



ENERGY UPDATE

POWERING ECONOMIC AND SOCIAL DEVELOPMENT THROUGH EXPANDED ACCESS TO MODERN ENERGY SERVICES

LETTER FROM THE EDITOR

According to the UN Department of Economic and Social Affairs, between the years 2000 and 2030 the world's population will grow by 2.2 billion people. Of these, 2 billion will be born in cities. 1.9 billion will be born in the world's poorest cities. This extraordinary pace of urbanization poses special challenges for those of us working in international development. For that reason, in this issue of Energy Update we focus on the activities of our colleagues in Urban Programs (UP).

The UP Team (literally) sits next to the Energy Team within USAID, and we work together on many projects. Though their scope is broader than ours and touches on many sectors beyond energy, we thought it would be interesting for Energy Update readers to gain a better understanding of this unique program and how it operates.

Our special UP focus begins with an introduction by Ron Carlson, UP Team leader, and follows with an introduction to the six thematic areas that constitute the bulk of the team's work.

While some of the articles in this newsletter highlight energy-related projects, many do not. But they are relevant to our work nonetheless, since efforts undertaken to strengthen municipal governance and service delivery can have synergistic impacts on the energy sector.

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MAKING CITIES WORK



For more information visit the Urban Programs website at www.makingcitieswork.org.

More than half the world's population will be urban by 2010; the number of people living in urban areas will be greater than the total world population 40 years ago. In the developing world, the urban population is projected to double by 2030.

This demographic shift heralds a profound change. At the moment, cities are struggling to respond to this unprecedented change. 900 million urban residents in the developing world lack access to decent housing, 1 billion do not have adequate access to water, and 2 billion people live without sanitation.

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LETTER FROM THE EDITOR

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In addition to the focus on Urban Programs, this issue features an update on a related Energy Team project that addressed slum electrification in Brazil. Working together with the local utility and the International Copper Association, USAID succeeded in legalizing electricity connections to nearly 5,000 families in São Paulo. This project has inspired the utility to expand the program in Brazil, and utilities, donors, and Non-Governmental Organizations (NGOs) from other parts of the world are now exploring possibilities to replicate it in their countries.

It is a pleasure to be taking over the helm of Energy Update, and I hope that you will continue to share your ideas for future articles and topics worthy of a special focus.

If you would like to submit an article to Energy Update, please send a draft no longer than 500 words by April 30th to Pam Baldinger, email: pbaldinger@usaid.gov.

Pamela Baldinger
Editor, Energy Update

MAKING CITIES WORK: HOW USAID MEETS THE URBANIZATION CHALLENGE

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While the challenges are substantial, the opportunities to achieve sustainable development are also very real. If managed well, cities can be engines of growth and can create a better quality of life through access to higher paying jobs, better health care and quality education. The US Government can play a leadership role in shaping the direction of future urban growth and development.

To meet these challenges USAID's Urban Programs (UP) Team is implementing a cross-sectoral strategy called Making Cities Work, with the goal of increasing awareness of these emerging urban issues and their implications for economic and social development. The Urban Programs Team is composed of foreign and civil service professionals as well as technical advisors, and focuses its work on the following issues: urban finance; urban security; local economic growth; urban health and environment; city management and governance; and housing, infrastructure and services. The specifics of these focus areas are described in the articles in this newsletter.

DELIVERING CRITICAL MUNICIPAL SERVICES

The global decentralization trend is placing the responsibility of service delivery increasingly in the hands of local governments. Service delivery can include access to water, solid waste disposal, wastewater collection and treatment, and electricity connections. Reliable and adequate services are what most citizens care about the most and ultimately are what voters will hold their elected officials accountable for. However, the demand for services is outstripping the supply. For example, today over 1.6 billion people lack adequate access to reliable and modern energy services.

