

Financing Environmental Improvement

Environmental Framework Papers

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As Americans with their strong environmental ethic move more into the global economy, how to pay for environmental protection becomes a central issue for American and developing country citizens alike. Meeting the challenge of financing environmental protection is an important objective of USAID, the foreign assistance arm of the U.S. government. This document includes discussions on:

- * The challenge of financing environmental improvement in developing countries
- * USAID's approach to financing improvements
- * Results of the Agency's efforts
- * Lessons learned

The Challenge Of Financing Environmental Improvement In Developing Countries

The basic thrust of the movement toward sustainable development is that natural resources -- including air, water, and soil -- should be husbanded to build economic growth in ways that do not jeopardize future development. The key to sustainable development is learning how to predicate those resources in development projects so as to ensure their availability for future generations. Finance, then, becomes an important element for the environment in terms of both incorporating environmental values into financial decision making and financing needed environmental improvement.

It is almost by definition that developing countries have trouble with finance. Poorer countries have limited ability to finance the core elements of environmental improvement, such as clean energy, waste water collection and treatment, drinking water supply projects, protection of critical forest and wildlife areas, industrial pollution prevention measures, and the like. Even if the investment appears to be a profitable one -- as it is for many environmental projects -- weak treasuries may not be able to attract the necessary investment capital. Any number of difficulties arise -- poor pricing policies, lack of credit, overextended national debt, lack of capital markets to raise funds locally, lack of market oriented policy and regulatory structures, etc. In this sense, the problem of sustainable development is, at root, a problem of finance.

Insufficient attention has been paid to the problem of financing sustainable development. Finance ministries face the problem daily, and multilateral finance institutions, like the World Bank, must consider how their loans will be repaid. But their concerns tend to be fairly short term and project or program specific. Long-term issues of how various public or private sectors are financed, or how natural resources are to be husbanded, have arisen only recently. This is largely attributed to the huge and seemingly unaffordable infrastructure finance requirements of rapidly growing economies, especially in Asia and Latin America.

The U.S. foreign assistance program has been a leader in focusing attention on financing issues, partly because of this country's preeminence in financial skill and experience, and partly because of our strong tendency toward market-based development. Capital market development, promotion of market-oriented regulatory policy, credit guaranties (for example, USAID's innovative Housing Guaranty program), and similar efforts have been the focus of much of the assistance program since the early 1980s. Lessons learned in these programs have been adapted and adopted widely by multilateral banks and finance ministries worldwide.

USAID has addressed the specific challenge of financing environmental protection in two areas: environmental infrastructure and preservation of critical natural and wildlife areas.

Environmental Infrastructure

Environmentally sound infrastructure is a key element of economic and social development. Access to clean energy, for example, is necessary for agriculture, industry, communications, health systems, transportation, and other sectors. Yet more than 2 billion people in developing countries lack access to adequate energy supply. Developing countries already invest \$200 billion a year in energy and new infrastructure -- much of it going to urban environmental infrastructure. In Latin America alone, annual investment demand over the next 10 years is estimated at \$24 billion for electric power and \$12

billion for water supply and sewerage. Public resources, particularly at the central government level, are inadequate to finance the ever-growing energy and urban environmental infrastructure needs. Foreign aid is steadily declining. Governments are often unable or unwilling to accept further World Bank and regional development bank loans for infrastructure investment.

Protecting Critical Environmental Areas

Environmental and natural resources are hard to evaluate in monetary terms. How much is saving a species from extinction worth? What is the value of forest cover that absorbs carbon dioxide from industrial processes? Or clean air or water? Or unpolluted soils for crop production? How do we finance preservation of natural areas -- tropical forests or oceans, for example, that belong to all of us, but also to none of us? The 1992 Earth Summit in Rio de Janeiro focused the development community's attention and emphasized the need for creative and effective approaches to these problems. USAID is a leader in this effort, focusing on environmental endowments, finance for nongovernmental grant-making organizations, debt-for-nature swaps to protect natural area preserves, and a variety of other innovative approaches to environmental finance.

