <b>CII-GBC</b>   |
| <b>Project Cost</b>   | <b>Rs. 86.9 mn</b>                                     |
| <b>Amt Sanctioned</b>   | <b>Rs. 86.9 mn</b>                                     |
| <b>Sponsors</b>   | <b>Leverage</b>  |
| <b>Project Description</b>  | <b>Setting up a Green Business center in Hyderabad</b> |
| <p><b>Status :</b></p> <ul style="list-style-type: none"> <li>● The project has been successfully implemented and the CII-GBC was inaugurated by President Shri A P J Abdul Kalam (July 2004)</li> <li>● Adoption &amp; establishment of LEED India rating completed</li> <li>● Created new markets in India &amp; US for green products</li> <li>● Launched green services: audits, building facilitation, business incubation, technology centre and energy efficiency</li> </ul> |  |



|   |   |
|---|---|
| <b>Project Name</b>   | <b>Winrock International India</b>  |
| <b>Project Cost</b>   | <b>Rs. 19.2 mn</b>  |
| <b>Amt Sanctioned</b>   | <b>Rs. 19.2 mn</b>  |
| <b>Sponsors</b>   | <b>Leverage investments from alliance partners an amount of around Rs. 66 million</b> |
| <b>Project Description</b>  | <b>Development of solar finance capability building alliance</b>                      |
| <p><b>Status :</b></p> <ul style="list-style-type: none"> <li>● <b>4 apex conferences organised to sensitize chief executives of banks</b></li> <li>● <b>Over 500 master trainers trained in financing solar home lighting systems</b></li> <li>● <b>Over 5,000 branch managers trained in issues relevant to solar financing</b></li> <li>● <b>Rs. 300.0 million leveraged for solar energy projects</b></li> <li>● <b>30 entrepreneur development programmes organized across 12 states</b></li> <li>● <b>Constituted awards for branch managers for highest number of loans</b></li> </ul> |   |



|  |   |
|--|---|
| <b>Project Name</b>  | <b>EPTRI</b>  |
| <b>Project Cost</b>  | <b>Rs. 6.19 mn</b>  |
| <b>Amount Sanctioned</b>   | <b>Rs. 6.19 mn</b>  |
| <b>Sponsors</b>  | <b>Government of Andhra Pradesh</b>   |
| <b>Project Description</b>   | <b>Setting up of a Clean Line Centre for social mobilization and people participation</b> |
| <b>Status :</b> <ul style="list-style-type: none"> <li>● Improved response of service providers such as APPCB, MCH, RTA to user complaints</li> <li>● Provided solutions to endemic environmental problems of private sector</li> <li>● constituted working groups in dealing with environment issues</li> <li>● organise outreach programmes, organize awareness workshops</li> </ul> |   |





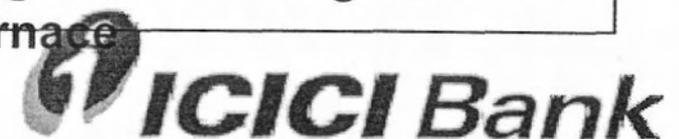
|   |   |
|---|---|
| <b>Project Name</b>   | <b>Kamat Hotels (erstwhile HIMCO India)</b>   |
| <b>Project Cost</b>   | <b>Rs. 720.0 mn</b>   |
| <b>Amt Sanctioned</b>   | <b>Rs. 67.0 mn</b>  |
| <b>Sponsors</b>   | <b>Mr. Vithal V. Kamath</b>   |
| <b>Project Description</b>  | <b>Energy efficiency and conservation measures at a 4-star apartment ecotel hotel at Mumbai</b> |
| <b>Status :</b> <ul style="list-style-type: none"><li>● <b>Company received Ecotel certification for the EE measures implemented</b></li><li>● <b>Heat recovery wheel installed to reduce HVAC loads</b></li><li>● <b>Hollow concrete blocks blended with porcelain cement concrete used since they have good thermal insulation and require less HVAC load</b></li><li>● <b>Hotel continues to use several eco-friendly measures; eco-friendly material, waste recycling, etc.</b></li></ul> |   |



|                            |   |
|----------------------------|---|
| <b>Project Name</b>        | <b>Indus Smelters Ltd</b>   |
| <b>Project Cost</b>        | <b>Rs. 66.0 mn</b>  |
| <b>Amt Sanctioned</b>      | <b>Rs. 13.5 mn</b>  |
| <b>Sponsors</b>            | <b>Mr. Lalit Singhania</b>  |
| <b>Project Description</b> | <b>Development of a 30 TPD pilot steel plant utilizing waste containing iron oxides like mill scales &amp; iron ore fines at Raipur</b> |

