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INPUT TO PROJECT PAPER

DRAFT REPORT ON

"TRAINING FOR INFRASTRUCTURE FINANCING"

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PUBLIC/PRIVATE INFRASTRUCTURE PARTNERSHIPS IN THE FIRE PROJECT

The Center for Financial Engineering in Development (CFED) was awarded a Delivery Order under Contract No. PCE-1008-I-00-2069-00 an IOC with HUD/USAID of which CI LD is prime contractor to complete five tasks in connection with the preparation of the FIRE Project Paper, USAID/New Delhi Mission and the RHUDO/New Delhi.

The necessary research and interviews were conducted. The findings, together with the contractor's experience in the development and financing of public/private infrastructure partnerships in other parts of the world, are described and organized in chapters covering each of the five tasks.

TASK ONE. "The contractor shall undertake an examination of the issues related to the financial engineering of infrastructure projects for bond financing."

TASK TWO. "The consultant shall evaluate the other institutions related to the project financing process such as issuers, regulators, traders, rating agencies and investors, with focus on the actors of the debt market, as well as the opportunities and constraints for opening a channel between potential bond investors and project based revenue bonds to be developed under the debt/infrastructure component. In particular, this analysis shall evaluate the process of developing the channel to promote "deal making" with some of the bonds developed for the examples in Section 1. (of the task order)"

TASK THREE. Using the examples developed in Section 1, the contractor shall assess the potential for initial private placement of project based revenue bonds and the subsequent conclusions and make recommendations on how the IIG and grant funds can best be utilized to accomplish the goals and objectives of the project.

TASK FOUR. The contractor shall assess the impact of the emerging financial liberalization on the ability to place these bonds, as well as terms and yields of the bonds.

TASK FIVE. The contractor shall prepare recommendations and alternatives for a training plan. A critical element to be undertaken by the debt/infrastructure component is training for the infrastructure finance institutions, the grant recipient, and the state agencies and local bodies.

TASK SIX. Recommendations

CHAPTER ONE

TASK ONE. "The contractor shall undertake an examination of the issues related to the financial engineering of infrastructure projects for bond financing."

In all developing countries there is an imperative need for accelerated investment in infrastructure systems. However, insufficient government and donor resources have made it difficult to meet even modest objectives, especially in the area of urban services. India is particularly affected by this problem because of decades of economic isolation, industrial stagnation, and population growth at one of the highest rates in the world.

The lack of basic urban services stifles business activity and places an unacceptable high burden on members of every economic class, most egregiously on the poor. The environmental degradation and associated financial and human costs of deficient systems of water supply, water treatment and waste management not only threaten ecosystems and lives but are incompatible with economic growth and development. Scarcity of transportation deprive workers, especially the poor, of mobility and access to job centers.

It is an undisputed fact that efficient and reliable urban infrastructure systems promote economic development. The difficulty in providing these systems traditionally has been the perception that they are public services, often provided free of charge, and that they must be developed and financed through government expenditures. It is true that services provided in that manner can only be financed through government subsidized. The conclusion then is that, although infrastructure is essential to economic development, infrastructure projects typically lack commercial viability. This is a particularly acute problem in the provision of basic urban services.

The Central Issue

The central issue is that, if projects can be advanced that meet the dual objective of providing a valuable public service while maintaining commercial viability, the problem of financing urban infrastructure must be tackled from a totally different perspective.

The new concept is that by combining the resources of the public and private sector to bring to bear on the problem of developing infrastructure, governments are able to leverage existing resources dramatically and raise funds in a free and competitive securities market.

Other Issues

However, there are two other major issues which must be recognized and dealt with before urban infrastructure services can be successfully financed in a competitive investment environment through equity participation and the issuance of marketable debentures. The infrastructure issue pivots on the close collaboration of the public and private sector to negotiate, design, implement, and package financially viable projects. The bond market issue is whether embryonic bond market trading

system, such as exists in India, has the capabilities to underwrite and process infrastructure bond issues in an environment with enough transparency and efficiency that will lead to active bond trading in a secondary market.

The Infrastructure Issue

Bringing the public and private sector to work together toward the identification, design, planning, implementation and financing of urban services is a paramount task. It requires that a premium be placed on identifying and structuring projects that become commercially viable and that serve the mutual needs of government, the private sector and most importantly, the users of the services.

One of the greatest difficulties is the missionary work needed to garner commitment on the part of the government and the private sector to initiate and implement a strategy and concomitant framework that seeks to promote a sharing of the risks, rewards, and responsibilities of sustained infrastructure development, investment, and monitoring.

Unfortunately, this new view of infrastructure provision and financing is not readily understood by government agencies who resist relinquishing responsibilities which traditionally have been exclusively in their domain, nor by the private sector who customarily has seen public services as unprofitable undertakings not worth pursuing relative to more attractive investments. This lack of precedence means that both the government and the private sector must undergo an arduous learning process while negotiating, physically implementing, and financially packaging every project.

The process is intensive and highly specialized, but most rewarding in the end, as shown by the experience of countries that have embarked successfully on public/private approaches to infrastructure development. Abundant lessons, new technology and strategies have been accumulated. These should be heeded in India, as the GOI embarks on unprecedented financial liberalization plans and integration into the world economy.

India is in a privileged position relative to other developing countries to successfully develop and finance urban infrastructure projects. While other developing countries struggle to obtain scant private funding domestically and abroad, India has a robust source of local financial resources. The problem is accessing those resources in the magnitude required by infrastructure projects and at a cost that does not render the project less than commercially viable. The answer is to seek financing in the securities market, in particular the bond market.

The Bond Market Issue

The GOI is embarked on the paramount task of instituting reforms in a financial system which is outmoded and beset by inefficiencies, some deliberate others inevitable. Some problems are created by the rapid growth of financial transaction in a system not prepared to cope with the volume and sophistication required. Other problems are created by design to preserve large profits which feed on the mere confusion of the system.

A free operating bond market such as defined in industrial countries, does not exist in India with any degree of depth. Most debt transactions applicable to infrastructure are in the form of bank loans or private placements with institutional investors. The securities market is plagued by problems from standard operational inadequacies to outright and deliberate obstruction of transparency for personal gain.

However, not all indications are negative in India's financial markets. There are distinct pockets of opportunity for sustained economic and social development through the use of the securities market. This is a different concept from the purely speculative and reckless transactions which have taken place in emerging markets which were created or revived in the last decade.

Encouraging Signs

Demand for debt securities in India appears robust.

The amount of financial resources available in India surpasses the level of other developing countries. The domestic savings rate, international transfers from Indian non-residents, repatriated Indian capital, and international portfolio investments, have contributed to increase the size of Indian capital markets. In particular, the potential demand created by a high rate of domestic savings is a positive sign that additional resources will be available for viable investments.

Several existing institutions appear committed to the improvement of operations and transparency in the securities market.

It is encouraging to see some institutions which are too new to have been caught in the tainted financial web and some young professionals who have a clear vision of where and how capital markets should be guided. Some of the examples are the Over the Counter Exchange of India (OTCEI) with electronic trading capabilities, double quotations, and unparalleled transaction transparency; and the Stock Holding Corporation of India Limited (SHCIL), which offers custodian services on all securities traded in the exchanges and has the capability of performing clearance and settlement specifically on all bond trades, although as of this date not legally empowered to do so.

Infrastructure Projects And The Bond Market

An obvious conclusion is that, there is a unique opportunity in India to stimulate the use of the securities market in particular the bond market to encompass projects which are as socially commendable as they are commercially viable. Coincidentally, the supply of infrastructure debt securities will help stimulate activity and transparency in the debt market.

For example, in spite of the operational and technical capabilities of OTCEI, very few issues are listed and traded on that exchange. Its executive manager has a lucid idea of conditions in the capital market and the expertise to make OTCEI grow. Yet there is deliberate resistance in professional investment circles to allow it to succeed, probably due to the fact that it is too transparent and efficient. All transactions are recorded to provide a clear audit trail. Apparently this is a feature opposed by practitioners in other exchanges where there exists a more discrete environment for private deals.

Unquestionably, new infrastructure bonds will benefit OTCEI by increasing listings, committing market makers, and expanding the secondary market.

Since USAID assistance for strengthening the regulatory environment and operations of the securities markets is covered in the other component of the FIRE project, it is not elaborated here.

Alternatives

It has been determined that only commercially viable infrastructure projects can be financed in the bond market. Commercially viable projects are only those based on public/private infrastructure (PPI) partnerships. This kind of partnership is a sharp departure from traditional public administration procedures, especially with respect to basic urban services at the municipal level.

Since the FIRE project seeks to demonstrate and implement infrastructure finance as a means for stimulating the debt market, only commercially viable projects qualify under this project. Consequently, the departure from traditional public administration procedures has to take place in two steps, to wit,

Step one. Public/Private Infrastructure partnerships must be taken through a rigorous organizational, legal and financial drill in order to succeed. Only then commercially viable projects can be prepared for financing at market prices.

Step two. To raise financing in the securities market, it is not enough for the project to be commercially viable. The capital structure of the project must be packaged with the needs and perceptions of investors very much in mind.

The capital structure of the project is composed of two categories of capital: debt and equity, which can be designed according to seniority and complexity, as required by individual projects and the target investor groups. The financial needs of each project vary through time: when and how much is needed and when can it be repaid? The desires of investors also vary: what returns, what maturity, what risk and guarantees are offered?

The process of matching users of capital with providers of capital through viable financial instruments is the basis of financial engineering.

Infrastructure financing in the bond market

It is essential to complete these two preparatory steps in order to "...demonstrate and implement infrastructure finance as a means for stimulating the debt market..." Otherwise, the infrastructure contribution to the FIRE project will be frustrated.

Only after the two "behind the scenes" preparatory steps described above have been completed the new instrument is ready to be floated in the bond market, duly underwritten and listed in the OTCEI, and walked through the custodial, settlement, and clearance stages covered in the other component of the FIRE project.

CHAPTER TWO

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Intermediaries

It is essential to prepare a distortion-free environment to channel the market forces into the most productive uses. This is accomplished through a system of intermediaries who fulfill a host of functions to allow financial resources to flow between supply and demand.

In India bond market intermediaries, issuers, and institutional buyers have grown in a distorted fashion around government concessions and regulations. The other component of the FIRE project is addressing ways of correcting those distortions.

Under this task in the infrastructure component, institutions related to project financing were evaluated in terms of their adequacy and preparedness to develop a channel to market debt securities. It was found that the institutions in the securities channel of distribution which are best suited to provide an adequate environment for the creation and distribution of debt instruments are:

1. The Over the Counter Exchange of India (OTCEI), has the technology and staff to execute computerized trades and offer electronic settlement and clearance services with utmost transparency. All transactions are recorded to provide a clear audit trail.

2. Stock Holding Corporation of India Limited (SHCIL), has the capability to offer custodian services to all securities traded in the exchanges. In addition, what is most important is that SHCIL has the capability to perform clearance and settlement on all bond trades. SHCIL keeps an error-free audit trail which starts at the time when sales and purchases are reported by stockbrokers.

3. Securities Exchange Board of India (SEBI), has a genuine interest in regulating the securities industry.

4. The Infrastructure Leasing and Financing Services, Ltd. (ILFS), is pioneering the development of infrastructure projects with private participation and the financing of those projects in the bond market, at competitive investment rates. While public sector institutions, including municipalities and development lenders, have limited or no capability for sustained infrastructure management, this market-oriented financing institution has made some successful attempts to convince selected municipalities to circumvent traditional public administration procedures, enter into partnerships with the private sector.

These institutions have the willingness and capacity to provide transparent trades, speedy settlement and clearance, assume custodial and depository responsibility, become the sponsor, and make a market for the instrument at a low reasonable cost. ILFS has initiated a new process of infrastructure financing in India and is ready to continue expanding it.

The other component of the FIRE project is addressing capital market operations, policies and framework. In this component of the FIRE project the focus is on difficulties encountered specifically in the channel of distribution of infrastructure bonds.

Constraints for placing infrastructure bonds in the private market

Several difficulties were identified but all of them stem from two major constraints for opening a channel between potential bond investors and project based revenue bonds to be developed under the debt/infrastructure component.

One major constraint for opening channels between potential bond investors and bond issuers is the lack of financial communication and ability to interpret and evaluate financial information.

A wide base of expertise in financial analysis is important. No amount of disclosure and transparency can be effective unless professionals receiving the information are capable of analyzing it critically and objectively. This constraint can be surpassed by making financial analysis training available to a wide range of professionals such as accountants, regulators, practitioners, and government officials. Furthermore, understanding bond markets and managing bond portfolios require skills which depart from securities analysis and trading.

Another major constraint is the need to re-evaluate urban infrastructure management and financing in the context of private participation. It has been established that the linkage between bonds and infrastructure projects can only be determined through commercially viable projects in which the private sector is involved from the inception of the project in its entirety, not only at the time of financing.

Resistance to private sector involvement should be expected. Although local governments may be amenable to private financing of infrastructure projects because their budgets are strained, at planning time they are reluctant to relinquish their authority to private technology and expertise. Consequently, infrastructure bonds need to be designed very carefully on the basis of the commercial viability of the underlying asset.

Opportunities for the development of a sound infrastructure financing procedure in the bond market

Assistance is needed by the intermediaries listed above in order to clear the channel for effective infrastructure financing. OTCEI and SHCIL have already received timely assistance from USAID, and will continue to receive it along with SEBI, as described in the capital markets component of the FIRE project.

ILFS presents a new opportunity for USAID to continue to strengthen and broaden the infrastructure financial capacity of India through the domestic bond market.

The Infrastructure Leasing and Financing Services Ltd. (ILFS)

The success achieved by ILFS in infrastructure financing lies on the fact that the company pioneered the concept almost single-handedly. ILFS is a for-profit, quasi privately owned, but run as a private commercial concern. Given the constraints of the Indian public administration environment and, being a self-financed firm with its own limitations of time, money, and personnel, ILFS has done an heroic effort to structure commercially viable urban service infrastructure projects to be financed in the securities market at commercial investment rates.

Constraints of ILFS

Although ILFS has achieved remarkable business success breaking ground in infrastructure financing, it does not have the capacity, at its own expense, to lay the foundation for a new concept in infrastructure development and assume the responsibility of disseminating the information throughout India.

However, this constraint presents a unique opportunity to use the experience, even if short and small relative to the task ahead, of ILFS to jump start and accelerate the project demonstration and replication process sought in the FIRE project.

The ILFS projects cited as examples in Chapter Three offer a good illustration of the plethora of viable projects of this kind which exist in India. The Mahadya Pradesh model trust devised by ILFS for the first urban services commercial project to be inaugurated in August 1993, is but one small scale undertaking (\$2 million dollars) used to break ground with a new concept.

While building upon the success of ILFS in pioneering private sector participation in urban services, it is important to advance the concept further and set the basis for a more systematic infrastructure development and financing approach to a variety of projects which can be financed in the bond market. Although FIRE can only concentrate on selected municipalities and projects, the systematic approach that will be developed will serve as an example for demonstration and replication in other municipalities.

Other Institutions

In order to achieve wide dissemination and adoption of infrastructure development and financing techniques, it will be necessary to involve other financial and urban development organizations to complement the work of ILFS. Furthermore, if ILFS is

expected to tackle larger and more complex projects than they have in the past, they need to acquire specific specialized expertise.

If ILES should be selected as the IG borrower for this project, this firm could make a significant contribution to the education of other infrastructure sponsors and financial intermediaries by providing what could be termed "laboratory conditions" under which to acquire hands-on experience. This idea is elaborated in Chapter Five.

CHAPTER THREE

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Using the examples developed in Section 1, the contractor shall assess the potential for initial private placement of project based revenue bonds and the subsequent conclusions and make recommendations on how the HG and grant funds can best be utilized to accomplish the goals and objectives of the project.

I. Illustrative Examples Of Commercially Viable Infrastructure Projects

A search for illustrative projects following the suggestion of the Ministry of Urban Planning, HUDCO and selected municipal governments produced mixed results. (That research was undertaken earlier by local consultants.) An interesting realization was that none of those institutions was able to discern between a commercially viable project to be financed at market rates and a project labeled "financially" viable by the lender bank.

By and large, the public sector in India does not have the capacity to evaluate projects commercially. This is a surprising finding because some of the municipal development agencies appear to be very well managed and self-financed without major government subsidies. One case in point is the City and Industrial Development Corporation of Maharashtra, Ltd. (CIDCO). As the development arm of the State of Maharashtra, CIDCO is the self-financed developer of the New Bombay area, which is growing with great speed and success.

CIDCO finances itself through lower-than-market rate loans from HUDCO and private placements sold to institutional investors. The debt is serviced from the substantial revenues received from the sale of serviced land, rentals from commercial space developed area, and fees from public services. By Indian standards CIDCO is considered one of the most successful public urban developers in the country.

However, due to the distinct financial structure of CIDCO, it was difficult to discern which projects in its portfolio could serve as an illustration project under the FIRE Project.