USAID's Approach To Financing Improvements

Most developing country governments have increasingly turned to international capital markets and private developers to meet their financing needs. For example, the trend toward privatization of the energy sector has the potential to free up scarce government funds for social investment (in some countries, more than 40 percent of governmental budgets have gone toward public energy infrastructure investment). To a lesser degree, this is also the case with private investment in water systems and other needed urban services. However, the basic requirements necessary to attract private investment capital, such as adequate legal regimes and independent and transparent regulatory structures, are not yet in place. USAID's approach to finance has been to work closely with local and national efforts to tap private capital and optimize the investment climate for financing environmental protection and improvement. Specifically, USAID works to:

- * **improve local governments' ability to plan and manage financing** -- with support from the private sector, and through initiatives in research, training, management assistance, information exchange, and planning and coordination of technical informational events related to financing, USAID helps these governments oversee the financing of energy development, urbanization projects, and natural resource conservation;

- * **foster working partnerships between U.S. and host country private sector, governmental, and NGOs;**

- * **build the capacity of central and local governments to generate more indigenous private capital and optimize existing financial resources** -- this capacity is maximized through the:

- * optimal allocation of subsidies;

- * improved functioning of financial markets;

- * improved policy and legal climate for private investment;

- * expanded capacity of central and local governments to operate more efficiently;

- * increased informal sector provision of services and shelter;

- * increased participation in the design/development/operation of projects;

- * development of cost recovery approaches and mechanisms;

- * development of standards of operating transparency; and

- * disclosure of information at the municipal and local level;

- * **assist in carrying out new financing transactions for specific projects, using both Urban Environmental Credits (formerly Housing Guaranties) and private sector resources (for-profit and non-profit);**

- * **increase market and investment opportunities for the U.S. private sector;**

- * **encourage and assist the U.S. private financial sector in working in developing countries;**
- * **communicate USAID's and others' experience and research in order to shift the global "learning curve" on urban/energy finance and identification of best practices; and**
- * **work closely with the World Bank, the Inter-American Development Bank (IDB), the Asian Development Bank, and other donors** -- joint programs with the World Bank and the IDB, in particular, have generated significant leveraging of bilateral assistance funds for sustainable energy investment.

Results Of The Agency's Efforts

The quantitative results of USAID's efforts to finance environmental improvement include:

- * catalyzing significant private investment in energy generation in over 30 countries;
- * expanding basic urban services and use of private capital in urban infrastructure financing;
- * developing 42 environmental endowments in Latin America, Asia, Africa, and Europe;
- * formulating investment plans that reflect user demand as well as the increased understanding that services being demanded must be paid for by users and other beneficiaries;
- * expanding community involvement in provision of services;
- * extending the role of U.S. private and financial sectors in developing country infrastructure finance; and
- * increasing the potential for developing country integration into the global framework through financial sector strengthening.

Indonesia: Financing Urban Environmental Infrastructure

The Regional Housing and Urban Development Office (RHUDO) is assisting Indonesia in developing a viable and sustainable system of local government finance and urban management and identifying risk issues associated with large-scale infrastructure projects. In addition, the RHUDO seeks to help the country outline principles of government credit support policies and establish the legal/regulatory framework needed to enable and encourage private sector participation in the production, delivery, and financing of municipal urban services.

Results of selected interventions since 1994 include:

- * increased central-to-local government transfers;
- * increased local government revenues from user fees for municipal services;
- * establishment and operation of a central government revolving fund for infrastructure;
- * adoption of a loan structuring model to reflect the full costs of capital and service;
- * implementation of a pilot program to integrate environmental impact assessment procedures into the project development cycle and preparation of pre-feasibility studies for demonstration projects for private sector financing; and
- * development of "project life cycle" guidelines presenting a recommended framework and step-by-step procedure to be followed by local governments for entering into public-private partnerships for water supply projects.

India: Reforming and Expanding Financial Institutions

The RHUDO supports development of the debt side of India's capital market by offering HG loans to support the financing of commercially viable urban environmental infrastructure projects. Recently, this support figured in the completion of the first credit rating of an Indian municipal government -- an A+ rating for the Ahmedabad Municipal Corporation. India's leading credit rating agency expects this rating -- one of the first, if not the first of its kind in Asia -- to initiate a new trend in public finance in India, in which local governments will access the capital market to finance urgently needed urban infrastructure investment.

The rating reflects Ahmedabad's financial position, revenue-generating strength and diversity, and economic growth and per capita income, as well as the level of industrial development and construction in the city. Recent management initiatives of the Ahmedabad Municipal Corporation have included the establishment of an agenda for property tax reforms, improvement of its own administrative systems through the employment of consultants in specialized areas, increased computerization, and the direct recruitment of professional staff.

Successful completion of this landmark rating of a municipal government has already had a ripple effect whereby USAID will help the credit rating agency complete ratings of other Indian municipal authorities. Ahmedabad is currently exploring the potential for capital market financing of major improvements in water supply and related sewerage projects for the city's more than 3 million residents.