The Urban Programs Team supports missions that implement programs seeking to improve the ability of municipalities to better manage service delivery, especially for the urban poor. Part of UP's support comes through CityLinks, a cooperative agreement with the International City and County Management Association (ICMA). CityLinks has one basic premise—that local communities can and must make a difference in meeting the challenges they face, and that meeting these challenges requires effective local self-government. CityLinks accomplishes this by linking technical experts from cities in the US with their counterparts in cities in

the developing world. For example, a solid waste expert from Minneapolis could be sent to Kabul to help that local government organize trash pick-up and disposal. The technical focus of each partnership is driven by the demands and needs of the target overseas city. While each CityLinks partnership has its own objectives, the program overall seeks to:

- Provide technical expertise to enable local government managers in developing and transitional countries address pressing urban management issues;
- Provide realistic community-based models for problem solving and decision making, which are replicable by the local government and other communities within the host country; and
- Establish substantive professional relationships between U.S. municipal governments and their counterparts in developing countries.

Some examples of CityLinks projects include:

- The Bulgaria CityLinks Program has created a comprehensive Local Economic Development (LED) certification program for both municipalities and professionals, facilitated by a consortium of LED practitioners from cities across the U.S.
- In Thailand, the CityLinks Program involved a consortium of cities: Chiang Mai, Khon Kaen, Phuket, and the U.S. partner city of Portland, Oregon, to improve citizen participation and outreach.
- In Indonesia, on-going exchanges between U.S. and Indonesian local government officials addressed technical assistance issues and served as a model of citizen diplomacy during a challenging political period.

For more information on CityLinks, please visit:

<http://www.makingcitieswork.org/toolsAndResources/resourceCities>.

UP is also a contributing member and on the consultative group of the Cities Alliance (CA).

The CA seeks to promote city development strategies and advance collective know-how about how to reduce urban poverty. It is a consortium of ten bilateral donors, three multilateral development agencies, four international city associations, and Slum Dwellers International, a



A Combined Heat & Power (CHP) facility in the city of Ivano-Frankivsk, Ukraine.

federation of slum dwellers from 23 countries. To achieve its goals, CA facilitates cooperation at the community level among city governments, slum dwellers, and the private sector, while also coordinating cooperation among international donors. Since its inception in 1999, CA has invested US\$30 million in 27 countries, 17 regional and global learning activities, and in three facilities (the Community Water and Sanitation Facility, the Community-Led Infrastructure Finance Facility, and Cities Without Slums Facility for Africa). CA funds are catalytic; they are seed funds used to help Alliance partners build strong foundations for citywide and nationwide slum upgrading and city development strategies. They also leverage the public and private sector capital investments required for implementation. USAID has contributed \$250,000 annually to the CA consortium.

Finally, UP supports missions that implement programs to improve municipal management through direct Temporary Duty Assignment support. UP, for example, participated in an assessment of district heating in Ukraine, where two-thirds of residential, commercial and public buildings are heated by district heating plants. Many of the district heating plants and the infrastructure that connects them to the buildings to which they deliver heat are in a state of disrepair. Collection rates are low, management less than optimal, the systems operate ineffectively and there has not been much private sector investment in this sector. An underlying problem is that heat is treated as a social good and therefore is perceived as exempt from market pricing, even though Ukraine must pay market prices for natural gas, for the salaries of staff that work at the district

heating plants and for the upkeep of the infrastructure. The situation can be epitomized by the experience of the City of Alchevsk in 2006, when the entire system broke down and then froze, bursting pipes throughout the city. The government declared a national emergency and citizens had to be evacuated to nearby cities to keep from freezing to death.

Many donors, including USAID, have been working in Ukraine for over a decade on the issue of district heating. But what was lacking was a common strategic approach by the government of Ukraine and the donors on how to deal with the crisis. For this reason, USAID, with UP participation, marshaled a multi-donor assessment team in March 2007 with the goal of drafting a comprehensive framework for reform, financing and investment. The assessment, which identified five strategic objectives for the sector, was positively received by the donor community as well as the Government of Ukraine, which appears intent on adopting it in the near future.