At the other extreme from CIDCO, there are municipalities less progressive and less prosperous than New Bombay, which are not familiar even with the most elemental municipal borrowing mechanisms because their deficits are covered by government grants.

Projects described below in the Attachment to this Chapter have been identified by ILFS and probably will be implemented by ILFS as sponsor. These projects are not necessarily those which will be identified by the FIRE project for implementation. These projects are merely an illustration of the kind of infrastructure financing that can be undertaken in India.

II. Use Of The IIG In Commercially Viable Infrastructure Projects

IIG funds can make a significant contribution to the implementation of commercially viable infrastructure projects in India. More importantly, without IIG funds available

for that purpose many critically needed projects will not be undertaken, even if they do have commercial potential.

A. Why can't commercially viable projects be financed entirely by the private sector?

It is erroneous to think that if a project is commercially viable a free market system will promote it and finance it. A decade ago, at the beginning of the privatization trend started in the UK, it was believed that the private sector would flock to take over public companies and services as soon as laws permitted it. In some instances, such as telecommunications, this trend may still continue, but rarely is it evident in urban infrastructure services. Outside assistance is needed to bring the latter to fruition.

Experience has shown that an additional effort is needed by the public sector, notably with the prodding and assistance of donor agencies, to ignite a process in which governments must still play an important role, not in spite of the private sector involvement but largely because of it.

B. Technical Assistance

Private/Public partnerships must be carefully crafted on the part of governments for two important reasons. One is the fact that the position of the government can not weaken for lack of expertise in dealing with seasoned private companies, both domestic and multinational.

The other reason is that the private sector can not afford to incur the large, unrecoverable expense of identifying and planning public services which are marginal with respect to commercial viability.

Donor assistance in this area must focus on structuring comprehensive programs, with negotiated benefits, payments and guarantees, which weigh fairly to all the participants in the deal, including the serviced population.

C. Financial Assistance

In many instances, in order for projects which include a large social component to become commercially viable additional funding is required to jump start the process and attract long term financing. One example is construction loans. The cost of this temporary form of financing is recovered at a later date when toll or fees for the service are collected. However, if the cost for the temporary loan is too high, the balance of project earnings available to pay bond and stockholders diminishes and the project may cease to be commercially viable.

Another example, is the contribution of seed money to attract other investors and co-sponsors. Infrastructure projects usually can not be viewed in isolation but rather must be considered in the broader context of urban development. The magnitude of such projects, especially in India where the need for urban infrastructure is critical, require financing from several sources of capital. The HG will be an essential component of the early financing of the project, in order to attract funding from other sources.

In many instances the HG will be used as temporary funding of a project. This means that HG funds can be reused repeatedly for the benefit of jump starting a number of projects. In this sense, the benefits from the HG will be multiplied through a larger number of projects affected.

D. Why private participation in public services?

Because governments have found that they can no longer afford to provide the level and quality of infrastructure services required to improve the quality of life of all people. Lack of public funding will become even more acute in the future. Governments need private investors to build, operate, and finance public services.

E. Why seek financing, both debt and equity, for infrastructures projects in the securities market?

From the standpoint of the project, because more funds at a lower cost can be raised in the securities markets than through direct loans.

From the standpoint of the economy as a whole, because projects will be closely scrutinized by the market, far more rigorously than by a government-subsidized lender. A result, those projects that are undertaken will fully justify the allocation of resources. Those which are rejected by the investing market should be reconsidered. Some will be determined to have exclusively social value and should either be attached to and receive a cross subsidy from another commercially viable project or, if this is not possible, be subsidized totally by a government entity and financed out of tax revenues.

III. Suggested Instruments And Techniques For Project Financing In India

The array of interest rate techniques, instruments and protection devices has expanded rapidly in the last few years and will no doubt continue to do so in the future. These devices can be used with many types of borrowings in project financing to recast the interest rate and currency risk.

The Indian market has the necessary liquidity to accept these strategies and many more. Also some Indian professionals who operate in the securities markets already

have the expertise to adapt new instruments to the local environment. However, these finance professionals are only a handful of people who work in a competitive financial environment and are not inclined to divulge their expertise. The level of financial sophistication needed to design techniques and instruments to conform to the project and the investor, is not available at other than the highest level of finance in India nor to private sector developers, investors, and government agencies at the national, state, or municipal.

Following is the description of some suggested financial techniques and instruments that could be used in India for infrastructure financing.

- **Co-financing and complimentary financing** is traditionally used in connection with international development bank loans, but it is applicable in cases where financing comes from different sources, whether official funding is involved or not. The idea is for the donor agency to provide seed money for the project to encourage the participation of private and official investors by enhancing the solvency and perceived credibility of the project.
- **Bankers acceptance securities** to back up letters of credit extended through the construction period. The letter of credit guarantees payment to the supplier of goods and services. The issuance and backing of the letter of credit is performed by a bank. The document generated is a security called "Bankers Acceptance", which is traded in the debt market.
- **Global Depositary Receipts (GDR's)** are similar to the American Depositary Receipts (ADR's) in that they are certificates of ownership of securities issued in the country of origin but they are traded globally as well as domestically. This mechanism, as proved by the extensive use of ADR's, is an important mechanism to stimulate local markets and obtain international funds.
- **Caps, floors, swaptions and callable swaps** are all interest rate protection devices. The purpose is to enable a project to match assets and liabilities, whereby a project can reassemble the payment streams on debt to match the income streams on an asset.

Caps or floors enable the issuer to lock in a defined upward or downward risk exposure to floating rate. They can be either attached to a floating rate debt issue or purchased separately. Swaps enable an issuer to lock in a specific funding rate. A swaption is an option on a swap which gives the owner of the swaption the right to enter into a swap at a certain rate at some defined time in the future.

- Another variation is the **Stripped Floating Rate Note with a Cap**. These capped notes were developed to provide issuers and buyers with different advantages.

The issuer is protected if interest rates rise above the cap. The buyer receives a higher rate for the benefit accrued to the issuer. The caps which represent a privilege, or an asset to the issuer, can be stripped and sold back to the investment banker. In turn, the stripped caps can be resold to another lower graded company (such as a infrastructure project) which could have not otherwise have obtained capped rate financing. This strategy only applies when there is probability of raising interest rates.

Zero coupon bonds. These are deep discount bonds. The issue price of the bond at the time of purchase is much lower, depending on term and discount rate, than the par value received at maturity. This opens a wide range of possibilities for using these bonds in project finance, from guaranteeing another obligation with equal maturity, to covering zeros into regular bonds or equity once the project is well underway and producing profits sufficient to cover redemption or conversion. The key feature is that a small disbursement is needed to purchase a zero coupon bond at a time when the project has no cash flows. The small disbursement buys a guarantee for another investment until the project is capable of retiring the debt.

IV. PPI Projects: A Special Case of Public/Private Infrastructure Partnerships

The entire Asia region is undergoing massive economic development and expansion. Rapid economic expansion translates into a need for massive development and infrastructure projects. It is estimated that this region, excluding Japan, will generate more than \$500 billion worth of infrastructure projects in the next five years.

The need for capital investment is large and requires enormous funding. The realization that alternative strategies must be employed in developing new infrastructure, and maintaining and modernizing existing facilities, has led to the use of public/private infrastructure (PPI) partnerships throughout the world, and primarily in Asia. These public/private partnerships often employ the use of Build Own Operate (BOO) and Build Own Transfer (BOT), and other variants of private sector participation in infrastructure development that promote a greater amount of risk sharing with the private sector and market discipline in project identification, financing, management, and implementation.

The basic characteristic of PPI is the establishment of arrangements by the government to grant long-term, irrevocable concession agreements or franchises to private investors, authorizing them to build, own, operate needed infrastructure, in return for an exclusive contract to provide services over a time period sufficient to amortize the capital investment costs.

A. Public/Private Partnerships in India

In the context of new market-oriented policies of the GOI and the need for attracting foreign direct investments and technology, the provision of infrastructure is a key prerequisite for the success of the new economic policy. It is in this context that the GOI has now sought the participation of the private sector in core fields of infrastructure to provide, in a spirit of partnership, financial, managerial, and technical resources.

India possesses many of the characteristics that will determine the successful implementation of publi/private partnerships, notably:

- a) a desire to promote investment in non-traditional sectors,
- b) a growing demand placed on existing infrastructure and a recognition of the importance of new, more efficient systems,
- c) a growing reputation as an attractive investment location;
- d) a firm commitment by the GOI to promote market-oriented approaches to economic development;
- e) high savings rate; and
- f) most importantly, an active capital market which has gained depth considerably since the early 1980s.

B. Guidelines for Successful Public/Private Infrastructure Partnership schemes in India

A feature of PPI programs that should be kept in mind is their particular suitability for financing the capital construction cost of infrastructure projects for which technical, economic, and financial feasibility can be determined. Private investors will become interested in undertaking such projects to the extent of their capacity to generate a revenue stream that can be captured, and applied to the amortization of the capital investment funding. This would typically include such projects as bridges, tunnels, power plants, ports, airports, trunk highways, telephone systems, water treatment and waste water treatment plants, and so on, but need not be limited to the examples given.

Another important feature of PPI is that it uses the creditworthiness, management capacity, corporate track record, and "financial stamina" of the private investor company (either with or without a local joint venture partner); and often includes participation of the construction contractor. What is crucial

is that the private investor is the borrower, not the host country ministry of statutory agency of the government.

Since the project is financed through non or limited recourse credits, the lending institution needs to be assured that the owner/investor has been awarded a monopoly or an exclusive franchise or concession agreement to own and operate the facility for a time period at least long enough to permit amortization of the construction loan.

Included in this franchise or concession must be the right of the private investor to capture all or most of the revenue in the form of tolls or tariff paid by the users, and if necessary a Central Bank commitment assuring full convertibility into dollars or other hard currency to permit servicing of the loan; foreign exchange costs of routine operation and maintenance; and the capacity of making periodic remittances of dividends to shareholders from profits.

The principal appeal of this arrangement to a developing country or one in transition to a market system, especially one already heavily in debt to commercial banks or international donor agencies, is that the country does not have to assume any additional sovereign debt to get the project built. Another advantage to the country in addition to this avoided cost, is the greater likelihood - especially if the concession agreement is awarded on an open competitive basis - that the investor will utilize the latest "state of the art" technology, assuring optimum efficiency and effectiveness. Projects will be selected for implementation which meet clear economic and developmental needs, diminishing the possibility of "white elephants" or boondoggles. With performance parameters and cost containment built in to the selection and award process, the public is more likely to receive reliable services at high quality.

The advantage to the lending institution is that it does not have to rely for repayment upon a heavily indebted country which may already have been obliged to reschedule or roll over its foreign loans, but rather will get repayments from a reputable and prosperous company. The advantage to the investor is that his concession agreement assures him a protected market and revenue stream, and he will be in a better position to protect himself from the non-performance or possible corruption of host government officials.

One way of characterizing PPI is that it is a way of re-apportioning the costs and benefits of providing socially necessary public services for which the government has the responsibility to assure, but for which it may lack the financial, managerial, or administrative capacity to deliver. Under PPI, there may be some sharing of the revenue with the government, or alternatively, the government may benefit from collection of corporate taxes or fees. There is

also the assurance that the labor complement is likely to be appropriate in numbers and skill levels, to the performance needs of the facility, rather than the political requirements of the administration.

C. Implementation

A technical entity within the country will be required to inform the political leadership, promote public awareness and gain popular approval for the inauguration of such a PPI program. This involves more than the mere preparation of invitations to bid or advertising "Requests for Proposals" to solicit the interest of prospective investors to provide the desired facilities. In fact, lessons learned from world-wide experience show that the first step is to establish an explicit program and set of procedures to create a transparent framework for carrying out the program.

The architecture of such a PPI framework should include but not necessarily be limited to:

- An approving public policy and institutional framework, especially at the municipal level.
- A legal structure that minimally includes basic contract law; protection of property rights including intellectual property; some mechanism for dispute resolution; and information about corporate tax, import licensing, customs clearance, and related business practices.
- The existence of minimum financial and capital market structures required for the conduct of business activity including established Central Bank regulations and procedures for foreign exchange remittances.
- An authoritative and technically capable government mechanism for project identification and pre-feasibility determination, i.e., setting of priorities.
- A system for establishing agreed performance specifications to permit the conduct of a project solicitation, evaluation and competitive award process; and procedural arrangements for receiving, validating and assessing unsolicited proposals.
- A plan for confirming investor compliance with the conditions incorporated in his proposal, throughout the construction and thereafter, by performance monitoring.

Design and installation of such a program must be performed by knowledgeable and experienced specialists with credible expertise. This should be done by persons with hands-on, market-tested, international experience in each of the relevant disciplines.

Required are experienced, senior-level policy advisors, supported by legal, financial, engineering, and production experts fielded in multi-disciplinary teams to identify the most promising investment prospects; perform pre-feasibility analyses of a prospective portfolio of "PPI" projects, define the constraints and develop remedies for their resolution, and perform the related public awareness tasks of designing executive seminars for policy-level officials, and broader based public information programs for the implementing ministry officials, domestic and foreign investors, managers, banking, capital market, and administrative officials whose coordinated interaction will be needed to implement the program.

D. Objectives for an urban Infrastructure Program in India

It is recommended that the objectives of the program be set forth early on by the MOUA, USAID, the municipal governments and project sponsors. Suggested program objectives are:

1. To build the inventory of feasible public infrastructure projects according to a carefully planned identification process, including technical analysis in engineering and finance.
2. To promote and market viable capital projects to a broad group of potential private sector players, ranging from construction design to individual investment.
3. To develop the capacity in selected localities in India to identify, analyze, implement, and monitor projects in a sustainable manner.
4. To structure and match projects with potential sources of finance, primarily by financially engineering marketable instruments to be traded in the bond market.

In order to achieve those objectives there must be an enabling environment, not only at the national level but, most importantly, at the municipal level. In India three principal indicators must be satisfied in order to realistically undertake public/private partnerships, which will generate commercially viable projects. They are:

1. Policy and Institutional Environment

Without enlarging the existing bureaucracy, there must be institutions and procedures which support public private partnerships. If this receptivity does not exist, then it must be created through informative training and further developed through hands-on experience and training. Otherwise, it would be difficult, if not impossible, to structure commercially viable projects which can support a public bond issue.

2. Business Operating Environment

Generally it is not enough to promote the transfer of public assets to the private sector nor to encourage institution building to support private transactions. It is equally critical to demonstrate that the operating environment for business undertakings is sound and will sustain over the life of the project.

For example, once the PPI project is approved and constructed and enters operation, the success of the project relies on three principal factors: a) the efficiency of the operator in performing his services, b) the performance by government to discharge its obligations, and c) the responsiveness of the market to utilize the service in question. Awareness and training programs are essential to create the adequate environment.

3. Demand for Services

Clearly, an important indicator in determining program and project viability is the demand for the service in question. What is critical is the structuring of the project and related agreements so that the risks are shared and mitigated so as to promote long-term viability and a capacity to absorb external shocks affecting its market.

In India the demand for infrastructure exists and a number of projects, if structured well, could be developed to meet existing demand. However, the question of what the consumer can afford to pay must be evaluated on a project by project basis. A service in some areas can be cross subsidized by another source of income, as illustrated in the Tirripur sewage and water project, while the same service in another area cannot. This is the reason why careful project identification, screening, and structuring must be done so that projects are geared and priced to succeed.

E. Guidelines for Project Identification and Analysis: The Key to Successful PPI Transactions

In order to ensure that project objectives and outputs are achieved, viable demonstration projects must be forwarded. There is ample precedence illustrating the wisdom of focussing best efforts on achieving a viable first demonstration projects. All one must do is review the transaction history of countries that have successfully introduced privatization such as Malaysia, Mexico, Chile, Pakistan, etc., to confirm that successful demonstration project implementation formed the basis for overall program success.

The implementation of successful public/private partnerships through PPI demonstration project is no different. Indeed, the privatization of public services through PPI may depend even more heavily on successful demonstration projects due to their complexity and innovative qualities. Moreover, projects in areas such as water supply and treatment, as well as solid waste areas require special consideration in the project identification and analysis stage due to their unique project structure and the unfamiliarity on the part of the consuming public with paying for service in these sectors.

Experience in identifying, structuring, and implementing PPI projects has revealed that it is the selection and determination of viable demonstration projects that is the greatest constraint to project implementation in developing countries. Countries that have had difficulty in implementing PPI projects such as Turkey, Thailand, Philippines, Pakistan for example all selected initial project candidates that were far too difficult from a financial, economic, legal, and technical nature to be completed successfully and expediently. In the case of th Philippines and Pakistan this has been one of the central lessons learned and has led to a greater focus placed on qualitative project selection criteria being introduced.