Czech Republic: Financing Clean Home Heating

The Czech town of Dolni Kounice was accustomed to serious air pollution during winter months. All of its 750 homes were heated with locally mined soft coal, whose combustion presented health risks from particulate matter and other pollutants. Because of the availability of loans to municipalities on more favorable terms, attributable to a USAID HG loan, the town was able to borrow 15 million kopecks from a local bank for a 15-year period. The town was able to connect all the homes to natural gas, and the 1995-96 season represented Dolni Kounice's first clean winter ever. Gas lines were also extended to a brick factory that had been idle since 1934. The "new" private brick factory employees about 40 residents, and is the first new employer in the village for decades. The town mayor told USAID that without the HG loan, he would not have had access to long-term financing for this high-priority project.

The loan for Dolni Kounice is part of a program of on-lending through MUFIS (Municipal Infrastructure Finance Fund), an intermediary institution established through a 30-year, fixed-rate loan guaranty. The guaranty was made available through USAID's Municipal Finance Program in the Czech Republic. As a result, MUFIS is able to borrow money on highly favorable terms. It in turn makes loans to four Czech commercial banks, which are using the money to lend to municipalities for infrastructure projects (on terms far more favorable than in the past). Previously, nearly all municipal lending was done by one Czech bank, which was able to dictate the terms. Whereas no local bank had ever before made a long-term loan to a municipality, today there is real, local competition for municipal loan business. During the first 12 months, the banks to which MUFIS on-lends had made 26 loans for 40 different projects.

USAID has substantially improved municipalities' chances of financing major capital investment themselves. Moreover, since the Agency's program began, the average maturity for all commercial loans in the Czech Republic has increased from 4 to 12.8 years.

Central America: Accessing Market-Driven Credit

The RHUDO for Central America devised a program to provide Costa Rican and Guatemalan municipalities with financing for infrastructure. At the same time, the program focused on establishing a market for municipal credit in the region and increasing municipal autonomy as well as financial independence and accountability. Using both HG funds and its own resources, the bank that administers this program -- the Central American Bank for Economic Integration -- has successfully lent funds to public and private financial intermediaries in participating countries. In turn, these intermediaries on-lend to municipalities for financing urban environmental infrastructure projects.

This innovative way of financing projects complements the decentralization movement under way in Central America. It has provided municipalities with the option of accessing market-driven credit and offers an alternative to the antiquated municipal credit agencies that are running out of funds. This USAID program has provided an incentive for municipalities to get their "houses in order" to become eligible for this type of credit. In sum, the discipline of market credit is applicable to the entire project cycle. The need to comply with loan provisions and repayment schedules compels municipal officials to manage their projects more closely.

Costa Rica: Wind Farm

Approximately \$50,000 in USAID funds has been used to leverage many millions of dollars from a large multilateral lending institution to fund development of non-polluting renewable energy. These funds were used to prepare a pre-feasibility study for a wind power farm at a promising site in Costa Rica. Subsequently, the Global Environment Facility (GEF) provided a grant of \$3 million, and the Inter-American Development Bank financed a loan of approximately \$24 million for a 20-MW wind farm at the site. The promising results of the study have led a U.S. energy firm to develop a project at that same site, using U.S.-based technology. This project came on-line in mid-1996, and the electricity produced is now being sold to the Costa Rican national utility. An additional 47 MW of wind-based generating capacity, to be distributed among three different project, is in the pipeline,. When all of this capacity is on-line, it will represent 6 percent of Costa Rica's total generating capacity.

This is the first commercial wind power project in Central America. The use of wind power instead of fossil fuel will reduce Costa Rica's carbon dioxide emissions by as much as 29,000 metric tons per year.

Mexico: Lighting

The USAID-supported ILUMEX project will competitively procure and install almost 2 million compact fluorescent lamps in homes in Monterrey and Guadalajara. Feasibility work performed by USAID led to funding for the implementation of ILUMEX from the Mexican Government, the GEF, and the Government of Norway. General Electric and Phillips won the initial procurement bid, with each company selling approximately 300,000 units. When installed, the compact fluorescent lamps will save enough energy to reduce GHG emissions equal to more than 100 million kilograms of carbon dioxide per year.