For more information or to request a copy of the Assessment, contact Mike Keshishian, email: mkeshishian@usaid.gov.

MAKING CITIES MORE COMPETITIVE

Cities are engines of economic growth. As a nation's primary source of job creation and wealth generation, cities produce goods and provide services which strengthen economic opportunities for the entire country. Local Economic Development (LED) is a process of planning and implementation that seeks to increase the economic potential of a city, town, or region. LED aims to improve the economic future and the quality of life for all local residents and businesses. Although the process can be time-intensive, it is important to bring the public, business, and civil society sectors together to work collectively in creating better conditions for growth and employment generation. This ensures that all available local resources are accessed and that there is sufficient buy-in across all sectors to increase the chances of sustainability.

Decentralization has recently forced local governments to take more responsibility for designing their own economic development strategies, usually in partnership with the private sector. Public-private partnerships must



The LED office in Vranje municipality, Serbia.

walk a fine line. Part of their task is to identify or create new profit opportunities for business investment, but the public sector partner also has the responsibility of seeing that the benefits of investment reach all local residents, especially the poor. Strategies to encourage private investment must be blended with strategies to improve the skills of the local labor force and to use public investment to broaden basic service delivery. In this global age, cities must be adaptive to stay competitive, and having the right processes in place will support both the public and private sector actors in playing their part in local economic development.

USAID's involvement in LED initiatives spans the globe – from assisting municipalities in Serbia to open regional LED offices which encourage investment in the community, to working with the municipal government of Delhi, India to streamline the system for recording land ownership and property rights to improve urban land management practices. Most recently, USAID is cooperating with several other donor organizations (including the Swiss and German development agencies, the International Labor Organization, UN-Habitat, and UN Capital Development Fund) to help promote economic growth and poverty reduction in Africa through LEDNA – the Local Economic Development Network for Africa.

LEDNA is designed to promote LED principles continent-wide, and to provide a network of resources to local governments working to make their cities and regions more competitive in the world economy. First steps include a mapping of LED activities over the past several years across Africa, followed by targeted assistance to communities wanting to address components of their LED strategy. LEDNA is under the auspices of United Cities

and Local Governments of Africa (UCLGA), the premiere pan-African local government association, which was created in 2005. With increasing responsibility for economic growth activities devolving to local governments, donors hope that LEDNA will enhance communities' ability to create local strategies for economic growth, and then give communities the tools to put in place the institutions, infrastructure, financing, and enabling environment necessary to then implement their strategies.

For more information contact Rob Schneider, email: rschneider@usaid.gov.

BOLSTERING HEALTH SERVICES FOR THE URBAN POOR

Rapid population growth, especially if unaccompanied by environmental infrastructure investments, can have a significant impact on the health of urban residents. Health problems stemming from inadequate sanitation and lack of access to clean water, modern energy, or health services are especially acute amongst the urban poor. An evolving USAID Urban Health Portfolio is attempting to address these concerns. With support from USAID/Washington, several country missions have developed innovative programs that:

- identify those urban residents at particular health risk;
- overcome barriers to improved healthcare among these vulnerable populations by creatively engaging multiple stakeholders, especially local government and the private sector; and also,
- address priority environmental health concerns.

USAID/Bangladesh is making particularly interesting contributions to this evolving portfolio. Their efforts also have an interesting energy link and are described below.

The leading killer of children worldwide is acute respiratory infections (ARI). In 2004 it accounted for 22 percent of all communicable child deaths. Studies identify indoor air pollution as a key culprit, with powerful associations found between exposure to indoor air pollution and symptoms of acute respiratory infections.

In many countries, the burning of biomass fuels such as dung, brush and wood for cooking is often the main



A Bangladeshi entrepreneur displays a new efficient biomass cookstove.

contributor to indoor air pollution. Women who cook and their children are particularly affected. Despite associated health hazards, more than 75 percent of South Asians continue to rely on biomass fuels as their primary energy source for cooking. Where cleaner fuels are either unavailable or unaffordable, improving ventilation and the efficiency of biomass burning stoves are the only means to significantly improve indoor air quality.