In order for a successful PPI project to emerge in India, a project candidate must meet at a minimum, a certain threshold of criteria that determine if it can advance on a PPI basis. This "minimum standard" of compliance ensures that projects that are forwarded are compatible with the requirements for successful PPI implementation. This would include:

1. There is a quantifiable market for the service in question.
2. That sufficient revenues can be developed and that the income stream can be captured with minimal political and financial risk.
3. That the political will exists to develop and support the project over a long period of time.
4. That the public is willing to pay a "market" price for the service in question.

5. That no new or untested technology is essential to successful project performance.

6. That the project can be financed on a non or limited recourse basis.

7. That the complexity of the project is not so overwhelming that the timetable can not be realistically met, thereby rendering null any demonstration value.

There are a number of other project characteristics that will need to be assessed for any project candidate to advance through the screening process. At each level of project profile, pre-feasibility, and feasibility analysis, either conducted by government or project sponsor, projects will be asked to meet even more detailed standards of qualification. These include financial, technical, economic, legal, and environmental standards of analysis. Importantly, all demonstration projects require a project structure that will ensure success. Experience has shown that a project can be structured to increase the likelihood of success if that is the overriding objective.

Structuring Demonstration Projects for Success

In order to realize success and legitimize the public/private partnership model for subsequent transactions, most projects will need to be structured so that the chances of project success are enhanced. Typically, this calls for a greater sharing of the risks and responsibility between government and the private sector that might ordinarily be required in future transactions. In fact, one objective of PPI in the long run is to promote projects that can stand alone. However, initially, projects will require some degree of support that can help to mitigate risk while at the same time still achieve many of the objectives of PPI in India.

The types and forms of support that will likely be required in India to support demonstration projects may include:

1. Political and Bureaucratic Support
2. Fast-Track Legal Framework
3. Assured Supplies, Dedicated Assets
4. Assured Revenues: Take or Pay Arrangements
5. Loans or Equity Contributions
6. Earning Assets
7. Fiscal and Commercial Incentives
8. Right of Way or Eminent Domain Assistance

Project

Illustration Projects for the IIG

1. Fuel Pellets from Garbage Disposal
2. Tirrupur Infrastructure Improvement Project
3. Veeranam Water Supply Scheme

Illustration Projects other than the HG

1. Delhi-Noida Toll Bridge
2. Light Rail Transit (LTR) System in Hyderabad
3. Worli Bandra Link Bridge
4. Example of a completed public/private partnership:
The Rau-Pithampur Toll Road, Madhya Pradesh

FUEL PELLETS FROM GARBAGE PROPOSAL

Sponsor: ILFS

Investment: \$66 Million

Expected Net Present Value of Cash Flows (in millions \$):

Discounted	at 12%	\$ 94
	at 16%	\$ 82
	at 20%	\$ 70

Expected award of contract for design, construction and management: Not determined

HIGHLIGHTS OF THE PROJECT:

The proposal is for establishing a facility to tap the dormant energy in Municipal Solid Waste (MSW) for useful purposes. This project involves the expansion of a plant that converts solid waste into free burning fuel pellets.

The burning characteristics of the fuel can be tailor made within a certain range by resorting to blending other waste material. The process is flexible enough to accommodate different blends and produce fuel pellets of different characteristics and thus take care of changes in supply and in demand.

Once fuel pellets are made from the garbage, this fuel can be used in a conventional steam power plant for steam and power generation. Thus, we can stop at developing a primary source of energy from garbage viz. fuel pellets, or go ahead and generate steam and power, depending on the local requirements.

The basic problem that is being solved here is in the realm of providing a clean environment in urban centers. The burgeoning problem of garbage disposal is converted into an energy asset.

waste1

TIRRUPUR INFRASTRUCTURE IMPROVEMENT PROJECT

Sponsor: ILFS

Investment: \$75 Million

Expected Net Present Value of Cash Flows (in millions \$):

Discounted	at 12%	\$ 125
	at 16%	\$ 98.3
	at 20%	\$ 79

Expected award of contract for design, construction and management: January 94

HIGHLIGHTS OF THE PROJECT:

The most remarkable characteristic of this area is that, in spite of being one of the busiest manufacturing center of export goods in India, it has no water and sewer system, and inadequate roads. The population is mostly composed of workers in the manufacturing industries.

People now pay water tank trucks Rs. 30 per 1000 liters. Once this project is operational, they will pay only Rs. 2 per 1000 liters. Commercial consumers will be charged Rs. 15 per 1000 liters. A mechanism has been devised by the sponsor whereby the water charges will provide a cross-subsidy for the sewage.

The Government of Tamil Nadu, Tirrupur residents and industry, and ILFS have provided the necessary equity investments. Bonds will be issued to cover the balance in the same fashion as the Madhya Pradesh model trust.

VEERANAM WATER SUPPLY SCHEME

Sponsor: ILFS

Investment on improvement of existing system: \$30 Million

Investment on pipes and distribution system: \$150 Million

Expected Net Present Value of Cash Flows (in million \$):

Discounted	at 12%	\$310.0
	at 16%	\$256.0
	at 20%	\$205.0

Expected award of contract for design, construction and management: January 94

HIGHLIGHTS OF THE PROJECT:

One of the interesting characteristics about this project is that it was on the drawing board for more than 20 years. Finally, the city of Madras has reached a critical stage of water shortage, and faced with scant public funding, is undertaking this project as a public/private partnership. This is another illustration of the increasing receptivity of municipalities to enter into commercial agreements with the private sector in the face of a crisis.

BACKGROUND:

- Madras city depends on a single monsoon for meeting the drinking water requirements of nearly 5 million citizens. Even in years of normal monsoon, per capita availability of potable water at 70 liters per day is the lowest among metropolitan cities in India.
- On account of the failure of the 1992 monsoon, the city is currently grappling with serious water shortage, and the per capita availability has fallen to a low of 35 liters per day.
- There is thus a need for a reliable supplementary water source to meet the requirements of this fast expanding metropolis.

DELHI - NOIDA TOLL BRIDGE

Sponsor: ILFS

Investment: \$250 Million

Expected Net Present Value of Cash Flows (In million \$):

Discounted	at 12%	\$110.0
	at 16%	\$ 72.2
	at 20%	\$ 50.0

Expected completion date:

HIGHLIGHTS OF THE PROJECT:

Noida Area is an integrated industrial township established by New Okhla Industrial Development Authority (NOIDA) in close proximity to Delhi, across river Yamuna. Noida is mainly dependent on Delhi for various civic amenities including socio-economic aspects. Presently, the link between Noida Area and Delhi is through two bridges namely Nizamuddin Bridge and Okhla Bridge cum Barrage which is of very little convenience due to its odd location and alignment with Delhi outskirts.

This bridge will be constructed under the same scheme as the Madhya Pradesh Trust (MPT). However, the size of the project is larger than the original MPT and its financial structure more ambitious. Also, the engineering work was bided in an international tender. Kampsax, a Danish consortium, was the firm selected to do the engineering work. The feasibility study and detailed project report will be finished in early 1994, and construction will be completed within one year thereafter.

Bonds and shares will be sold directly to the public with ILFS as the market maker. The securities will be listed on the OTCI, the only market which has a two way quote system and transparent transaction system.

The offering memorandum is being prepared. The Asian Development has committed \$2.5 million to equity shares and \$10 million to bonds.

Delnol1

LIGHT RAIL TRANSIT (LTR) SYSTEM IN HYDERABAD

Sponsor: ILFS

Investment: \$250 Million (TOTAL); \$120 Million (First Segment)

Expected Net Present Value of Cash Flows First Segment (in millions \$):

Discounted	at 12%	\$249
	at 16%	\$192
	at 20%	\$155

Expected completion date first segment of the line: Mid 1998

HIGHLIGHTS OF THE PROJECT:

The financing and legal structure of this transportation project is patterned after the Madhya Pradesh model trust.

An Urban Mass Transit Corporation has been created. The Board of the corporation is composed of representatives from the Government of Andhra Pradesh (AP), the Ministry of Urban Development, the sponsor, and business and private members of the community.

The Chief Executive Officer and four other officers are professionals appointed by the sponsor. The rest of the management structure is based on recommendations contained in the feasibility report. It is important to note that the professional team has been recruited internationally and will be responsible for the timely completion of the project.

Revenue will be generated from many sources: ticket sales, advertising space, and the rental of business retail space.

Construction and operation will take place in stages. At the end of each stage construction loans will be paid with proceeds from the sale of equity shares and bonds. Government of AP will guarantee a determined level of revenues.

The offering memorandum is not yet available, but there have been many expressions of interest from a wide range of investors. It is expected that a large portion of the securities from this project will be sold retail as well as institutional. Additional credit will be available from multilateral and national export import banks.

worli

WORLI BANDRA LINK BRIDGE

Sponsor: ILFS

Investment: \$90 Million

Expected Net Present Value of Cash Flows (in million \$):

Discounted	at 12%	\$198.0
	at 16%	\$130.0
	at 20%	\$ 92.0

Expected award of contract for design, construction and management:
November 93

HIGHLIGHTS OF THE PROJECT

The city of Bombay is the capital of the State of Maharashtra and considered the financial center of India. Owing to historical reasons, economic activities developed and concentrated in Bombay Island, which is narrow and long on a North-South axis and has only 1.65 percent of the area of the Bombay Metropolitan Region (BMR). At the macro planning level, efforts have been made to shift economic activities out of the Island and transport links continue to be developed to facilitate this.

Though the Government of Maharashtra's (GOM) Public Works Department (PWD) initiated preliminary design work on sections of the West Island Freeway, the magnitude of costs involved raised questions about the priority of the investment, when there were other demands for Government funds. In 1991, the Government of India enunciated a new policy framework which was more market oriented than hitherto. In this context, the GOM decided to give Infrastructure Leasing and Financial Services (IL&FS) a mandate to construct the Bandra Worli Bridge portion of the West Island Freeway, as public/private partnership with limited recourse financing based only on the operation of the project. The project will revert to the State in a number of years once the investment has been recovered. This project will be structured financially and legally along a similar pattern as the Madhya Pradesh model trust.

SCOPE OF THE PROJECT

For the Bandra-Worli bridge portion of the West Island Freeway to be viable as a tolled, "stand alone" project, all the major potential traffic streams must have access to it and sufficient benefits should accrue to these streams through the use

of the bridge to encourage the paying of tolls. With this criterion in mind, the construction of an alternative tolled North-South artery referred to as the Mahim-Bandra-Worli (MBW) Freeway is planned.

As the MBW Freeway is planned to be commissioned on January 1, 1997, it is imperative that conceptual designs for such an interchange should be evolved now and that a two-stage tender should be called for the proposed flyover.

Project Implementation and Organizational Matters

An "Empowered Committee" should be established to provide quick decisions and clearances for the project. The Committee should have senior representatives from the Government on it and has to work eclectically to make this first, major public/private participation project in road infrastructure a success. Only then can the Freeway become a precursor for other similar investments. All the parties concerned must have a clear idea of time schedules and the point at which decisions need to be taken by various agencies.

The establishment of a separate Freeway Corporation has been recommended to collect tolls and maintain the Freeway properly. The Corporation could carry out these functions itself, or through sub-contracting, whichever is found more cost effective.

The Corporation would have a legal agreement with the Government, permitting the extension of the toll franchise period, to avert the risks of financial losses occurring in the event of less traffic developing on the Freeway than expected. Legislation was issued recently permitting tolling in public/private participation projects.

madhyap

EXAMPLE OF A COMPLETED PUBLIC/PRIVATE PARTNERSHIP

THE RAU PITHAMPUR TOLL ROAD, MADHYA PRADESH

Sponsor: ILFS

Investment: \$2 Million

Expected Net Present Value of Cash Flows (in million \$)

Discounted	at 12%	\$3.9
	at 16%	\$3.2
	at 20%	\$2.75

Expected completion date:

Highlights of the project:

This toll road project was conceived two years ago and will start operation in August 1993. It was designed to be a ground breaking example of a public/private partnership in the provision and financing of urban services.

This is a commercially viable project in the sense that it was financed at market rates, with equity investment by the sponsor and debt instruments fully subscribed by institutional investors at market rates. The debt instruments do not conform to SLR requirements, therefore they were sold strictly based on investment quality.

What is most noteworthy about this project is that it demonstrates the application of a special purpose investment mechanism which is viable and can be replicated.

STRUCTURE OF THE SPECIAL PURPOSE INVESTMENT MECHANISM

A model for financing urban services.

Capital Structure:

There are two tiers of capital. One, senior debt in the form of bonds sold entirely to institutional investors. Two, capital in the form of participating certificates paid by the sponsor of the project, which represents equity and is subordinated to the senior debt.

Levels of seniority and priority payments

- 1) Interest on senior debt (coupon payments).
- 2) Retirement of the principal of senior debt (bonds).
- 3) Dividends on participating certificates (PC's).
- 4) Retirement of PC's principal.

Bondholders may choose not to receive their principal until maturity, in which case dividends are paid on PC's, and levels of seniority (2) and (3) are reversed.

In the particular case of the Rau-Pithampur Toll Road, the senior debt, although packaged as marketable bonds, was placed directly with institutional investors because this project was designed when the Over the Counter Market of India was not yet fully operational. It is expected that as the OTCI gains depth, bond flotations and secondary market activity will be greatly enhanced. The debt debentures of subsequent projects will be taken directly to the auction/order debt market for sale to both institutional and individual investors.

There is a ready demand for infrastructure bonds among individual investors, both as direct sales or indirectly through mutual funds. The consensus among financial intermediaries in Bombay is that the high savings rate of a growing middle class will create a demand for quality, stable investments, such as infrastructure bonds.

Capital structure of the Rau-Pithampur Toll Road:

One third of the required capital was contributed by the sponsor; the remaining two thirds were sold as unsecured bonds paying a coupon rate of 17 percent. The entire bond issue was subscribed between March and June 1993. Since this was considered an experimental issue, a wide distribution of investors was sought. The issue, although small by securities market standards, was sold to the Industrial Bank of India (IDB), Citibank, General Insurance Corporation (GIC), Life Insurance Corporation (LIC), and HUDCO.

Construction period financing was provided by the sponsor, who also made a commitment to become market maker for this issue in the secondary market.

The bonds are guaranteed by ILFS, the sponsor, for a premium of 10 percent payable at maturity. However, investors may decide to forego the guarantee once the cash flows from the project prove to be sufficient to cover coupon payments and payment of principle. In this case the premium will be prorated up to the date the guarantee ceases; this will increase the bond yield above the 17 percent coupon rate.

Legal structure of the Rau-Pithampur Toll Road:

A Trust was formed to manage and hold title of the project. The Board of Trustees is composed of the sponsor of the project and members of the community. The Trust entered into a concessionary agreement with the local government, which bestowed on the Trust the right to levy a toll and apply it to the retirement of debt. After ten years the assets in the Trust, in this case the toll road, will revert to the government.

This is an excellent example of a commercially viable toll road, the structure of which can be replicated in other communities.

Highlights of the infrastructure trust financing mechanism :

- A successful public/private partnership, where the public sector acquiesced to the initiatives of the private sector.
- A public service - transportation - financed at commercial market rates.
- A Board of Trustees which includes community members and respects local cultural and social customs.
- Capital improvements for the benefit of the community which the government could not have been able to afford without raising funds in the capital market.
- Assets owned by the community, in trust until the investment is paid off, and in perpetuity thereafter. In essence, only the construction and financing was "privatized". The assets revert to the community once the financial obligations have been met.

In order to arrive at the successful completion of the Rau-Pithampur Toll Road it was essential to have, at one end the willingness of the local government to participate and support a new initiative. At the other end there had to be investors who evaluated the returns from the project to be comparable to or more attractive

than other investments. Mediating this process there had to be a sponsor responsible for designing the right financial and legal structure to fit the particular needs and desires of the other parties.

In this particular case the securities market channel was not essential. However, the process will run faster and smoother if the secondary market expands and the investor client base widens.

MADHYA PRADESH INFRASTRUCTURE TRUST

Executive Summary and Status Report:

The State of Madhya Pradesh (MP) is strategically located in Central India. It is one of the fast developing states in the country and ranks fifth in terms of extent of industrialization. It has a significant industrial sector presence with large manufacturing companies. Pithampur Industrial Estate is a major growth center in the State of Madhya Pradesh. It is being developed primarily as a manufacturing base for the light engineering industry.

In the absence of a rail head, Pithampur has to rely substantially on the city of Indore for accessing its raw materials and for the despatch of its finished goods. A good road connection between Pithampur and Indore is essentially for the continuing growth of this industrial estate.

Without the new link road, to commute between Pithampur and Indore by road, one has to travel on the Agra Bombay Road (NH3) up to the cantonment town of Mhow and then by contiguous State highway. Being a restricted area, the cantonment authorities are not willing to allow heavy traffic. They were supportive of the idea of a bypass road constructed between Rao and Pithampur.

The Government of Madhya Pradesh agreed to the construction of a new link road to Pithampur under a toll scheme.

MP Government set up a governing body as Madhya Pradesh Adyogik Vikas Nigam Ltd. (MPAKVN). In turn MPAVN set up for individual sectors in the name and style of Madhya Pradesh Adyogik Kendriya Vikas Nigams (MPAKVN) for speedy implementation of projects. The main objective of MPAKVN is to develop in their sectors industrial growth centers by providing various infrastructure facilities.