The Philippines: Sector Restructuring

USAID has been instrumental in assisting the Philippines with restructuring and privatizing its power sector. When the Philippines Department of Energy (PDOE) was created in 1993, USAID began providing technical assistance to facilitate privatization of the Philippines National Power Corporation. USAID provided basic assistance with policy reform and formulation, and sponsored workshops for power sector officials that illustrated options for "unbundling" the power sector. In 1994, with USAID assistance, PDOE published an action plan for restructuring and privatizing the electricity industry. That plan identified the steps required to provide a more competitive environment, improve accountability and performance in industry, establish transparent decision-making and pricing, and eliminate subsidies.

Worldwide: Sectoral Development

USAID catalyzes endowments for environmental conservation, family planning, and other sectoral development programs. In 1990, USAID and The Nature Conservancy, a U.S. NGO, helped establish the Environmental Foundation of Jamaica with a \$400,000 endowment that has since grown to over \$1.2 million due to other contributions. In 1992, USAID helped established the Foundation for the Philippine Environment with a \$22 million endowment (\$18 million from USAID). Also in 1992, USAID created a \$1.7 million endowment to support family planning activities by the Family Life Association of Swaziland.

Latin America: Reducing the Debt Burden

In 1990, the U.S. launched the Enterprise for the Americas Initiative (EIA) to help reduce the debt burden of Latin American and Caribbean nations. Under the EIA, the U.S. reduced the foreign assistance and food aid debts of Argentina, Bolivia, Chile, Colombia, El Salvador, Jamaica, and Uruguay by \$875 million. In exchange for debt reduction, each country agreed to establish a local currency fund, set up as an endowment, to support environmental and child survival programs. To date, five of the seven countries (Bolivia, Chile, El Salvador, Uruguay, and Jamaica) have functioning operations.

United States: Promoting Business

USAID's technical and credit assistance to finance energy and needed urban environmental health services and facilities has

also benefited American business and trade. These programs:

- * have contributed to the increasing ability of their lower-income urban residents to buy American goods and services through support for the development of stable, productive, and well-managed urban areas;

- * have enabled USAID to work closely with the U.S. private sector, trade associations, and NGOs to promote urban environmental infrastructure and sustainable energy production and use through:

- * energy efficiency services;

- * renewable energy technologies;

- * pollution control equipment;

- * clean energy technologies; and

- * private power development;

all of which has helped create markets for U.S. technologies and services and built bridges between the U.S. and our developing trading partners;

- * have, with a targeted investment of around \$15 million over the last decade, brought about a transformation in developing countries' energy sectors that has opened a private market estimated at over \$50 billion per year;

- * have provided profitable business for U.S. private lenders by extending loan guaranties to U.S. private investors who make loans to public and private institutions in developing countries for the financing and managing of low-income shelter and environmental services;

- * in Indonesia, India, and Thailand, worked with the Agency's US-AEP to identify commercially feasible urban environmental infrastructure projects that could be marketed to the U.S. environment industry, including U.S. A&E firms (over \$590 million in potential contracts was identified in 1995); and

- * have enabled groups, such as the International City Managers Association, the National Associations of Realtors and of Home Builders, FannieMae, and others, to develop valuable overseas business contacts -- these organizations use their expertise to help local foreign governments devise needed policy reform and institutional strengthening.

Lessons Learned

The following lessons have been derived from USAID's efforts to help finance

environmental improvement.

- * **Economic and environmental goals must be pursued in tandem if they are to have lasting benefit in developing countries.** Clean energy and urban or rural environmental options that also make good economic sense represent a "win-win" situation for all stakeholders.

- * **Engagement of the U.S. and foreign private sectors is critical to the long-term sustainability of our clean energy and sustainable urbanization goals in developing countries.** Ultimately, it is the private sector that develops and applies new technologies and provides the capital for trade and investment. Private sector actors will be the engine of lasting change. Our goal must be to catalyze their engagement.

- * **Involvement of local in-country stakeholders is an essential element of success.** While technical services and training can be made available from the U.S., it is only through local commitment that sustainable change can be made in the way local natural resources are developed and used.

The Center For Environment

The Center for Environment, located in USAID's Bureau for Global Programs, Field Support, and Research, coordinates the Agency's environmental programs. The Center provides technical and programmatic leadership and support to the Agency, its field missions, and its domestic and international development partners on global and sustainable development problems.

The Center's portfolio focuses on program areas of Sustainable Living Resources, Sustainable Energy Systems, and Sustainable Cities, as well as on USAID's commitment to combating global climate change and loss of biodiversity. Activities under each program area emphasize the centrality of the U.S. national interest, the importance of public-private partnerships, and the equitable allocation of costs and benefits.

The three offices within the Center for Environment oversee the Agency's financing activities, in cooperation with the policy and regional bureaus and USAID missions.

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