Reducing Indoor Air Pollution in Bangladesh

In the smoke-filled slums of Northwest Bangladesh, implementing such improvements is anything but straight forward. Affordable, improved stove designs to replace inefficient traditional stoves are not currently available. Ventilation improvements are possible, but if only select homes improve ventilation, they merely shift pollution to neighboring households in these cramped communities. To have significant health impact stove and ventilation improvements must be at scale.

In 2005-7, with USAID Energy Team and Global Health support, Winrock International collaborated with Concern



Singers perform a skit about indoor air pollution and improved stoves in Parbatipur.

Worldwide Bangladesh and Village Education Resource Center (VERC) to address these challenges in a comprehensive manner. Their pilot project had a strong focus on sustainability by integrating development of locally acceptable improved stove models; establishing a commercial mechanism for disseminating improved stoves; and, working with existing local government institutions and health networks to promote the new stoves and complimentary behaviors that would reduce indoor air pollution.

Combining past Bangladeshi and Indian technical expertise, four improved stove models were developed with community input and tested for emissions. Slum residents were then recruited and trained to be improved stove “entrepreneurs”—sole proprietors who will install stoves for a small fee. Additional, small business operators were recruited to mass-produce the metal grates and clay chimney pipes used in stove construction. Both stove entrepreneurs and parts producers were given access to micro-credit to grow their businesses. Entrepreneurs used the micro-credit

to buy materials upfront while allowing their customers to pay for the stove through monthly affordable installments.

Integrating Energy and Health Programming

To promote the stoves and behaviors that reduce exposure to indoor air pollution, the project tapped an existing urban health network developed under the USAID-sponsored Municipal Health Partnership Program (MHPP) run by Concern in the same two cities targeted by the stove project. MHPP has created a network of community based health volunteers and ward committees to support health promotion among pregnant women and mothers. The stove project used these established community links to recruit entrepreneurs and promote the stoves. Building off MHPP’s relationship with local government also helped ensure their support for the stove project.

By the end of the project, over 580 improved stoves had been sold by 20 established entrepreneurs in just a few months. In addition, there is strong potential for replication and scale up as the entrepreneurs are poised to expand their businesses beyond these municipalities and the

municipal governments continue to advocate for a larger indoor air pollution reduction initiative within their constituencies. These efforts provide an important model for other USAID missions in addressing important urban environment and health challenges in a comprehensive and complementary manner.

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MUNICIPAL FINANCE: BRINGING CASH TO THE LOCAL LEVEL

Part of the rationale behind the trend of decentralization is the belief that local officials should be able to respond quicker and more appropriately to local needs than national officials, and it should also be easier to hold them accountable for good governance.

However, fledgling local governments often lack the capacity to operate and manage services or obtain adequate financing for necessary investments. Local governments generally have three different sources of funding through which they finance their operating and capital budgets: 1) own-source revenues, which come from local taxation and fees, 2) intergovernmental transfers, which are funds transferred from the national to the local level, and 3) money raised through bonds or other forms of credit. UP is actively engaged in providing technical guidance to missions by designing and assessing activities that address these issues.

The team provides technical assistance through two IQCs, the Sustainable Urban Management (SUM) IQC and the Decentralization/Local Governance Strengthening Technical Assistance IQC. Many of the local government reform and decentralization activities UP supports help local governments to improve their capacity to collect taxes and fees. In Mali, for instance, UP-supported contractors work with about 150 communes (municipalities) to increase the amount of own-source revenues they collect. The Mali activity works to sensitize the population to the importance of paying taxes. With the additional revenue, local officials are helped to facilitate a transparent and participatory process with citizens to draft and budget for a community development plan, thus showing citizens the benefit of paying taxes. As a result, communes collected 7% more in taxes and fees

in 2006 (the first year of the program), more communes are presenting their budgets and financial reports publicly, and communes are spending more of their total budget on health and education.