The proposed bypass should reduce the distance between Indore and Pithampur by 10 kms as compared to the existing 31 kms circuitous route, hence resulting in multiple benefits e.g. savings in distance, time and vehicle operating costs, etc. Also, since the new route bypasses the cantonment of Mhow, it is expected to decongest restricted areas besides reduce load on the existing NH 2.

The Rau-Pithampur Road comprises of the following components:

- a) A two lane Asphalt Concrete road of approximately 11.5 kms length.

- b) A High Level Bridge of 4 spans, approximately 92 mtrs in length.
- c) Pipe and slab culverts approximately 29 Nos. provided for storm water drainage.
- d) One toll plaza proposed near the bridge with automatic or semi-automatic toll collection system.
- e) Street lighting along the road.
- f) Tree plantation on either side of the road in two rows.

The sponsor provided the funding for the construction of the road under a lease finance proposal, with repayment predicated on toll charges. As soon as the toll collections are adequate to repay the cost of the project and the targeted rate of return, the road will be handed over to the Government of Madhya Pradesh.

The Concept of Tolls on Rau Pithampur Road

The ideas of levying toll on roads is not really new and is an accepted practice in Madhya Pradesh. In fact, the concept of road users paying for the costs they cause is being followed for as many as 75 bridges spread all over the state. These costs include construction, maintenance, traffic management/administration, costs of accidents and damages to the environment, etc.

The principles of equity demand that tolls be levied on various categories of road users in proportion to the level of their usage and benefits extracted. For example, heavily loaded trucks cause much greater "damage" to roads than passenger cars. The levy of toll on the users of the road link is in compliance with the India Toll Act 1851, as made applicable to the state of Madhya Pradesh.

Project Implementation

In attempting a project with private participation in the Road Transport Sector, the GOMP, its agencies and other organizations have entered a field without precedent in India. It was important that the venture was well organized in a timely manner so that the full advantages of BOT format could accrue to all concerned parties.

Principal Terms of Contract

A Tripartite Agreement was signed between MPAVN, MPAKVN II & S for implementation of first private toll road - Rao Pithampur Link Road.

The contract was formulated with a public/private partnership format keeping in view the interest of all the parties involved in the contract.

The land required for the construction of the road was leased to IL&FS till recovery of all dues through toll charges.

Means of Financing

The entire construction period of the project funded by IL&FS through its internal resources. All the expenses incurred for the execution of the work were debited to the project including capitalization of interest during construction period and certain management fees which will be recovered progressively.

MPAVN guaranteed the recovery of all the investment to IL&FS by executing Deed of Guarantee, which will remain valid till all the dues of IL&FS are recovered.

As per the terms of the Agreement, the contract was awarded to MPAKVN for the construction of road, bridge & culverts on turnkey basis.

Private Placement Memorandum

Madhya Pradesh Infrastructure Trust Bond Issue of \$2 Million (US Dollar)

Summary Term sheet

- | | | | |
|----|-------------|---|--|
| 1. | Issuer | : | Madhya Pradesh Infrastructure Trust |
| 2. | Face Value | : | Rs. 1000 |
| 3. | Coupon Rate | : | 17 percent p.a. |
| 4. | Tenor | : | a) Maximum 10 years
b) Earlier redemption of toll cash flows are higher than presently anticipated resulting in pay back period on project being achieved earlier. However, redemption premium remains constant notwithstanding shorter tenor of financing. |
| 5. | Security | : | a) Toll cash flows
b) Unconditional guarantee of IL&FS |

6. Guarantee Terms : a) Redemption premium payable entirely to IL&FS in consideration for provision of guarantee

b) IL&FS guarantee may be waived by simple consent of majority of bond-holders.

7. Waiver Terms : On waiver of IL&FS guarantee at any point in time, unamortized redemption premium at that juncture would be shared between bond-holders and IL&FS under an appropriate formula. For example, if premium would accrue to IL&FS unconditionally as consideration for providing guarantee for 3 years. Balance 7 percent of redemption premium would be shared between IL&FS and bond-holders under a mutually acceptable formula.

8. Rationale : As vehicular statistics and toll cash flows become apparent after the facility operates for a few years, it is possible to more accurately estimate life of project and hence life of bonds. Given the constant redemption premium, the yield to maturity of the bond increases sharply with shortening of tenor.

CHAPTER FOUR

TASK FOUR. The Contractor shall assess the impact of the emerging financial liberalization on the ability to place these bonds, as well as terms and yields of the bonds.

THE IMPACT OF ECONOMIC LIBERALIZATION IN INDIA ON THE SUPPLY OF AND DEMAND FOR INVESTMENTS

The transformation of India from a directed economy to a free market system is progressing steadily. However, liberalization in the financial markets is taken a different course than other sectors of the economy.

I. Resistance to Reforms

Although the Government of India has not issued policies regarding securities markets as explicitly as it has in other areas of the economy, it is evident from official pronouncements that the government supports the liberalization of the financial system including banking and securities markets. However, unlike other areas of policy reform where the government by decree and persuasion may institute changes, in the financial markets there is major resistance to change from the official and private financial intermediaries who want to escape direct government intervention.

The proponents of reform in the GOI are trying to create competition to break the securities business notoriously controlled by the Bombay Stock Exchange, as well as eliminating subsidies to public entities and liberalizing interest rates and foreign exchange, thus causing financial intermediaries to endorse reform by necessity.

II. Supply of Securities: Intensified Competition Among Issuers

The national government is gradually curtailing guarantees to bonds issued by public entities, the PSU's. This means that public entities will have to use their own guarantees to back up their debt issues in the market. The stronger public entities will have an advantage over the less creditworthy public entities, which will have to issue bonds with a higher coupon rate.

The competition among issuers will increase as well because the ready market of PSU's buyers will shrink. The Statutory Liquidity Ratio (SLR) requires that financial institutions invest a portion of their portfolio in PSU's. The Reserve Bank of India (RBI) is gradually reducing the Statutory Liquidity Ratio (SRL) to 25% over the next four years. This measure will cut down demand for PSU's.

Need for municipal funding

As national government guarantees are withdrawn from public corporations and the SRR requirements for financial institutions are reduced, state and local governments are expected to be in particular need to seek financing in the bond market.

Another consideration is that debt instruments require some kind of guarantee either explicitly committed by a guarantor, or implicitly perceived by investors based on the solvency of the issuing entity. In the absence of adequate guarantees, the alternative is to offer a high enough coupon rate to compensate for the risk assumed by the investor.

III. Demand for Securities: Broader Investor Base

In the case of India, the demand for investments is expected to increase, both from private individuals and institutions.

The expectations for the future are that interest rates will not rise substantially. Although competition among issuers of securities will intensify, the usual result of higher interest rates caused by more issuers vying for the same resources, may be mitigated by a larger amount of money available for investment in India.

The amount of financial resources available in India surpasses the level of other developing countries. The domestic savings rate, international transfers from Indian non-residents, repatriated Indian capital, and international portfolio investments, have contributed to increase the size of Indian capital markets. In particular, the potential demand created by domestic savings is a positive sign that additional resources will be available for attractive investments.

On the institutional investor side, there is indication that large investors such as UTI, ICIC, insurance companies and various mutual funds, may be reaching their investment capacity and requiring more flexibility to manage their portfolios in a fluctuating market. If this assessment by financial professionals is correct, then there will be a marked demand for quality investments.

IV. Conclusion

General impact

In conclusion, financial liberalization in India is not causing an abrupt rise in interest rates with the ensuing adverse effect on the financial markets as has happened in other countries under similar circumstances.

Favorable indications in India are that the inflation rate has been kept in check and the demand for funds is expected to grow at the same pace as the supply of funds from new and larger investors entering the market. Furthermore, the GOI is allowing enterprises to directly access international debt markets seeking lower interest rates. This means that domestic interest rates will be brought down to international parity merely by market forces.

Additionally, in India the depth of the capital market can absorb large bond issues without creating market distortions.

Specific Impact

However, the effect of liberalization will be felt more strongly on individual entities and sectors of the economy. For example, public sector institutions will have to restructure their debt issues to reflect market values and attract buyers.

Liberalization in the financial markets may be expected to cause interest rate and foreign exchange volatility to a degree that Indian intermediaries may not have the expertise to handle. This volatility contributes in large measure to the risk of debt securities. However, swaps or other techniques may be used to alleviate this kind of financial risk.

CHAPTER FIVE

TASK FIVE. The contractor shall prepare recommendations and alternatives for a training plan. A critical element to be undertaken by the debt/infrastructure component is training for the infrastructure finance institutions, the grant recipient, and the state agencies and local bodies.

TRANSFER OF TECHNOLOGY THROUGH TRAINING AND DISSEMINATION EMPIRICAL RESULTS

The purpose of training in the FIRE Project is to transfer technology in securities market operations and urban infrastructure financing. With regard to the infrastructure component of FIRE, assistance must be directed toward sharing technical information and strengthening the capacity of Indian institutions to develop and adhere to a systematic approach to infrastructure development and financing. This approach uses the technical and financial resources of the private sector, in particular it endeavors to use the securities market to procure funding.

I. Training

A. Fundamentals of Successful Training

All training efforts must evolve from careful consideration of the needs of participating entities, selection of the audience, recognition of cultural differences, and concern for teaching methodology. Some learning fundamentals applicable to India are summarized below.

- 1) The training activities offered must be flexible and comprehensive enough to respond to the needs of very different target audiences and a rapidly changing economic environment in India.
- 2) The assistance offered should have a predetermined deadline for completion. The assistance should evolve, from direct participation in the execution of the training program in the beginning to a gradual withdrawal and eventual entrustment of the entire program to local institutions.
- 3) Since it is vital that the training plan include the effective and timely transfer of technology with a deadline for passing on the responsibility to host country professionals, the overall direction of the training program must be toward training trainers. The objective is that, by the deadline, these trainers will be able to adapt, improve, and expand customized Indian programs which will reach the largest number of people and effect policy reform through example.

B. Methodology

It is generally accepted that the utilization of case studies and simulated exercises are effective experiential learning methods in developing the management skills of

individuals who have limited exposure to market-oriented management practices.

The emphasis on this type of educational experience, as opposed to a more academic model which may have little relevance to actual business conditions in changing economic and business environments, is an important element to the success of any training program.

However, these tried methodologies, although necessary in the proper context and degree, are by no means sufficient or adequate enough to wrestle with the complexities of the Indian case.

C. Rationale

Conditions underlying the FIRE Project are somewhat unique. To start with, neither Public/Private Infrastructure (PPI) projects fit the traditional infrastructure model, nor is India a typical developing country.

The PPI concept is a challenge to the foundation of public administration. It transfers public sector responsibilities and authority to the private sector, but it also harnesses private sector resources for public use.

Consequently, both the public sector and the private sector must amend their customary practices. The public sector must understand commercial practices and motivations. The private sector must learn to find commercial value in public services. This transformation requires a major effort from both parts.

In India the transformation is further magnified because this is a country of extreme contrasts. In order to bring the positions at the each end of the political and social spectrum to a common middle ground, it takes a more creative and intense training approach than the lecture, case study, and simulation approach. It takes hands on decision making and implementation.

The accepted truisms that water is a commodity for the wealthy, or that water is a free nature-given gift, must be reconciled on a more practical plane: water systems operated as a profit-making industry serve to bring to all people the use of a natural resource at affordable prices.

The Thrilpur project cited in chapter 1, is a vivid example of this reality. People are now paying 30 Rps. per 1,000 liters of water. When a legitimate profit-making enterprise offers the service, the price of water will drop to 2 Rps., and the supply and quality will be much greater for consumption by all individuals in the area. This can

be achieved through a PPI project. Yet it took Tirripur a long time and great hardship for lack of water and sewage systems to come that realization.

The question is how to transfer this PPI technology in a more effective and expeditious way. Although general guidance and practical knowledge on PPI projects is beginning to emerge from cases in countries as diverse as Chile, Lesotho, Malaysia, and others, there is no universal prescription or textbook solution which can produce a specific blueprint for Mysore, Boroda, or Madras.

A blueprint is created individually for each locality and each project, but certainly not by the plume of an outside consultant alone. Such reports are only casually read and seldom heeded. On the contrary, the blueprint must be created from within by the players involved. This is the most effective way of making them come to the realization of the nature of the problem and understand the position of the other parties. Furthermore, as the players become part of the planning process, they explicitly are giving their commitment to adhere to the plan they have created.

Another question for consideration is culture. The Indian culture is grounded on three characteristics among many: inner circle loyalties, prestige enhancements, and extrovert individualism. In this context, the blueprint must appear to originate within the inner circle, must imply prestige as an outcome of the commitment given to the project, and must contemplate, although not necessarily incorporate, all the opinions voiced.

The preceding analysis reveals that the training methodology must conform to all these complexities in order to be effective. Under these circumstances, some unorthodox methods, although compatible with pedagogic psychology, must be combined with traditional training activities in order to cause the subtle but important and necessary attitudinal changes.

D. Synergy in training: Technical Focus Groups (TFG)

A methodology that has been tested with good results, is the *Technical Focus Group*. The TFG consists of a group of professionals selected on the basis of their technical expertise, decision-making level, and continued involvement in the project. The TFG literally works with the instructor/expert for two to three weeks analyzing the issues at hand, evaluating alternatives, and ultimately preparing a working paper containing a plan of action.

The success of this method lies on the high degree of commitment that the writers of the report put onto the plan of action, as well as on the serenity reflected in the

report toward local needs. These two elements, commitment of the local personnel and in-depth knowledge of the local environment, are precisely what is lacking most in outside consultant reports. Since the TFG works under the tutelage of an outside expert who steers the group within attainable parameters, technology transfer occurs on the basis of the best exchange of expertise, from both inside and outside the country.

Using this grass roots approach, excellent results can be expected relative to the traditional consultants' reports, recommendations and lectures, which are seldom heeded after termination of the technical assistance. The TFG method will be particularly useful in the Fire Project because of its practical, results-oriented approach.

II. DISSEMINATION

An important aspect of the dissemination process is research. However, research will be a worthwhile activity only if it is managed carefully given the objectives of the project and the results sought. The key is not to allow research activities to deviate from the objectives of the project. Research can end in the realm of the theoretical, rather than complying with the objectives of FIRE and providing practical guidance.

Dissemination of research under the FIRE Project should focus on memorializing the lessons learned from experience and recommending new courses of action.

The most practical and readable forms of research are the working paper and the case study.

Working papers. In a story telling fashion, the experience is documented for easy reading and for potential adoption by the readership. In contrast the typical academic paper lacks practical applicability. The working paper has the virtue of capturing the interest of the reader through actual experiences and applications.

Case studies. Similar to the working paper, the case study is a real situation or a composite of experiences. However, it is written to provoke insights and discussion. No solutions are given, many questions are raised, and all answers are plausible. Case studies are a useful instruction tool.

Trainees will be required to write and contribute to working papers and case studies, in addition to other working and writing assignments.

A. Multiplying the Effect of Training: Propagation of Education

1. Universality of Education

The premise on which all training assistance must be based is that education, regardless how specialized the subject matter might be, is not proprietary. No institution should be allowed to claim ownership of a program and exclude interested individuals to partake in it. No institution should be given the exclusive right to receive training under the FIRE Project and teach it selectively. All the education imparted under this project should be public domain.

The differentiation between one organization and another offering the same subject matter is the design of the course, quality of presentation, scheduling, quality of the faculty, etc. but not the basic content. This is a most important caveat. Otherwise the FIRE training component may be caught in a feud between organizations seeking prestige or holding a resentment, such as described in a preliminary training report by another contractor in this Project Paper project (UTI and IDBI).

2. Guidelines for Promoting Training Trainers

Interested educational institutions in India may be assisted in any or all the areas listed below.

- a. Assist in the design of financial/infrastructure curriculum.
- b. Train faculty
- c. Cooperate with the instruction of the program, intensely at first and diminishing as the local faculty assumes responsibility.
- d. Determine the special needs that inevitably will arise during the course of each assignment and find alternative ways to adjust the program.
- e. Evaluate progress against quarterly and annual work plans.

III. IMPLEMENTATION

A. The Training Plan

The training plan will include public events, such as conferences and trips abroad. However, the selection of a program and the screening of candidates must be carefully

made. Teaching events and experiences will take place based on different modalities, the pros and cons of which are described below.

Conferences give visibility. Usually participants seek notoriety rather than knowledge and the effect fades as the euphoria of the event wears off. The advantage is that they serve as publicity to elicit support from the political hierarchy. The visibility is a benefit to keep the concept in the public eye.

Workshops and seminars give exposure. New ideas picked up by participants usually are thwarted by an unfriendly environment when they rejoin their offices and are encouraged to revert to the old ways. However, the advantage is that during these events participants are exposed to a new global view of the issues which will eventually help them shed off the isolationist, even lofty notion of self-sufficiency and open to new ideas. To be effective, workshops and seminars must be replete with first hand accounts and case studies from all over the world. This allows participants to start analyzing, synthesizing, and adapting methods to be applied in their own environment.