**Status :**

- The company had fully commissioned the melting & smelting division
- Regular production commenced in July 2007
- Present production level is about 15 TPD against capacity of 30 TPD (plant operating in single shift only)
- Metal recovery rate from waste is about 80%
- Waste heat recovery from pilot plant leading to fuel savings of about 7 liters/ton in rolling mill billet reheating furnace



|   |  |
|---|--|
| <b>Project Name</b>   | Agra Iron Founders Association (AIFA)  |
| <b>Project Cost</b>   | Rs. 24.1 mn  |
| <b>Amount Sanctioned</b>  | Rs. 5.3 mn   |
| <b>Sponsors</b>   | AIFA, a society of the Agra foundry unit members   |
| <b>Project Description</b>  | Development of 3 tonnes/hr cokeless cupola furnace based on natural gas - technical collaboration with Mr. Richard Taft of M/s. Cokeless Cupola Ltd. UK. |
| <b>Status :</b> <ul style="list-style-type: none"> <li>● The technology successfully demonstrated through commissioning of first cupola at M/s. Anil Metal Industries</li> <li>● Two units identified (M/s. Indu Engineering &amp; M/s. Arbariya Steels) for adoption of technology</li> <li>● Need to identify more units for demonstration of technology</li> </ul> |  |



|  |   |
|--|---|
| <b>Project Name</b>  | Health & Environment Awareness Research & Training Society (HEARTS) |
| <b>Project Cost</b>  | Rs. 3.4 mn  |
| <b>Amount Sanctioned</b>   | Rs. 3.4 mn  |
| <b>Sponsors</b>  | Mr. Rajat Jain  |
| <b>Project Description</b>   | Pilot project for solid waste management at Agra                    |
| <b>Status :</b> <ul style="list-style-type: none"> <li>● Site development and equipment under project procured</li> <li>● Waste collection bins provided to households in select localities</li> <li>● Waste collection, segregation &amp; composting activities commenced</li> <li>● Scaling up of activities to demonstrate solid waste management on full scale started</li> <li>● Agreement signed with several resident welfare associations to provide sustainability</li> </ul> |   |



**Attachment E**  
**Presentation by Mr.Mazumdar, The Louis Berger Group**

# TEST/CTI LESSONS LEARNT WORK SHOP

New Delhi

September 18, 2007

Subrata Mazumder  
Chief of Party, CTI Project



## **CTI Project – This Phase at a Glance**

- **Project launched in May 2003**
- **Focused on Taj Trapezium Zone with specific target**
- **TA Recipients: Local and State Governments, Community, Industry, Urban Bodies...**
- **Beneficiaries: Urban Air Quality, Jobless workers and of course Great Monument Taj Mahal**



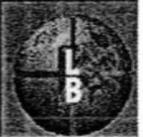
# Major Interventions

- **Environmental Performance**
- **Clean Energy Technologies & Best Practices**
- **Benchmarking at local /national / international level**
- **Economic Sustainability**
- **Quality of Life**



# Comments on Design of CTI Project

- Project was Excellently Designed and have covered almost all areas those “May” have “Impact” on TTZ environmental quality
- “New Look” design with more visibility and combination of TA with actual projects developed – could be new trend for optimization of resources available and ensure best results out of it
- Sometime it appears program elements are too Optimistic (and unrealistic!) in view of areas, targeted audience, time and resources



## Comments on Design contd..

- In a geographically concentrated project, larger coordination is necessary both from USAID and implementers so as to project “One single” entity with different components and Avoid confusion
- Projects like CTI must have a “Dissemination & Outreach” component which could be referred even after completion of the project for benefit of ultimate users, irrespective of location