In Georgia, UP supports work on the equalization formula, the equation used to determine how to allocate funding to local governments. As a result, local governments are now receiving a greater share of total government funds--the total local budget pool has increased 87% increase since 2004.

Finally, UP also manages a cooperative agreement with Evensen Dodge International (EDI). EDI is a US-based capital markets and investment advisory firm that specializes in assisting sub-national units in raising private sector capital. Under this agreement, EDI recently launched two new projects in Morocco and Vietnam. In Morocco, EDI is actively working with the Moroccan Ministries of Interior and Finance on strategies for reforming capital markets. EDI has hired two local law firms that are drafting legislation that would allow cities to hold trust accounts to complement USAID/Morocco's efforts of acquiring credit ratings for three municipalities. At the same time, EDI is also drafting financial models which would allow for an irrevocable revenue intercept mechanism using trust accounts to secure municipal financing. Once in place, cities would be able to borrow by pledging a portion of the intergovernmental transfers they receive from the national government to the newly established trust accounts.

These activities are relatively new, so it is too early to report on results. However, USAID Mexico has a Global Development Alliance (GDA) with EDI, which helped create the Hidalgo State Revolving Fund and assisted it in selling USD \$220 million in bonds on the Mexican Stock Exchange. The Mexican State of Quintana Roo established a similar borrowing mechanism and successfully refinanced its outstanding debt through a structured bank loan for USD \$120 million; the savings to the state government free up resources in the budget which can now be used for improving public services such as water, sanitation, basic education or health.

For more information contact Mike Keshishian, email: mkeshishian@usaid.gov.

STRENGTHENING THE MUNICIPAL BACKBONE: HOUSING AND INFRASTRUCTURE

One of the UP Team's priorities is to promote scalable tools that assist municipalities to provide key infrastructure and services to their residents. Of particular concern to communities is the availability of affordable, acceptable housing. Mortgage finance is quite rare in developing countries, and when it is available, the rates, terms, and collateral needed often puts such financing out of reach for all but the richest. Because of this constraint, families often build their houses incrementally, whenever they have saved enough to add a roof, a room, another floor, or a utility connection. However, this process generally results in houses being constructed over many years, or even decades.

Through a grant to CHF International, USAID is supporting the development of specific products designed to help poor households in Ghana obtain credit to finance, repair, or upgrade their homes. CHF is working in partnership with HFC Bank, a commercial bank based in Accra that is interested in expanding its product line to include those in lower income groups. The joint venture (Boafo Microfinance Services) will create financial instruments, and then lend funds to low-income households at competitive market rates with repayments scheduled over a 2-3 year period. These types of loans are a hybrid between traditional microfinance loans which are typically used to promote small-scale entrepreneurial activity, and traditional housing finance loans – thus earning the new moniker, housing microfinance (HMF).

The housing microfinance initiative in Ghana is indicative of growing interest in the field in Sub-Saharan Africa. HMF has been used successfully in other regions of the world, but only a few efforts have been trialed in Africa (outside of South Africa), with mixed results so far. Boafo has disbursed HMF loans since June 2007. By the end of calendar year 2007, 49 home improvement loans had been disbursed, allowing \$114,000 to be utilized to purchase land, install roofing, complete existing structures, and connect to water or electric utilities. Average loan size is slightly above \$2300, and repayment rates are currently 100%. While USAID funding will end this year, initial indications are that Boafo is on the path toward financial sustainability. Expansion to other slum



Photo courtesy of CHF International

Ernestina Ameyaw standing in front of her new home, still under construction. Boafo provided Ernestina a loan of ₵20,000,000 (US \$2,000) which she used to buy windows, doors, ceiling materials, and security mechanisms.

areas in Accra and to other cities across Ghana is planned for the second half of 2008.