On-the-job training enables first hand experience. It is hard to create the adequate laboratory environment and control real life events. However, the benefits of this kind of training outweigh the difficulties. Once the enabling environment is created, participants gain true insights into what the process entails, place themselves in the position of others, learn to solve hurdles as a group, receive peer support, and advance toward tangible results. A requirement for success is a fair reward system, where participants are rated according to their work performance, as well as for the quality and timeliness of their assignments.

B. The Implementation Strategy

The realization that ILFS is the forerunner of PPI projects in India, sheds new light on the implementation of the FIRE infrastructure component, in particular on-the-job training, and offers an opportunity to start the project at an earlier date and develop it faster than would have been possible otherwise.

Another favorable circumstance is that ILFS is willing to work in collaboration with other institutions in order to expand the inventory of viable projects and sediment relationships with municipalities. Furthermore, ILFS needs the complementarity of organizations which have a network of contacts at the municipal level, in order to advance the concept of Public/Private Infrastructure (PPI) partnerships

and pave the way for smoother identification and implementation of projects.

An ideal training situation will be created by enabling ILFS to become the "demonstration model", as opposed to using merely isolated projects, and illustrate a process which can be emulated by other entities, such as HUDCO and other commercial financial institutions which can spin off their own infrastructure operations as privately run profit centers. ILFS will become a training "laboratory" for other professionals, including bankers, analysts, and urban developers.

C. The Management Structure

Taking the above arguments into consideration, an alternative solution to manage infrastructure training activities is to incorporate the strengths of all interested parties into a synergistic working group. The plan is described below and depicted on the attached Diagram 1 at the end of this chapter.

An Infrastructure Implementation Group (IIG) should be formed on an ad hoc basis to spearhead the foundation of Public Private Infrastructure projects and procedures through a demonstration process.

IIG should be headed by ILFS, which apparently will be the recipient of the IIG for the first three years, as well as a corresponding measure of technical training assistance to carry on the required tasks. HUDCO and NIUA, as well as other institutions to be determined later, will be active members of IIG and recipients of all its training benefits.

1. Role and Responsibilities of ILFS

As stated earlier, ILFS is a unique institution in India in terms of their efforts to advance the PPI concept. ILFS role for the first three years of the project must continue to be as leader of the movement while receiving intensive technical training assistance from outside to accomplish the objectives listed in a later section!

ILFS will be responsible for:

a) Conducting the tasks listed under Level One with technical training assistance from outside and with the cooperation of other IIG members as required, for a period of three years.

b) Creating on-the-job training opportunities for selected staff of IIG members, by offering internships, research

assignments, and the chance to participate in all stages of infrastructure development and financing.

c) Participating in training events for ILFS staff in India and abroad to acquire knowledge on new technology and to expand their expertise by observing the experiences of other countries. (See "Request for Specific Training Assistance Submitted by ILFS", Attachment to Chapter Five)

d) Making high level staff available to participate in seminars, workshops, conferences and other events designed to disseminate information as more experience is acquired.

2. Role and Responsibilities of other ICC members

The role of these institutions, at the beginning of the program, will be of recipients of training while participating in the process of developing and financing infrastructure projects. Gradually they will be prepared to interact with government agencies as needed on a per project basis. Taking advantage of the network of HUDCO branches and NIUA contacts with GOI entities their most important contribution will be as liaison with appropriate government entities to smooth the way for project implementation. Other institutions may assume a similar role.

The IIG members have the following responsibilities:

a) Commit selected members of their staff to work closely with ILFS, under internships, consultancies, and seminar participation, to learn thoroughly the process of infrastructure management and financing with private sector participation. (See "Rhudo/New Delhi: A Note on Training Needed by HUDCO", in the Attachment to Chapter Five.)

b) Commit the institutions to prepare themselves to take over infrastructure development and financing training activities at the end of Level One.

c) Commit the institutions to redirect their current activities if necessary and, as they become more proficient gradually they will provide training, contribute to awareness campaigns, and lend support to the dissemination of information on alternatives to infrastructure development and financing.

D. Training Partitions: Levels One, Two and Three

It is recommended that the infrastructure component be partitioned into Levels One, Two, and Three.

LEVEL ONE represents the ignition of the demonstration process. At this level ILFS needs to receive intensive training from professionals experienced in the practical application of PPI projects - both in the development and financing of these projects. The learning curve should be as short as possible. The intensity and breadth of training should be directed toward increasing the expertise of ILFS, creating learning opportunities for the other IIG institutions, and building a body of knowledge to be documented and disseminated.

Level One, in this writer's view, emerges clearly from the FIRE project because it involves objectives and tasks which are compatible with the experience of a local organization (ILFS has tested PPI projects), which make use of commercial financial channels (a securities market with considerable depth and liquidity), and which requires transfer of tested technology (PPI techniques have already been implemented successfully in other countries to create commercially viable infrastructure projects).

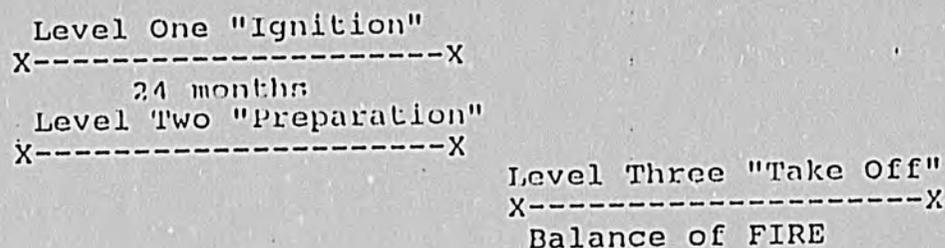
It is also clear that the catalyst to bring together these positive elements is an intensive, targeted training program designed to prepare Indian institutions to become fully self-sufficient in the development and financing of infrastructure projects.

An early start at Level One is most important because the activities of the other two levels are, in large part, a function of the depth and timing of the training offered before and, in particular, during the demonstration process of projects as they are implemented by local entities, namely ILFS, IIG, and the municipalities.

LEVEL TWO is a preparation level where IIG members and other institutions are trained in the PPI process using ILFS as the experiential learning medium. Preparation activities will also include training of municipalities as needed beyond the PPI process. Level Two will take place simultaneously with Level one. The RHUDO training plan which is designed to reach a broad municipal base could be the centerpiece of Level Two. (See RHUDO/New Delhi, "Regional Training, Networking and Information Exchange: Strategien and Activities" In Attachment to Chapter Five.)

LEVEL THREE is the take off level in the sense that institutions trained at Level Two will commence activities on their own, ILFS will fade out of the FIRE project but will continue infrastructure development on its own. Outside training needs will diminish.

Levels One and Two will take place simultaneously. Level Three will follow the evaluation of Levels One and Two and will be adjusted accordingly. Graphically,



1. Objectives and tasks of Level One

The objectives and tasks to be pursued by ILFS and IIG at Level One are described below and depicted on Diagram # 2 at the end of this chapter.

OBJECTIVE:

Project Identification: Build the inventory of infrastructure projects implementable by PPI transactions

TASKS:

- * Screen and review feasibility studies already completed.
- * Develop TOR's for projects that require further study.
- * Rank and prioritize commercially viable projects
- * Prepare model PPI bid documents and prequalification criteria
- * Evaluate PPI project bids
- * Advise on PPI project negotiations
- * Design and implement PPI monitoring system

OBJECTIVE:

II. Project development: Establish and test the process through demonstration of identified projects

TASKS:

- * Present structuring alternatives
- * Define municipality's role
- * Negotiate concession terms
- * Identify sources of project revenues
- * Study and recommend user fee structures, cross subsidies
- * Conduct valuation engineering assessment

OBJECTIVE:

III. Project packaging and financing: Demonstrate financial engineering strategies to create marketable instruments and mechanisms

TASKS:

- * Identify required funding (amount and timing)

- * Assess all risks
- * Negotiate risk allocation among all parties
- * Identify sources of funding in the channel of service distribution (from producer to user)
- * Identify domestic and international sources of funds
- * Design capital structure and flows appropriate for the project
- * Design instruments with term, return, risk acceptable to investors; negotiate guarantees, sinking funds, repurchase agreements, etc. to enhance marketability
- * Arrange underwriting and flotation in the securities market, commit market makers for secondary market trading.

OBJECTIVE:

IV. Training in Infrastructure development and finance: awareness, education and enhancement of technical skills

TASKS:

- * Enhance technical skills of project sponsor and key technical players; intensive training at first stages
- * Raise awareness of MOUA and municipal officials; disseminate information as needed throughout the project, more intensely in targeted localities
- * Create on-the-job training opportunities for other organizations involved HUDCO, NIUA, etc.
- * Organize and conduct programs to train trainers in institutions committed to offering such curriculum
- * Conduct information seminars for potential investors, foreign and domestic, individuals and institutions

2. Attainable results at Level One

The parameters listed below not only represent realistically attainable results, but also mark the deadline by which they must be achieved. Typically assistance projects start slowly and crowd activities at the tail end. This ineffectual practice must be avoided. Outside assistance must be intense in the beginning and taper off as local entities develop the necessary capacity to take over the program. The process should be dynamic throughout, but the outside intervention must fade away gradually. The project should be deferred to the institutions which show commitment, leadership, and readiness during the Level One, the ignition process.

Completion Time:

- * Twenty four months

Results to be attained:

- * Five to eight demonstration projects at advanced stages or near completion
- * Established precedent and blueprint for PPI process in India
- * Trained institutions, financial and educational, prepared to implement and propagate this technology

Level of effort required for on-the-job training:

Long Term:

- * One expatriate 24 person months
- * One expatriate 12 person months
- * Two local professionals 24 person months each
- * Support staff (8) 24 person months each
- * Interns to be trained and work with ILFS and the expatriate team. Thirty interns, 3 months each, for a total of 90 person months.

Short Term:

- * 10 three-person-months assignments to be completed in 24 months.

Training Events:

Abroad:

- * 25 trainees, two-week workshops and internships in the United States
 - * 8 trainees, four-week workshops/internships in the United States
 - * 18 professionals, 7-day study tours in Asia
 - * 5 professionals, 14-day study tours in Latin America
- 60

In India:

- * A series of 8 self-financed short seminars; the program covers organizational costs only.
- * A series of 4 fully-financed two-week seminars

E. Content: Selection of topics for Level One

The training required under the FIRE project in general ranges from basic awareness to specialized skills and professional updating. The infrastructure component in particular will require a wider range of topics and intensity than the capital market component, which has a greater need for selected specialized professional updating.

The selection of topics can be classified into general education and specialized training.

1. General Education for Practitioners in Infrastructure and Finance.

a. Financial Analysis for Procurement and Investment

Financial analysis is the foundation for all other specialized areas. Experience has shown that without a wide base of expertise in financial analysis, over and above accounting audits, there can be no discernment between commercial inadequacy and commercial viability, no intelligent evaluation of bids, no creative design of investment instruments, and only limited advantage in the procurement of funding.

Without financial analysis expertise transparency and ethics in the securities markets are rendered meaningless. The reason is that transparency through disclosure can not be effective unless professionals at the receiving end are capable of analyzing the information critically and objectively. Likewise, a code of ethics is followed mostly under the watchful eye of competitors, but competitors must be skilled in financial analysis in order to know what to watch for. US securities markets owe their remarkable efficiency and transparency to the fierce competition that exists among intermediaries and institutional investors.

An example of a list of topics on general education in financial analysis is the course outline "Valuation of State-Owned Assets". See Attachment to Chapter Five.

b. Infrastructure Management: Development and Financing

Given the lack of awareness of most municipalities about the

importance and availability of public/private partnership schemes, the common point of departure is infrastructure management directed toward the identification, development and financing of commercially viable projects.

As shown by some of the illustration projects cited in Section III, there are municipalities such as the City of Madras, where critical water shortages forced the City to dust off a twenty year old water system design and approach the private sector for implementation and financing. Other municipalities accustomed to government subsidies may take longer to come to the same realization.

While on one hand the training resources of FIRE are not intended to be used to build up the fiscal management capacity of municipalities, on the other hand it is important to impart some basic infrastructure management training to solidify the conviction that there are financial alternatives to infrastructure financing through projects which are commercially viable and marketable. For this reason, training activities in the infrastructure component start at a lower level of sophistication, cover topics of a wider and intensity, and are offered in more decentralized locations than the capital market component.

An example of a list of topics on general education in infrastructure management is the course outline "Public/Private Infrastructure Partnerships". See Attachment to Chapter Five.

2. Specialized Training for Practitioners in Infrastructure and Finance.

a. Industry and Project Specific

In order for municipalities to acquire the necessary skills and experience to sustain infrastructure development and financing, key municipal officials, sponsors, etc. must engage in on-the-job training as much as obtain information about experience already gained in other countries.

An example of a list of introductory topics on specialized project specific training is the course outline "Project Appraisal for Commercial Viability". See Attachment to Chapter Five.

____ d. Specialized Topics in Infrastructure Financing

Departing from the basis of sound financial analysis for investment, other specialized subjects should be offered in

a fashion tailored to the audience, for example, on the special case of municipal bond regulation for SEBI officials as taught by the SEC Institute in Washington D.C. and the Public Securities Association, or the more advanced subject which have a direct bearing on bond trading such as trading techniques on financial futures and interest rate swaps as taught, for example, by the New York Institute of Finance. This will be a topic of increasing importance to the intermediaries in the channel of distribution in the bond market and portfolio management of bonds as interest rates and foreign exchange are liberalized.

An example of a list of topics related to specialized infrastructure financing is the course outline "Advanced Interest Rate Risk Management". See Attachment to Chapter Five.

e. Planning Strategies

The specialized short seminars can be scheduled following a short term DA assignments and make best use of the expert consultant's TDY. The caveat is that most experts do not perform well in a conference or seminar setting. Care must be exercised by a training specialist to skirt this problem.

Given the level of expertise, as well as the level of financial resources of the audience targeted, several short term specialized seminars and workshops can be self-financed through tuition fees.

F. Form: Kinds of Training Events

Training must offer recipients the opportunity to acquire information, to internalize new concepts and conceive their own strategies, and to gain negotiation expertise by understanding all elements of the commercial transactions and securities markets procedures and requirements. These objectives can be achieved in a variety of ways, but most importantly, the events must be carefully planned.

Experienced professionals will be required to coordinate, organize, implement a series of in-country and international seminars, conferences, and study tours.

For the in-country and international seminars and conferences, careful attention must be paid to cultural differences. In the case of municipalities, training must be conducted in conjunction with a reputable group or institution to lend credibility and prestige to the training activity. Manuals must be prepared containing current background material relevant to the course. In addition, each instructor must hand out to participants copies of the presentation. It is desirable to have the outline of the

presentation also projected on a screen or displayed on a flip chart. This system makes it easier for non-English speaking audiences to follow the presentation.

The curriculum must include case studies relevant to India and the subject matter. Most importantly, there must be a follow up with the participants and institutions involved in order to evaluate the applicability of the knowledge received and recommend changes for future training.

1. In country events: conferences, workshops, and seminars

a. Conferences

Conferences should be considered more as an awareness campaign than a critical educational experience. The theme can be effectively directed at audiences who are hearing the subject matter for the first time, or need reinforcement of the new concepts.

b. Two to three day seminars and workshops.

The two to three day seminars are most welcome by business executives and government officials. Because of the demand of their jobs, many professionals can not dedicate two or more weeks to a training event.

This format lends itself to address highly specialized topics, which can be comprehended quickly by professionals who are already working on the subject matter. Many of these short term events can easily be self-financed.

c. Location and cost

By necessity short training events must be held in the country, otherwise the traveling costs would be prohibitive. In-country programs have the advantage of reaching the largest audience at a low cost as well as targeting specific interest groups and addressing singular problems.

2. Training Abroad: Two to four-week seminars, workshops and internships

The most salient advantage of programs conducted away from home is that participants can immerse themselves in the subject matter with minimal distractions, and acquire as much knowledge from the external environment as from the formal instruction.

a. Programs in the United States

Experience shows that training in the United States through international seminars and conferences can be offered at a

more specialized and objective level than instruction conducted in-country and that the benefits for participants are multiple.

The main benefit is for participants to be exposed to new ideas in the United States and from participants from other countries so as to offer a broad based but focused exposure to the relevant issues disseminated at the seminar.

International seminars that are two to three weeks in length and limit the number of attendees and countries offer participants an opportunity to develop and exchange key concepts, ideas, and processes with colleagues and faculty from around the world. An integral part of this type of training is participation by the attendees. Group discussions, case studies and analysis, presentations, and team negotiation exercises are intertwined with lectures from professional instructors/practitioners in the fields of energy/power projects, private sector development, and project finance. For these international seminars that participants be selected as teams from the same organization or locality. Their interaction as a group after they return to their jobs is as important as the knowledge they acquired during the course of instruction. Hopefully they will use their experience both in their own work as well as to disseminate the information to other interested parties.

b. Study Tours in Other Countries

Study tours in countries with similar characteristics can be a most rewarding learning experience because they will offer Indian officials first hand exposure to the experiences of other developing countries which have similar characteristics and have encountered and conquered similar difficulties.