## Comments on Design contd..

- **USAID was flexible to adopt and change strategy as realistically evolved during implementation of the project e.g. Green Power Development throughout the state instead of TTZ area which was found “Not feasible”**
- **Many activities need demonstration before adopting by TA recipients. A small grant component in this type of project is always helpful to expedite the process and achieve desired goal, especially when tiny and distressed sectors are involved.**



# Major Hurdles

## ■ Industry Sectors:

- Totally unorganized, traditional and mostly business through succession, low level of literacy and almost No knowledge of best practices
- Not concerned for Environment at all, Poor Occupational Health, selling product and making money is only objective

## ■ Urban Sectors:

- Inherent problems due to old city
- In most cases lack of leadership, poor governance, unaware of current situation/development (nationally and international), knowledge /awareness and right human resources



## CTI Successes

- **Relation Established with Local and State Governments, Urban bodies, TTZ Authority, Local NGOs, Industry and Industry Associations**
- **Built Confidence in Local Industries who was identified as “Responsible” for adverse air quality**
- **Accepted challenges & additional responsibility without any “Additional” resource commitment**
- **Project visited by USAID Top Management**
- **Left Foot print of CTI which will be remembered for long**



**Thank you for your attention!**



**Attachment F**  
**Presentation by Mr. Raghupathy, CII**

# **Green Business Centre**

**USAID Role – A Perfect Example of:  
Encourage, Enable & Execute**



# USAID as Enabler

## ❖ **GBC Mission- Visit to USA, December 2000**

- **Design of the centre**
- **Linkages with USGBC**

**GBC would not have taken-off, but for the visit**

# **GDA – Phase I : Establish GBC**

## **❖ Scope : Macro level – Establish & prove viability**

- Launch of GBC services**
- MoU with USGBC**
  - ❑ Platinum rating & Green Building movement**

**Created a new dimension!!**

# **GDA – Phase II : Foster & Enhance GBC activities**

- ❖ **Scope : LEED India & Green Building Movement**
  - **Launch of LEED India NC ( Completely Indigenized)**
  - **LEED India Certification services**
  - **IGBC - Chapters**

**India a significant contributor to  
Global Green Building movement!!**

# CII-Godrej GBC - The past & present

In 2007

In 2003



**Established in 2003**

**Service : Energy Efficiency**

**Staff strength : 12**

## **Services**

- ❖ **Energy Efficiency & Environment Mgt**
- ❖ **Green Buildings**
- ❖ **Water Management – Water Institute**
- ❖ **Renewable Energy**
- ❖ **New Ventures**
- ❖ **Technology Centre**
- ❖ **Staff Strength - 65**

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# Lessons Learnt

© Confederation of Indian Industry



**Lesson #1**

**Specify Macro Level Deliverables -**

**Flexibility to execute**

## **Lesson #2**

**Allocate some portion of fund ( 5 to 10%) for building line of projects**

## **Lesson #3**

**Execution team ( Institution where capacity  
is built) should have overall responsibility**

**Thank You**



Attachment G  
ICICI local currency details

**SUMMARY OF TDC PROJECT REFLOW FUNDS**

**(As of March 31, 2007)**

**(Amount in millions)**

| <i>Details</i>  | <i>(Technology)</i> |                   | <i>(Agribusiness)</i> |               |
|---|---------------------|-------------------|-----------------------|---------------|
|   | <i>Rupees</i>       | <i>U.S. Dols.</i> |                       | <i>Rupees</i> |
| Funds available as of 3/31/99 (per MOU)                             | 312.4               | 4.5               |                       | 552.5         |
| Subprojects committed as on 3/31/07<br>(3 Grants - Rs.69.3 million) | 743.8               | 2.6               |                       | 908.2         |
| No. of Projects   | Twenty-four         | Six               |                       | Thirty-two    |
| <b>Funds available as of 3/31/07</b>                                | <b>573.90</b>       | <b>2.79</b>       |                       | <b>885.7</b>  |