Housing microfinance is also gaining greater prominence in the development community, as donors focus on innovative financial instruments that have the ability to help create socially stable and economically active communities. It is also seen as one of the tools to combat the even larger challenge of slum upgrading. The improvement of slum communities brings together many complex elements of development, including community engagement, infrastructure construction, service delivery, and sustainable financing (See article on "Improving Electricity Service to a Slum in São Paulo, Brazil", page 8). Housing microfinance and the development of other pro-poor financial instruments are ways to begin to address each of these elements, as a sustainable financial model is often the most critical element that enables municipalities to provide urban services – usually through some form of infrastructure/housing construction or utility connection.

As the activity in Ghana matures, USAID hopes to learn from both its successes and challenges, and to promote additional public-private solutions to the housing and urban service challenges of the poor.

For more information contact Rob Schneider, email: rschneider@usaid.gov.

IMPROVING PROSPECTS FOR URBAN YOUTH

For the first time in history, the majority of the world's population is living in urban areas. If residents in these areas lack access to adequate services, vulnerability and instability (economic, political and social) are likely to increase. Local governments, the private sector and local leaders need to provide the environment and opportunities necessary for citizens to develop their productive potential in urban settings. The safety of public places, reliability of infrastructure and services, and stable social and economic systems are especially critical for the urban poor. The goal of urban stability is to improve livelihoods in urban and peri-urban areas by providing secure employment, adequate services, and physical safety.

The urban youth demographic has a particularly strong impact on urbanization trends. The largest-ever youth group in history—1.3 billion young people—now lives in the developing world. Young people make up nearly half of the ranks of the world's unemployed. The Middle East and North Africa region alone must create 100 million jobs by 2020 in order to stabilize its employment situation. Moreover, surveys of young people in East Asia, Eastern Europe and Central Asia indicate that access to jobs, along with physical security, are their biggest concerns.

Addressing Urban Stability through Employment of Urban Youth

One way to address urban stability is by providing urban youth with opportunities for economic security. The International Youth Foundation (IYF), under a USAID Global Development Alliance, has brought public and private resources together with innovative approaches to solve development challenges. One of their most successful programs is *Entra 21*, a workforce development program operating in over 20 countries throughout Latin America and the Caribbean. In five years, *Entra 21* has provided training to more than 19,000 disadvantaged youth and young adults, aged 16-29, in Information Technology (IT) and basic work skills needed for success in the modern workplace. The employment rate for *Entra 21* graduates is 54 percent (a solid achievement by sectoral standards),



Columbian Ruth Dary Ortiz learned computer skills as a participant in the Entra 21 youth employment program.

and the majority of those working have quality jobs that pay at least minimum wage and provide some benefits. Another 40% of *Entra 21* beneficiaries return to formal schooling; the program thus is having positive impacts on over 90% of its participants.

Ruth Dary Ortiz, 21, is one of the young people trained by *Entra 21*. She lives in a run-down neighborhood in Cartagena, Columbia, where drinking water is scarce and violence is commonplace. Most families living there, like Ruth's, have fled the fighting and instability of the countryside. "We had no money and no jobs [after arriving in Cartagena]. We just stayed at home."

Today, Ruth sits at her computer in the classroom at Fundación Indufrial, an NGO based in Cartagena, where she is enrolled in a 6-month course in internet and computer maintenance through the *Entra 21* program. "I have learned a skill which will help me get a good job," she says, aware that the IT training and internship experience she is gaining will be a big advantage in the job market. "This is not just a program—this is my opportunity in life."

Looking Ahead

Key lessons learned from the *Entra 21* program include the need to build linkages with municipal and national governments to scale up reach and impact. In Columbia, for example, after successfully training and placing hundreds of Medellin's youth in jobs and as microentrepreneurs, the *Entra 21* model was expanded by the former mayor of Medellin, Sergio Fajardo, to become a municipality-wide program for youth employment. He increased the annual education budget of Medellin to 40 percent of the municipal budget, an example of successful collaboration between local government, private sector and community leaders.