In practice, developing country leaders have a tendency to either want to adopt, unrealistically, all the technology available in industrial countries or are too skeptical to adopt any of the changes because they believe it is unattainable. In order to change attitudes, it is important to expose developing country leaders to the failures and successes of other countries in similar circumstances.

c. Coordination of courses abroad

Careful attention must be given to the selection of courses available in the United States given the specific needs of India. Negotiations with educational institutions in the United States, as well as practitioners, should be conducted to obtain best prices and curriculum design. Scheduling must be carefully planned so that participants will derive the greatest benefit. For example, combine workshops and

study tours abroad, or conduct several workshops by the same faculty for different audiences in India.

Regarding study tours in other countries, it is important that the coordination be made by an entity with working relationships and contacts in those countries, in order to plan meaningful visits to operation sites and hold discussions with the appropriate authorities. Upon completion of the study tours, participants must submit critical written reports with ideas for adaptation and adoption of new techniques in India.

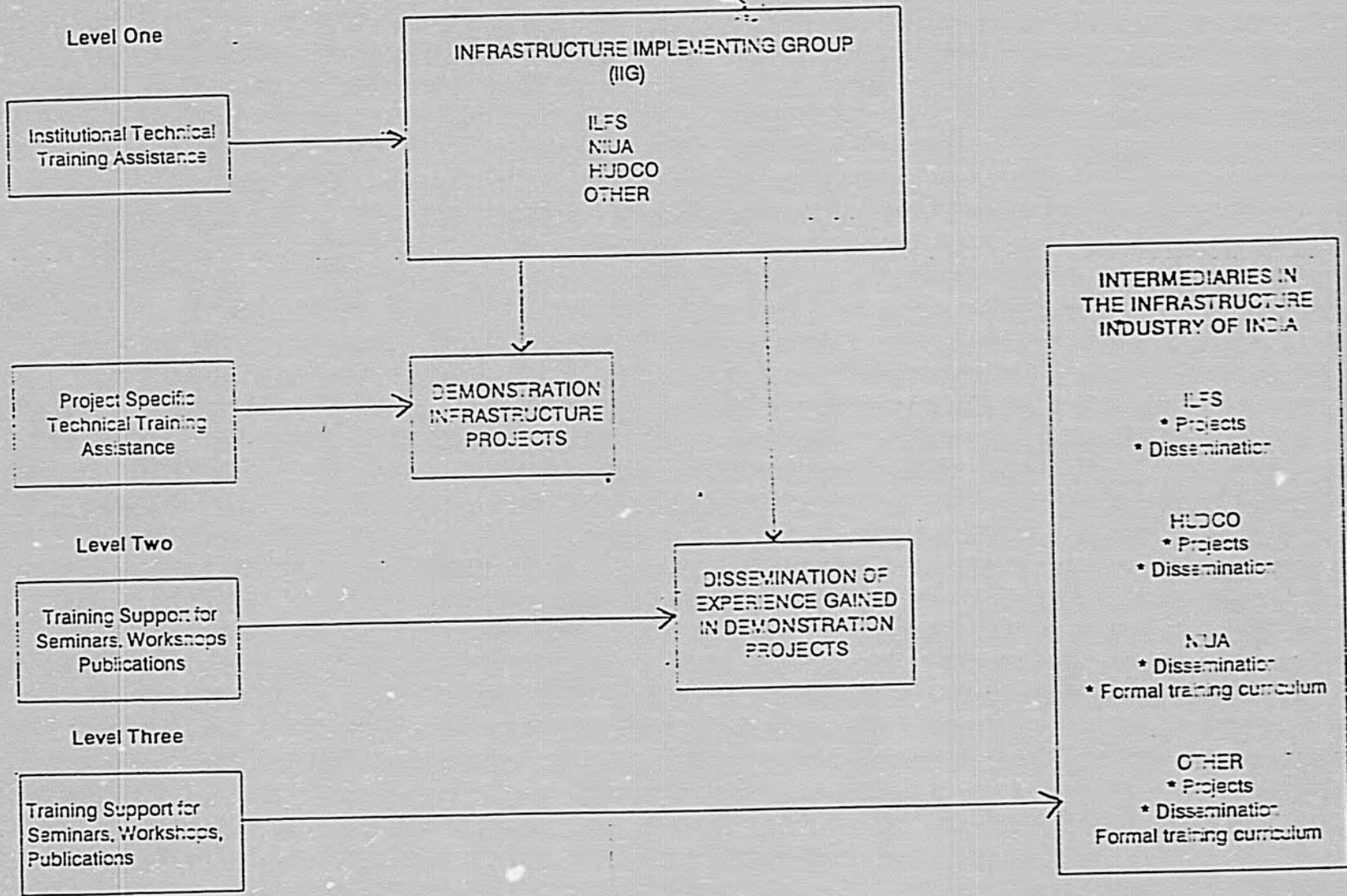
d. Selection of candidates

There must be a rigorous selection process of candidates. The selection criteria must include their professional qualifications, ranking in their organization, commitment to attend all functions planned in the program, and agreement to deliver a critical report with implementation ideas.

TRAINING INPUT:

IMMEDIATE ACTIVITIES/OUTPUT:

LATER ACTIVITIES:



LEVEL ONE IMPLEMENTATION STRUCTURE

OBJECTIVES

TASKS

I. Project identification. Build the inventory of infrastructure projects implementation by PPI transactions

- * Screen and review feasibility studies already completed
- ** Develop TOR's for projects that require further study
- * Rank and prioritize commercially viable projects
- * Prepare model PPI bid documents and prequalification criteria
- * Evaluate PPI project bids
- * Advise on PPI project negotiations
- * Design and implement PPI monitoring system

II. Project development. Establish and test the process through demonstration of identified projects

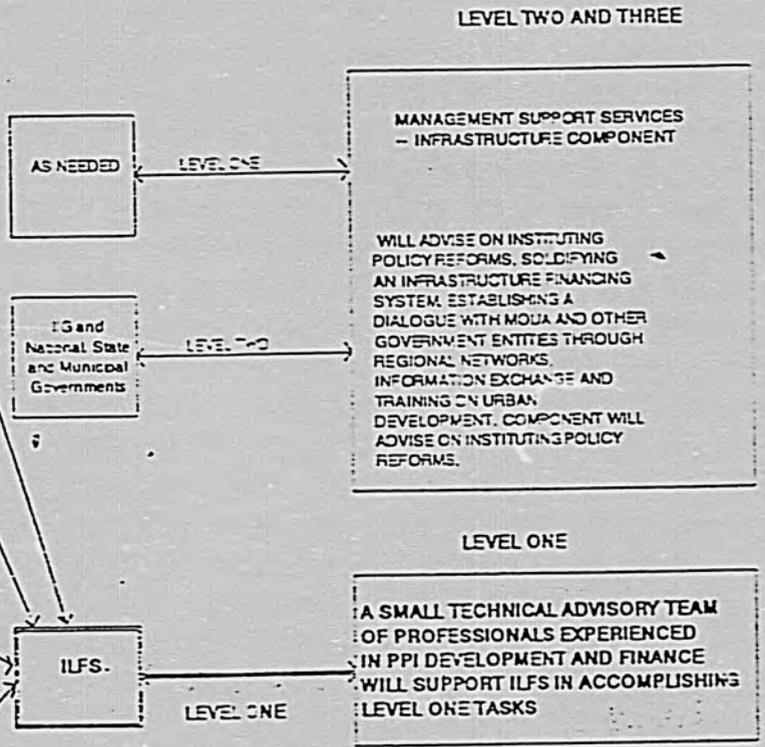
- * Present structuring alternatives
- ** Define municipality's role
- * Negotiate concession terms
- * Identify sources of project revenues
- * Study and recommend user fee structures, cross subsidies
- * Conduct valuation engineering assessment

III. Project packaging and financing. Demonstrate financial engineering strategies to create marketable instruments and mechanisms

- * Identify required funding—amount and timing
- * Assess all risks
- * Negotiate risk allocation among all parties
- * Identify sources of funding in the channel of service distribution (from producer to user)
- ** Identify domestic and international sources of funds
- * Design capital structure and flows appropriate for the project
- ** Design instruments with term, return, risk appropriate to investor, negotiate guarantees, sunk funds, etc. to enhance marketability
- ** Arrange underwriting and flotation in the securities market, commit market makers to secondary market

IV. Training in infrastructure development and finance: awareness, education and enhancement of technical skills

- * Enhance technical skills of project sponsor and key technical players; intensive training at first stages
- * Raise awareness of MOUA and municipal officials; disseminate information as needed throughout the project, more intensive in targeted circles
- ** Create on-the-job training opportunities for other organizations involved—LDCO, NIUA, etc.
- ** Organize and conduct programs to train trainees in institutions committed to offering such curriculum
- ** Conduct information seminars for potential investors, foreign and domestic individuals and institutions



TRAINING SCHEDULE - INFRASTRUCTURE

* ONE-THE-JOB TRAINING

* TRAINING EVENTS

TASK	YEAR ONE											
	1	2	3	4	5	6	7	8	9	10	11	12
Training in Infrastructure development and finance: awareness, education and enhancement of technical skills TRANCHE ONE ----- ON-THE-JOB TRAINING ----- Project Identification: Build the inventory of infrastructure projects implementable by PFI transactions Project development: Establish and test the process through demonstration of identified projects Project packaging and financing: Demonstrate financial engineering strategies to create marketable instruments and mechanisms TRANCHE TWO ----- Project Identification Project development Project packaging and financing TRANCHE THREE ----- Project Identification Project development Project packaging and financing												
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TRAINING SCHEDULE - INFRASTRUCTURAL COMPONENT

* ONE-THE-JOB TRAINING

* TRAINING EVENTS

TASK	YEAR TWO											
	1	2	3	4	5	6	7	8	9	10	11	12
Training in Infrastructure development and finance: awareness, education and enhancement of technical skills TRANCHE ONE ----- <u>ON-THE-JOB TRAINING</u> Project Identification: Build the inventory of infrastructure projects amenable to PFI operations Project development: Establish and test the process through demonstration of identified projects Project packaging and financing: Demonstrate financial engineering strategies to create marketable instruments and mechanisms TRANCHE TWO ----- Project Identification Project development Project packaging and financing TRANCHE THREE ----- Project Identification Project development Project packaging and financing												

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TSCHEDULE

TASK	YEAR ONE MONTH												TOTAL PARTICIPANTS	
	1	2	3	4	5	6	7	8	9	10	11	12		
<u>TRAINING EVENTS</u>														
*IN US			<u>3</u>			<u>3</u>			<u>2</u>	<u>3</u>			<u>3</u>	12
ST - 2 weeks				<u>2</u>										4
ST - 4 weeks														8
*THIRD COUNTRY TOURS														12
ASIA					<u>1</u>						<u>9</u>			5
LATIN AMERICA							<u>5</u>							5
IN INDIA														1
CONFERENCES (1)														1
150 participants		<u>1</u>												150
SELF-FINANCED SEMINARS														3
3 events			<u>1</u>			<u>1</u>				<u>1</u>			<u>1</u>	3
USAID FINANCED SEMINARS														4
4 events													<u>1</u>	4

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TSCHEDULE

TASK	YEAR TWO MONTH												TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	PARTICIPANTS
TRAINING EVENTS													
*IN US			1			2			3			3	13
ST - 2 weeks			1			2			2			3	4
ST - 4 weeks				2									1
*THIRD COUNTRY TOURS													
ASIA													
LATIN AMERICA													
IN INDIA													
CONFERENCES (2)	1												1
150 participants													
SELF-FINANCED SEMINARS			1			1			1			1	4
8 events													
USAID FINANCED SEMINARS						1			1				2
4 events													

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GENERAL BUDGET FOR 24 MONTHS

LEVEL ONE ONLY

APPROXIMATE COSTS FOR LEVEL ONE - INFRASTRUCTURE COMPONENT

DIRECT LABOR	LEVEL OF EFFORT	LOADED RATE PER MONTH	TOTAL
P/T Home Off. Prj. Mgr	12 PERS/MO	10,000	120,000
EXPATRIATES - LT (2)	36 PERS/MO	19,000	684,000
EXP - ST (10 X 3 PM)	30 PERS/MO	19,000	570,000
LOCAL-PROF (2 X 24)	48 PERS/MO	7,000	336,000
LOCAL- (8 X 24)	192 PERS/MO	750	144,000
INTERNS (30 X 3 PM)	90 PERS/MO	400	36,000
			<u>1,890,000</u>

OTHER DIRECT COSTS	60,000
TRAVEL COSTS	80,000
EQUIPMENT AND SUPPLIES	150,000
	<u>290,000</u>

TRAINING EVENTS

*IN THE UNITED STATES		
25 Individuals 2 weeks	222,000	
8 Individuals 4 weeks	87,040	309,040
		<u>309,040</u>

*THIRD COUNTRY STUDY TOURS		
ASIA		
18 Individuals 7 days	2,500	45,000
		<u>45,000</u>

LATIN AMERICA		
5 Individuals 14 days	7,000	35,000
		<u>35,000</u>

*IN INDIA		
CONFERENCES (2)		
150 participants	75	22,500
		<u>22,500</u>

SELF FINANCED SEMINARS		
8 events	10,000	80,000
		<u>80,000</u>

USAID FINANCED SEMINARS/WORKSHOPS		
4 events	50,000	200,000
		<u>200,000</u>

TOTAL TRAINING EVENTS 691,540

TOTAL ALL COSTS 2,871,540

ITEMIZED COSTS

TRAINING COSTS PER PARTICIPANT SENT TO THE USA

Average tuition cost per participant - 2 weeks	2,500
Round trip from different Indian cities to the U.S	4,000
Cost of Hotel in the United States per participant Average 14 days at \$100 per day (Includes New York, Chicago, and Washington)	1,400
Cost of meals and incidentals for each participant Average 14 at \$70 per day per day	980
Cost per participants average 2 weeks	<u>\$8,880</u>
(Four week courses, double tuition fee) Cost per participants average 4 weeks	<u>10,880</u>

STUDY TOUR COSTS PER PARTICIPANT

ASIA

AVERAGE AIRFARE (MALAYSIA, THAILAND, INDONESIA) Per participant	1,500
AVERAGE PER DIEM PER PARTICIPANT - 7 days	1,000
Cost per participants average - 7 days	<u>2,500</u>

LATIN AMERICA

AVERAGE AIRFARE (MEXICO, CHILE) Per participant	5,000
AVERAGE PER DIEM PER PARTICIPANT - 14 days	2,000
Cost per participants average - 14 DAYS	<u>7,000</u>

EVENTS IN INDIA

IN-COUNTRY TRAINING/CONFERENCES

AVERAGE PER PERSON (INCLUDES EX-PAT FACULTY)	<u>75</u>
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IN-COUNTRY SELF FINANCED SEMINARS

Training manuals and other materials per even	<u>10,000</u>
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IN-COUNTRY USAID FINANCED SEMINARS/WORKSHOPS

Two expatriate faculty members, one week	<u>50,000</u>
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- Project Appraisal for Commercial Viability
- Public/Private Infrastructure Partnerships
- Advanced Interest Rate Risk Management
- Valuation of State Owned Assets
- Request for Specific Train Assistance submitted by ILFS
- PMDD/New Delhi "Regional Training, Networking and Information Exchange: STRATEGIES AND ACTIVITIES" and "A. Nation Training Model by NDCS".

SAMPLE COURSE OUTLINES FOR ILLUSTRATION OF THE KIND OF TOPICS TO BE COVERED IN THE INFRASTRUCTURE TRAINING PROGRAM, SPECIFICALLY IN "INSTITUTIONAL AND PROJECT SPECIFIC" TECHNICAL TRAINING, LEVEL ONE.

THESE OUTLINES DO NOT NECESSARILY REPRESENT LECTURES. THEY CAN BE MODIFIED AND USED IN TECHNICAL FOCUS GROUPS (TFG'S) AS A CHECKLIST TO COVER DURING THE TFG EDUCATION PERIOD.

• TRAINING TIME TABLES AND BUDGET

PROJECT APPRAISAL FOR COMMERCIAL VIABILITY

I. Project Appraisal and Analysis: Developing a Framework for the Financial Decision-Making Process

Understanding the Problems of Structuring and Financing Viable Projects:

- Defining project appraisal and analysis standards in lending practices
- Evaluating worldwide trends in project finance and investment appraisal
- Financial engineering: risk mitigation in small, medium, and large projects

Establishing the Decision Process: Creating an Appropriate "Checklist" for Analyzing Projects

- Articulating the Problem/Opportunity definition
- Specifying goals and evaluation criteria for the financial institution
- Application of qualitative and quantitative decision-making models

Sequencing in the Decision Process: Understanding the importance of timely analysis

- Screening methods for project profiles and scaling models
- Relating project goals to financial institution objectives
- Prioritizing projects given resource constraints

II. Key Components of Project Appraisal and Analysis: Economic, Market, and Technical Implications

Fundamental Economic Analysis: A "Top Down" Approach to Evaluating New Investments Projects

- Identifying and evaluating the microeconomic fundamentals: Economic Rate of Return (ERR)
- Demand forecasting: determining market strength for the output of the project
- Measuring the opportunity costs involved in project financing
- Cost-Benefit analysis: Identifying, measuring, and comparing relative costs and benefits associated with the project
- Determining levels of acceptable project finance risk

Fundamental Market Analysis: Assessing the Competitive Business Environment

- Techniques to analyze the competitive advantage of the industry, the enterprise and the project under consideration
- Strategic assessment of the enterprise: Determining management and marketing, strengths and weaknesses
- Devising market analysis scenarios with and without the new capital investment

Fundamental Technical Appraisal: Determining the Size, Scale, and Scope (Technology) of the Project

- Determining criteria measurements for the evaluation of technical proposals: Location, plans, equipment, and infrastructure considerations
- Interpreting project cost estimates: Allowances for physical and price contingencies
- Determining appropriate level of technology

III. Financial Appraisal and Analysis: Tools and Techniques for Successful Capital Investment Projects

Financial and Accounting Conceptual Framework

- Financial valuation theory and practice
- Developing an accurate asset and liability picture
- Financial leverage, operational leverage, and liquidity ratios

Capital Budgeting Techniques: Understanding the Concepts and Terminology

- The capital budgeting process for a financial institution
- Time value of money
- Types of processes: Independent, mutually exclusive, and contingent projects
- The impact of inflation

Financial Methods of Evaluating and Analyzing Projects

- Return on investment models: Net Present Value (NPV) and Adjusted Present Value (APV)
- Return on investment models: Internal Rate of Return (IRR) and Modified Internal Rate of Return (MIRR)
- The Present Worth Model (PW) and Profitability Index Model (PI)

Estimating Project Cash Flows

- Determining initial investment, operating cash flows, and terminal value
- Utilizing Net Working Capital (NWC) models
- Incorporating depreciation into analyses
- Calculating Expected vs Actual Rate of Return
- Methods to analyze the appropriate discount rate

Estimating the Cost of Capital in Project Analysis

- Understanding the role of debt mechanism for the firm
- Risk and the cost of capital

Integrating Costs and Benefits

- Incorporating risk assessment in the analyses
- Assessing "Reasonable" Return on the Invested Capital
- Measuring sensitivity and break-even analysis

An important element to project analysis is the understanding and utilization of all available technologies to the analyst. To better equip participants, a key component of the workshop will be to integrate information presented in the program into a series of computer-based problem-solving exercises. Using both spreadsheet and financial analysis software programs, participants will be required to identify, appraise, analyze, and select financially viable projects from a variety of case examples. Exercises will begin with simple spreadsheet analysis and calculations and end with more difficult sensitivity analysis.

PUBLIC/PRIVATE INFRASTRUCTURE PARTNERSHIPS

I. Assessing the Application of Public/Private Infrastructure (PPI) Partnerships

Matching Infrastructure Needs with Available Resources

Defining the PPI Project Mechanisms

- Basic characteristics of PPI projects
- PPI: Conceptual and technical differences
- Understanding the players and their interests: government, promoters, contractor, and sponsors

Issues in Considering PPI Alternatives

- Diagnosing investment "additionality" and alternatives
- Using PPI as a privatization tool
- Analyzing private vs public efficiency in projects
- Types and implication of PPI risks
- Models for weighing the pros and cons

Calculating the Necessary Conditions for Feasibility

- Types of legal structures required for success
- Special legislation: private ownership prerequisites
- Determining the appropriate mix between foreign and local partners
- Utilizing and developing local capital markets and investors
- Techniques of foreign investment promotion and PPI.

Identifying Appropriate Sectors for PPI projects

II. Sector Risks and Responsibilities: Effective Risk Allocation

Techniques of Evaluating PPI Proposals

- Methods of treating unsolicited proposals
- Rationale and forms of competitive bidding by government for private project proposals
- Rewarding risk and initiative
- Types of letters of intent, concessions, and other PPI agreements
- Limiting government and private sector pre-project expenses

Measuring and Negotiating Adequate Host Government Support

- Political and bureaucratic support
- Calculating prudent levels of government commitments: supplies, revenues, terms
- Types of government financial contributions
- Forms of regulatory and fiscal support

- Assessing requests for protection from competition
- Balancing risks vs. private sector development goals

Project Analysis Using PPI Criteria

- Completion risk and responsibilities
- Performance and operating risks
- Estimating long-term concessions
- Calculating tariff and/or price structures

Role and Potential of Multilateral and Bilateral Agencies

- Forms of risk protection
- Available project identification assistance
- Education and training opportunities
- Methods of financial participation
- Survey of existing facilities

III. Calculating and Distributing Costs and Returns: Project Financial Engineering

Techniques of Structuring a Financial Package

- Analyzing costs of PPI vs. sovereign borrowing
- Tailoring financing to the characteristics of the project and its participants
- Developing innovations in financing vehicles to suit unforeseen events
- Calculating costs of debt and equity

Optimizing Sources and Forms of Finance

- Utilizing private and public sector sources
- Determining ratios of debt and equity
- Forms of limited recourse and pure project financing
- Maximizing existing cofinancing programs
- Assessing the capacity of local financial markets to absorb PPI projects
- Potential of debt-equity swaps in PPI

Managing Inflation and Foreign Exchange Risk

Appropriate Sequencing of Project Finance

- Timing and selection of financial sources and advisors

IV. Successful Packaging and Implementation of Projects: Negotiations and Case Studies

Integrating Technical, Economic, Political, and Commercial Interests

Techniques of Maintaining Project Integrity

- Promoting transparency in procurement and selection

Learning from the Failure of Previous Projects

Packaging and Implementing Power Projects

- Demand for electricity in developing countries
- Role of the private sector in expanding capacity
- Financing PPI power projects
- Acquisition contracts

Case Studies of PPI Projects:

- Toll Road, Bridges, Expressways
- Water supply systems and Pipelines
- Port facilities and Terminals
- Waste management

ADVANCED INTEREST RATE RISK MANAGEMENT

MOTIVATIONS AND TECHNIQUES

Overview to Interest Rate Risk Management

- Sources of risk
- Reasons for firms to hedge risk
- Reasons for firms not to hedge risk
- The hedging principle
- Fundamental differences between futures and options contracts

Yield Curves and Forward Rates

- Uses of yield curves in financial management
- Imputing the zero-coupon yield curve from the observed yields on coupon-bearing treasuries
- Calculating implied forward rates on money and bond market securities
- Theories of the term structure interest rates

Bond Pricing, Duration & Convexity

- Bond yields and prices
- Coupon and maturity effects
- Interpretation and calculation of the Macaulay duration statistic
- Strengths and weaknesses of standard duration
- Using Duration in immunization strategies
- Risks to pursuing gains from convexity

THEME: INTEREST RATE FUTURES CONTRACTS

Institutional Characteristics of Exchange-Traded Futures Contracts

- Key differences between futures contracts and forward contracts
- Pay-Offs to buyers and sellers
- Margin accounts
- Daily mark-market valuation and settlement
- Settlement procedures: Delivery vs cash
- Actively traded futures contracts (Eurodollars, T-Bills and T-Bonds)

Futures Pricing

- Cash and Carry Arbitrage
- Reverse Cash and Carry Arbitrage
- Futures Rates & Implied Forward Rates

Hedge Ratios: The Optimal Number of Contracts to Hedge a Given Risk Exposure

- Basis point values
- Duration-based hedge ratios

- Tailing the hedge
- Stack versus strip hedges

Workshop on Futures Applications

INTEREST RATE SWAPS

Forward Rate Agreements (FRAs)

- Market Characteristics
- Pricing and valuation
- Hedging open positions in FRAs with Eurodollar futures
- Cross hedges (Non-IMM dates, three month versus six-month LIBOR)

Interest Rate Swaps

- History and market development
- Quotation and valuation
- Swaps as a series of off-market FRAs
- Swaps as a portfolio of capital market instruments
- Credit risk analysis
- Duration of a swap
- Recent innovations (forward swaps, varying notional principal swaps, entry and exit options on swaps, mark-to-market swaps)
- Applications in financial management

Workshop on Swap Valuation

- Using zero coupon rates to price innovative swaps luncheon for participants and speakers

INTEREST RATE OPTIONS CONTRACTS

Introduction to Options

- Definitions and Greek letters (Delta, Gamma, etc.)
- Pay-off diagrams for puts & calls
- Basic strategies: portfolio insurance and yield enhancement
- Institutional characteristics of options on Eurodollar and T-Bond Futures Contracts

Option Valuation

- Factors that determine the value of an option (strike price, time to expiration, current spot market price, level of short term interest rates, volatility of the spot price)
- Arbitrage-free boundary conditions
- Put-call-forward parity
- Binomial pricing model (lattice pricing model)
- Black-scholes pricing model and variations

Historic and Implied Volatility

- Estimating historic volatility to price an option
- Calculating implied volatility from premiums on traded options

Workshop on Swaptions & Call Monetization

- Using Swaptions to manage the interest rate risk inherent in callable bonds

INTEREST RATE CAPS, COLLARS, FLOORS AND EXOTIC OPTIONS

Interest Rate Collars and Floors

- Market development
- Quotation & valuation
- Caps and floors as series of put and call options on a hypothetical debt security
- Collars as combinations of caps and floors
- Cap-floor-swap parity
- Implications of parity for valuation and credit risk analysis
- Trade-offs between caps, collars and swaps in hedging interest rate risk

EXOTIC OPTIONS

- Average price, or Asian, options
- Barrier or one-touch options
- Look-back options
- Applications in financial management

Workshop on Participating Agreements

- Using combinations of caps and swaps to "financially engineer" an innovative contract to share interest rate risk

CASE APPLICATIONS USING FUTURES & OPTIONS ON INTEREST RATE SWAPS

Recent and User Applications in the Current Environment

Analyzing Mortgage Prepayment Risk

- Determining the effect on value of increased market share, higher operating margins, better asset utilization, or alternative capital structure

Business Planning and Restructuring: Analyzing Value in the State-Owned

VALUATION OF STATE OWNED ASSETS

Techniques of Financial Valuation for State-Owned Assets: Determining the Appropriate Financial Value

Standardizing Accounting and Financial Reporting Systems

- Developing an accurate asset and liability picture
- Creating and analyzing an income statement
- Determining accurate cash flow operations: current and projected cash flow needs

Discounted Cash Flow Model: Developing a Framework for Financial Analysis

- Designing the components of the discounted cash flow model
- Analyzing cash flow for a state owned asset
- Techniques to analyze the appropriate discount rate
- Determining the length of the cash flow forecast
- Determining the financial value of a company's operations, debt, and equity holdings

The Asset Valuation Model: Examining Value Within the State-Owned Asset

- Measuring book value and adjusted book value of the asset
- Determining liquidation value: creating a benchmark for "quick sale" privatization transactions
- Replacement value strategies and the impact within the industry

The Earnings Valuation Model

- Methods of capitalizing earnings
- Determining historical earnings: a guide for future company performance
- Forecasting future earnings under present ownership
- Forecasting future earnings under new ownership
- Procedures to establish a price-earnings multiple

Special Topics in Valuing State-Owned Assets

- Valuation of viable going concerns vs non-viable going concerns
- Valuation methods and techniques for public offerings on a securities exchange
- Managing and working with external valuation advisors
- Valuation methods in the performance of emerging markets

- Creating and analyzing forecast assumptions and scenarios for the firm and industry as a whole
- Estimating and evaluating the cost of capital and cost of equity
- Estimating and analyzing earning and dividend-paying capacity
- Measuring and interpreting the results

RHUDO/New Delhi

REGIONAL TRAINING, NETWORKING AND INFORMATION EXCHANGE: STRATEGIES AND ACTIVITIES

The training component of RHUDO/New Delhi's regional portfolio was first detailed in its 1988 Training Strategy commissioned when there was one RHUDO located in Bangkok that served all countries in Asia. That strategy set forth three major goals: (1) adoption of appropriate national policies; (2) skill development of staff in key agencies in sectors of importance to the RHUDO; and (3) capacity building of key training institutions in the region. The 1992 evaluation of RHUDO's training portfolio (covering 1988-91), the first draft of which has been received by the RHUDO, generally validated the strategy and activities undertaken by RHUDO to date.

RHUDO/New Delhi's regional training emphasizes networking, and policy dialogue, the development of relevant regional academic and training programs, and links between U.S. training institutions and counterpart organizations in the region; its country-specific training emphasizes skill development of key counterparts in implementing agencies as well as assistance of relevant in-country training and research institutes in specific countries as well as policy dialogue.

List of Regional Training Activities

The activities fall into the categories noted below. Descriptions of accomplishments to date, current status and planned work follows the listing.

Regional Networks

- Policymakers
- Urban Environment
- Disaster Management
- Housing Finance Coalition
- UNDP/UNCHS/IBRD
- Informal Sector - Land/Shelter

Information Exchange

- Regional Newsletter
- Occasional Papers/Talks
- AIT/ADPC Publications

Regional Training

- Regional Seminars

- Training Institute Development

Other Related Topics

- US Training and Study Tours
- 1992 Evaluation of RHUDO Training Approach

Regional Networks

RHUDO/New Delhi maintains relationships with several networks in the region: Policymakers; Urban Environment; Disaster Mitigation; Housing Finance; UNDP/UNCHS/IBRD and with NGOs working with the informal sector on shelter and land issues. With the establishment of RHUDO/New Delhi, these activities are expected to continue, although with a largely South Asian audiences. This section describes the base of regional networks and recent accomplishments of each from which RHUDO/New Delhi will build.

RHUDO's Policymakers Network was formally established at the first regional policymakers' seminar, in Bangkok in September 1988. Policy and planning seminars with this group (14-25 members representing all areas of shelter and urban development across the region) took place through 1991. Since programs in the region have grown and become more diversified, however, the general seminars were seen to be less valuable as a means of communication among members. However, RHUDO is regularly in touch with the group and relates to members on a more subject specific manner, through individual and small group meetings. The group is well connected and allows us ready access to policymakers in countries throughout the region. Several members have also been called upon to serve as consultants in other countries throughout the region.

Information Exchange

RHUDO/Bangkok provides information throughout the region through a number of vehicles: its own newsletter, *Asia Perspective*, which has a circulation of approximately 700, is one major vehicle. In 1992 two editions were published: "Access" and "Decentralization: Improving Urban Management in Asia." The next edition will be published in mid-1993 on "The Role of Municipal Finance in Capital Market Development."

Regional Training

On a regional basis, RHUDO offers seminars and assists training institutions develop new fields of study that respond to training needs in the areas of shelter and urban development. The major 1992 activities, as well as proposed events for 1993-1994, are listed below.

Training Institution Development

At the regional level, RHUDO is working with the Asian Institute of Technology in two critical areas described below: Disaster Mitigation and Urban Environmental Management. National training and research institutional development is also taking place in several countries throughout Asia with AID support. Examples are described in country reports. RHUDO/Bangkok expects to continue its support of key regional and national institutions in order to sustain the impact of its training and technical assistance efforts.

Urban Environmental Management

In 1992 RHUDO and AIT began to work collaboratively with the Asian Institute of Technology (AIT) in the planning of an Urban Environmental Management Program (URMP) to be developed at AIT and intended to serve students and institutions throughout the region.

Training Perspective for India

Training now supports the Housing Guaranty Loan Program in India, which has as its goal promoting the development of a financially sound, self-sustaining, housing finance system which makes long term loans available to a wide range of households, particularly those below the median income. In the near future it will support private sector oriented, financially sustainable systems for the delivery of urban infrastructure under a new Housing Guaranty Program.

Key Guiding Principles

In analyzing technical assistance and training needs, there are a number of principles to keep in mind:

- The framework should address both structural and content areas.
- The framework should include in its target audience all of the actors which play a role.
- Training and technical assistance should be developed in conformity with the national policy of decentralization.
- Training and technical assistance should be demand driven and responsive to the job needs of financial engineering firms, local government managers and staff and the other relevant participants. This requires different training and technical assistance activities targeted to the different audiences.
- Because infrastructure development must be an intergovernmental undertaking and involve governmental and non-governmental contributors, some training activities should be addressed to functional "teams" of participants who must

collaborate in the business of planning, installing and managing urban facilities and services.