During its first phase, *Entra 21* focused on IT technical content in addition to life skills training. In the next phase, the youth employment program's technical content will reflect the market needs of developing countries. IYF will adapt the *Entra 21* model to respond to demand from sectors such as tourism, agriculture, and basic service industries in addition to integrating IT in its technical skills training for disadvantaged youth.

For more information contact Margaret Harritt, email: mharritt@usaid.gov.

NOTES FROM THE FIELD

IMPROVING ELECTRICITY SERVICE TO A SLUM IN SÃO PAULO, BRAZIL



Overview of Paraísopolis.

Before project implementation in Paraísopolis, the second largest 'favela' (slum) in São Paulo, the quality of electricity service was very poor: almost all the households and businesses had illegal electricity connections, were exposed to dangerous network and wiring conditions and did not pay for service. Households and businesses consumed high amounts of electricity – on average 250 kWh/ month – due to the very poor condition of household appliances and electrical equipment (especially refrigerators and electric water heaters for showers), and the lack of price signal to encourage consumers to use electricity wisely.

Through a Global Development Alliance partnership with the International Copper Association (ICA), USAID and ICA teamed with AES-Eletropaulo to develop, test, and evaluate customized approaches to regularizing electricity service in a target area of Paraísopolis. The pilot was the first to be launched under the USAID-ICA Slum Electrification and Loss Reduction (SELR) program, which was initiated in October 2005 on the theme of regularizing and improving electricity service to low income communities. In addition to the pilot in Paraísopolis, a second is in the design phase in Mumbai, India and a third is being planned for Africa.

The Problem and Proposed Solutions

The selected pilot area covers two neighborhoods (Antônico and Centro) within Paraísopolis, a favela with approximately 20,000 households in the middle of São Paulo. This target area includes 4,365 low income households and businesses (of which 60 households had small home businesses and 423 were stand-alone commercial enterprises of varying sizes and types of services/sales). Like most other favelas, Paraísopolis is an informal community which lacks many municipal services and is home to families that migrated from rural areas over the years. Located in a large ravine, Paraísopolis has a physically challenging geography and is surrounded by middle- and upper-income



A community meeting to explain the program.

residential areas. Although the land is publicly owned, the Paraisópolis households have occupied it for generations and the São Paulo city government is currently implementing a land tenure program to register residents and transfer title to them.

As a first step in the regularization program, AES-Eletropaulo contacted community leaders to work with them on the scope and scale of the project and then held a series of community meetings to educate residents about the program, bill payment, their energy consumption and measures that could be taken to reduce electricity usage. Identifying, registering and numbering the individual households and businesses was sometimes a challenging task given the narrow, winding streets and alleys; the fact that multiple families often live in a single home; the lack of street names; and parallel registration efforts being made by the municipality and other service companies. The community campaigns were carried out over several months and were supplemented by door-to-door visits by community “agents” and utility staff to each household both pre- and post- regularization. As residents previously did not have to pay for electricity (except in some cases to get their illegal connection), these campaigns were important to educate consumers on the importance of paying, understanding their electricity bill, and implementing efficiency measures that could be undertaken to reduce consumption and costs.

Under the project, the distribution network was upgraded and households and businesses were metered. The households were not charged a

connection fee and any debts owed were forgiven. A key component of the SELR program was the use of new technologies and techniques to reduce theft and improve the efficiency of the distribution network. These included the following:

- Using bi-coaxial cable in the new service drop to each individual meter.
- Introducing electronic metering for large commercial consumers to allow easy disconnect or “social cutting” in the case of non-payment.¹
- Replacing 12 conventional overloaded transformers with efficient transformers.

Given the high level of consumption by households and the urgent need to reduce their usage and enhance the affordability of service, the project undertook a number of measures to increase household efficiency. These encompassed energy audits of every household to identify energy efficiency opportunities, the replacement of three incandescent bulbs with efficient compact fluorescent bulbs in each home, the replacement of refrigerators in bad condition, and rewiring of homes with especially poor internal wiring in households that met low-income criteria. An audit of a sample of commercial customers provided the project with the information needed to make recommendations on the energy efficiency measures these customers could adopt to reduce their bills.