- Local governments should pay for a large part of the training and technical assistance costs and, therefore, should have optional suppliers of these services (including the private sector); payment may need to be built into this on a gradual basis, but full cost recovery should be a goal.
- Training and technical assistance services should be developed in tandem and artificial distinctions between the two should be eliminated. There are two important aspects of this principle. First, there should be permanent domestic sources of technical assistance available "on call" to the local and other government managers and staff who need them. Intermittent, and externally funded, projects should not be the primary source of technical assistance. Second, when technical assistance is provided through projects (funded externally or domestically) it should be integrated with training in the projects and it should contribute to the institutionalization of regularly-needed training in the fields concerned. It, therefore, should be linked with the activities of existing training institutions.
- Institutions and individuals should be called on to fulfill roles in the training and technical assistance delivery system based on their competence and capability rather than organizational mandate.
- The development of training and technical and assistance system should be consciously "dynamic", especially at the outset, since it is not clear which approaches will work best. Furthermore, different approaches may work better in different regions so that flexible system designs are preferable to a uniform standard.
- The schedule through which the training and technical assistance strategy is implemented should reflect priorities of the target groups for the training.

Target Groups for Training for the Urban Infrastructure Development HG

Target groups in this program include the following: financial intermediary implementing organization(s); local government authorities; private sector institutions; the Ministry of Urban Development and its resource institutions (HUDCO, NIUA, for example); selected state and national government agencies.

Training Modalities

Training can be delivered in many forms and with many different levels of intensity. Several modes of training will be supported under this project noted in the chart that follows. Although most of the training will take place in India, some will be held abroad.

Conferences, either held within the country or abroad, may be funded through this program. In addition, Courses (long and short term) can be developed, tested and funded. NETWORKS of individuals and institutions can be funded, in that materials (hardware and software) can be purchased and costs associated with convening members of the network can be funded. STUDY TOURS specially designed to support program goals and objectives as well as OJT arrangements and exchanges like TWINNING and STAFF EXCHANGES. Training for INSTITUTION BUILDING may also take place - with current institutions and to develop new organizations that will meet program goals and objectives.

Training for the Financial Intermediary

Training and technical assistance will be given to the financial intermediary and similar institutions to ensure that this key institution is able to fulfill its mandate as the implementing agency and to develop the appropriate financial techniques and instruments. Training support includes the following:

MARTA TO LIST

MARTA TO FILL OUT:

Training for Local Authorities and Private Sector Institutions

The project will provide technical assistance and training to local authorities and private sector institutions to ensure that they are able to design and develop commercially viable urban environmental infrastructure projects for financing by the Financial intermediary(ies)

Training support will include the following:

- specific in-country strategy workshops on key topics, to report on results of TA and to raise issues for additional analysis and resolution of issues. Every useful opportunity to build a training event from TA experience should be taken, and the training materials should be developed and contributed to the NIUA and HUDCO libraries.
- A core curriculum that incorporates the results of TA and Training in this area on a systematic basis and planned workshops in this subject area on a systematic basis and planned workshops in this subject area should benefit from advances in training design and materials.
- Sharing process among local authorities and private sector institutions so that "successful practices" can be documented and so that peer learning can be facilitated. OJT between municipalities might be useful.
- Support of selected individuals to regional long and short term training.

RHUDO/New Delhi

REGIONAL TRAINING, NETWORKING AND INFORMATION EXCHANGE: STRATEGIES AND ACTIVITIES

The training component of RHUDO/New Delhi's regional portfolio was first detailed in its 1988 Training Strategy commissioned when there was one RHUDO located in Bangkok that served all countries in Asia. That strategy set forth three major goals: (1) adoption of appropriate national policies; (2) skill development of staff in key agencies in sectors of importance to the RHUDO; and (3) capacity building of key training institutions in the region. The 1992 evaluation of RHUDO's training portfolio (covering 1988-91), the first draft of which has been received by the RHUDO, generally validated the strategy and activities undertaken by RHUDO to date.

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- Housing Finance Coalition
- UNDP/UNCHS/IBRD
- Informal Sector - Land/Shelter

Information Exchange

- Regional Newsletter
- Occasional Papers/Talks
- AIT/ADPC Publications

Regional Training

- Regional Seminars

MOUD, Its Resource Institution, and Selected Central/State Government Organizations

Training and Technical Assistance will be given to the MOUD, its resource institutions, as well as other Central and State Governmental Agencies, to ensure that the proper environment and requisite policies exist to develop the debt market and the urban environmental infrastructure component of this project. Examples of training follow:

- Policy Workshops, conducted in India, in the region and in the U.S. to raise the awareness of current research and experience in all aspects of this program. Building training along with TA with documentation given to NIUA and HUDCO.
- Technical workshops, in India and in the region, on all critical topics.

brainsupport of selected individuals to regional long and short term

A NOTE ON TRAINING NEEDED BY HUDCO

HUDCO made a presentation to NB and Meera Melita articulated training needs of the organization in order to enable it to participate more effectively in this new activity.

TRAINING AREAS:

Planning and Project Formulation

- City Level Strategic Planning (finance and operations planning)
- Project Formulation and Appraisal for Service Groups Like Water and Sanitation, Roads and Bridges, Land development, Transportation systems, etc.
- Environmental Impact Assessment
- Computer Based Appraisal Systems
- Demand Assessment (Willingness to Pay Studies)

Management and Institutional Arrangements

- Existing Institutional Arrangements
- Public Private Participation and Regulatory Mechanism
- Contracting, BOO - BOT
- Leak Detection and Prevention Strategies
- Computer Based Monitoring Systems

Infrastructure Finance

- Resource Mobilization Options
- New Instruments for Resource Mobilization
- Municipal Finance and management
- Pricing and Cost Recovery

Nature of Training Requirements:

Exposure to Emerging Issues Related to

- o Commercial Viability
- o New Debt Instruments
- o Efficiency Pricing, Etc.

Detailed Understanding of New Potential Instruments

- o Municipal Bonds
- o BOO/BOT or Concession
- o Municipal Strategic Planning

Skill Development In

- o Project Appraisal
- o Financial Analysis
- o Computer Based Tools for Planning and Appraisal
- o Contracting

A Note on Environmental Training Provided Through US-AEP and USEPA

The US-ASIAN Environmental Program has a range of training programs available to Indian colleagues which relate to many important aspects of this new HG program. The U.S. Environmental Training Institute offers a set of regularly scheduled programs each year in the U.S. and Asia as well as being able to design special courses if needed in developing countries. In addition, the U.S. Environmental Protection Agency has a roster of U.S. experts numbering more than 1000 who are available to conduct training and technical assistance planners for this project. The optimum use of this resource would be to combine two or three EPA consultants with at a more experienced international consultant.

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Request for Specific Training Assistance submitted BY ILFS ✓

Note on the Training Requirements for ~~IL&FS~~ ILFS

I. Introduction

1. IL&FS is a unique organization in that it is the only financial institution in India to have a strategic focus on the commercialization of the infrastructure sector, capital markets and structured finance. In so far as recent developments have brought the capital markets to the center stage of the financial system, it is evident that IL&FS would like to be able to further build upon its existing financial and technical strengths.
2. IL&FS has developed the legal framework for the implementation of infrastructure projects. IL&FS thus also requires to provide a framework for the dissemination of requisite skills so as to enable these entities to operate eventually as independent agencies.
3. With the opening up of the Indian economy, it is evident that there is also a need for IL&FS to provide greater international exposure to its senior management of systems, practices and products in more advanced countries as well as with NIC's with a view to appropriately accessing resources and/or structuring projects.
4. Training requirements for each of the above are detailed above.

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Technical Skills

In commercially implementing infrastructure projects it is critical that project costs are optimized and that implementation schedules are truncated to the tightest time-frames possible. Given the historical funding pattern within the country, domestic institutions do not have the requisite capabilities in this regard.

Thus, from a technical point of view, IL&FS would require to focus on building both within its organization and in other agencies, through appropriate programs, the following areas:

- Design
- Construction practices
- Project Management Systems
- Technology options in specific infrastructure sub-sectors, such as roads, bridges, rails, serviced land
- Bid evaluation techniques, etc.

Commercialization of Infrastructure Projects

Commercialization of infrastructure projects is a new concept in India. There is consequently a need for institutions, such as IL&FS, to rapidly gain exposure to international practices and systems in this area in a more formal manner than is the case presently.

Such exposures would need to be oriented, inter-alia, towards:

- Public/Private Infrastructure (PPI) partnerships/Concessionaire agreements
- Risk sharing arrangements
- Alternative recovery mechanisms
- Pricing strategies
- Toll collection systems
- Maintenance and operation franchises
- Organizational and Safety Aspects, etc.

In this context, it thus also becomes necessary for IL&FS to visit other countries, both developed and NICs, with a view to absorbing the experience of similar agencies in projects implemented under a commercial format.

Feasibility Skills

With infrastructure projects hitherto funded through budgetary allocations, domestic capability to undertake feasibility studies under a commercial format is limited. IL&FS

is developing the requisite expertise in this area and would benefit from training inputs especially in the following areas:

- Environmental impact assessment
- Legal structures

Financial Engineering

- Focus here would be on the creation of debt instruments for financing infrastructure projects and on developing a secondary market for debt
- Exposure to international syndication systems and practices and approaching the overseas market for placement of paper of infrastructure projects
- Project and financial risk management
- Privatization

Developmental Perspective

- IL&FS is pursuing a sector approach to the commercialization of infrastructure projects. Thus the initial clutch of projects it is implementing have been structured as replicable prototypes in each of their respective sub-sectors. IL&FS proposes to develop programs to disseminate its expertise to other agencies in the sector and act as an institutional window in this regard.

RHUDO/New Delhi

REGIONAL TRAINING, NETWORKING AND INFORMATION EXCHANGE: STRATEGIES AND ACTIVITIES

The training component of RHUDO/New Delhi's regional portfolio was first detailed in its 1988 Training Strategy commissioned when there was one RHUDO located in Bangkok that served all countries in Asia. That strategy set forth three major goals: (1) adoption of appropriate national policies; (2) skill development of staff in key agencies in sectors of importance to the RHUDO; and (3) capacity building of key training institutions in the region. The 1992 evaluation of RHUDO's training portfolio (covering 1988-91), the first draft of which has been received by the RHUDO, generally validated the strategy and activities undertaken by RHUDO to date.

RHUDO/New Delhi's regional training emphasizes networking, and policy dialogue, the development of relevant regional academic and training programs, and links between U.S. training institutions and counterpart organizations in the region; its country-specific training emphasizes skill development of key counterparts in implementing agencies as well as assistance of relevant in-country training and research institutes in specific countries as well as policy dialogue.

List of Regional Training Activities

The activities fall into the categories noted below. Descriptions of accomplishments to date, current status and planned work follows the listing.

Regional Networks

- Policymakers
- Urban Environment
- Disaster Management
- Housing Finance Coalition
- UNDP/UNCHS/IBRD
- Informal Sector - Land/Shelter

Information Exchange

- Regional Newsletter
- Occasional Papers/Talks
- AIT/ADPC Publications

Regional Training

- Regional Seminars

- Training Institute Development

Other Related Topics

- US Training and Study Tours
- 1992 Evaluation of RHUDO Training Approach

Regional Networks

RHUDO/New Delhi maintains relationships with several networks in the region: Policymakers; Urban Environment; Disaster Mitigation; Housing Finance; UNDP/UNCHS/IBRD and with NGOs working with the informal sector on shelter and land issues. With the establishment of RHUDO/New Delhi, these activities are expected to continue, although with a largely South Asian audiences. This section describes the base of regional networks and recent accomplishments of each from which RHUDO/New Delhi will build.

RHUDO's Policymakers Network was formally established at the first regional policymakers' seminar, in Bangkok in September 1988. Policy and planning seminars with this group (14-25 members representing all areas of shelter and urban development across the region) took place through 1991. Since programs in the region have grown and become more diversified, however, the general seminars were seen to be less valuable as a means of communication among members. However, RHUDO is regularly in touch with the group and relates to members on a more subject specific manner, through individual and small group meetings. The group is well connected and allows us ready access to policymakers in countries throughout the region. Several members have also been called upon to serve as consultants in other countries throughout the region.

Information Exchange

RHUDO/Bangkok provides information throughout the region through a number of vehicles: its own newsletter, *Asia Perspective*, which has a circulation of approximately 700, is one major vehicle. In 1992 two editions were published: "Access" and "Decentralization: Improving Urban Management in Asia." The next edition will be published in mid-1993 on "The Role of Municipal Finance in Capital Market Development."

Regional Training

On a regional basis, RHUDO offers seminars and assists training institutions develop new fields of study that respond to training needs in the areas of shelter and urban development. The major 1992 activities, as well as proposed events for 1993-1994, are listed below.

Training Institution Development

At the regional level, RHUDO is working with the Asian Institute of Technology in two critical areas described below: Disaster Mitigation and Urban Environmental Management. National training and research institutional development is also taking place in several countries throughout Asia with AID support. Examples are described in country reports. RHUDO/Bangkok expects to continue its support of key regional and national institutions in order to sustain the impact of its training and technical assistance efforts.

Urban Environmental Management

In 1992 RHUDO and AIT began to work collaboratively with the Asian Institute of Technology (AIT) in the planning of an Urban Environmental Management Program (URMP) to be developed at AIT and intended to serve students and institutions throughout the region.

Training Perspective for India

Training now supports the Housing Guaranty Loan Program in India, which has as its goal promoting the development of a financially sound, self-sustaining, housing finance system which makes long term loans available to a wide range of households, particularly those below the median income. In the near future it will support private sector oriented, financially sustainable systems for the delivery of urban infrastructure under a new Housing Guaranty Program.

Key Guiding Principles

In analyzing technical assistance and training needs, there are a number of principles to keep in mind:

- The framework should address both structural and content areas.
- The framework should include in its target audience all of the actors which play a role.
- Training and technical assistance should be developed in conformity with the national policy of decentralization.
- Training and technical assistance should be demand driven and responsive to the job needs of financial engineering firms, local government managers and staff and the other relevant participants. This requires different training and technical assistance activities targeted to the different audiences.
- Because infrastructure development must be an intergovernmental undertaking and involve governmental and non-governmental contributors, some training activities should be addressed to functional "teams" of participants who must

collaborate in the business of planning, installing and managing urban facilities and services.

- Local governments should pay for a large part of the training and technical assistance costs and, therefore, should have optional suppliers of these services (including the private sector); payment may need to be built into this on a gradual basis, but full cost recovery should be a goal.
- Training and technical assistance services should be developed in tandem and artificial distinctions between the two should be eliminated. There are two important aspects of this principle. First, there should be permanent domestic sources of technical assistance available "on call" to the local and other government managers and staff who need them. Intermittent, and externally funded, projects should not be the primary source of technical assistance. Second, when technical assistance is provided through projects (funded externally or domestically) it should be integrated with training in the projects and it should contribute to the institutionalization of regularly-needed training in the fields concerned. It, therefore, should be linked with the activities of existing training institutions.
- Institutions and individuals should be called on to fulfill roles in the training and technical assistance delivery system based on their competence and capability rather than organizational mandate.
- The development of training and technical assistance system should be consciously "dynamic", especially at the outset, since it is not clear which approaches will work best. Furthermore, different approaches may work better in different regions so that flexible system designs are preferable to a uniform standard.
- The schedule through which the training and technical assistance strategy is implemented should reflect priorities of the target groups for the training.

Target Groups for Training for the Urban Infrastructure Development HG

Target groups in this program include the following: financial intermediary implementing organization(s); local government authorities; private sector institutions; the Ministry of Urban Development and its resource institutions (HUDCO, NIUA, for example); selected state and national government agencies.

Training Modalities

Training can be delivered in many forms and with many different levels of intensity. Several modes of training will be supported under this project noted in the chart that follows. Although most of the training will take place in India, some will be held abroad.

MOUD, Its Resource Institution, and Selected Central/State Government Organizations

Training and Technical Assistance will be given to the MOUD, its resource institutions, as well as other Central and State Governmental Agencies, to ensure that the proper environment and requisite policies exist to develop the debt market and the urban environmental infrastructure component of this project. Examples of training follow:

- Policy Workshops, conducted in India, in the region and in the U.S. to raise the awareness of current research and experience in all aspects of this program. Building training along with TA with documentation given to NIUA and HUDCO.
- Technical workshops, in India and in the region, on all critical topics.

brainsupport of selected individuals to regional long and short term

A NOTE ON TRAINING NEEDED BY HUDCO

HUDCO made a presentation to NB and Meera Mehta articulated training needs of the organization in order to enable it to participate more effectively in this new activity.

TRAINING AREAS:

Planning and Project Formulation

- City Level Strategic Planning (finance and operations planning)
- Project Formulation and Appraisal for Service Groups Like Water and Sanitation, Roads and Bridges, Land development, Transportation systems, etc.
- Environmental Impact Assessment
- Computer Based Appraisal Systems
- Demand Assessment (Willingness to Pay Studies)

Management and Institutional Arrangements

- Existing Institutional Arrangements
- Public Private Participation and Regulatory Mechanism
- Contracting, BOO - BOT
- Leak Detection and Prevention Strategies
- Computer Based Monitoring Systems

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