USAID, AES-Eletropaulo, ICA and its local affiliate – Procobre, worked closely to ensure a coordinated approach to project design and implementation. A ‘responsibility matrix’ was prepared which presented the project components and indicated the organization that was responsible for funding and implementing each task. AES-Eletropaulo picked up the bulk of the project costs, including the distribution network upgrades, metering, consumer registration, and new refrigerators (with ICA); ICA paid for the efficient transformers, rewiring of households, and preparation of a financial model; USAID covered the community campaign costs, audits of each household and selected commercial

¹ Social cutting is limiting the amount of kWhs that a customer can use (but not disconnecting) in the case of non-payment.

customers, purchase of CFLs (with AES-Eletropaulo), post-project survey, and efficiency recommendations to targeted commercial customers. Total project costs were \$2.52 million.

The Outcome

Data on pilot project results are presented in the box on this page. A consumer poll, conducted after project completion and several months of billing, showed that most of the regularized families in the pilot area were highly satisfied with their better quality service and the assistance received in improving their household energy efficiency. Of the 400 households surveyed, 62% rated their overall satisfaction with the project as a 9 or 10 on a scale of 1 to 10. Not surprisingly, this percentage increased to 98% for those who received a new refrigerator and were re-wired and to 80% for those who were only re-wired. The majority (88%) of the households considered the quality of the electricity service to be good or very good after project implementation compared to only 17% before the project. Eighty-nine percent of the households would recommend the program to other residents.

The energy efficiency measures taken in the households and distribution network are expected to yield annual energy savings of over 2 million kWh. Until recently, bills to households and businesses were capped at 150 kWh to help households transition to paying for service as well as to educate them about their actual consumption levels and charges once the cap is removed. It is expected that additional savings will accrue (but additional bad debt may also occur) when larger consumers start to experience the true cost of their consumption.

After project implementation, AES-Eletropaulo began to collect a significant amount of new revenue from consumers who had not previously paid for their electricity consumption. Annual billing is expected to reach over \$920,000; currently, the bad debt rate is about 35%. This bad debt rate is relatively high and is due to the large number of commercial customers with high consumption levels that are unable or unwilling to pay. The bad debt rate is expected to decrease, based on experience in other areas, as AES-Eletropaulo implements its 'social cutting' program and enforces collections. However, while survey results show that

PILOT RESULTS

<i>Measure</i>	<i># installed or completed</i>
Conventional meters and posts installed	4460
Remote meters	435
Pre- or post regularization door-to-door visits by community agents	8594
Community and school events (# events; # attending)	27 events with 4906 attending
Replacement of inefficient incandescent light bulbs with efficient compact fluorescent bulbs (CFLs)	9588 CFLs
Refrigerator assessments completed	2598
Inefficient refrigerators replaced with PROCEL A-rated ones as needed ²	500
Wiring safety assessments completed	2433
Rewiring of unsafe internal wiring and fixtures and replacement of electric water heaters ³	500
Replacement of individual outside lights with public lighting	505 (472 in alleys and 33 in main streets)
Commercial audits and recommendations made	70

nearly a third of households took a 'great effort' to pay their electricity bill, 56% said that if budgets were tight, they would select to forgo paying this bill. This is a challenge to project sustainability and needs to be taken into account by AES-Eletropaulo as it rolls out of the SELR program to hundreds of thousands of additional favela households in São Paulo over the next two to three years.

² Overall 727 needed replacement with 444 in bad condition and 283 in very bad condition; however only 532 families signed agreements to replace their refrigerators (they were either consistently absent or refused the refrigerator) and only 500 refrigerators were available.

³ 1406 were found to be in bad and very bad condition but funds were limited to 500 in the pilot.

The pilot approach and results were shared at a workshop, entitled “Improving Electricity Service for the Urban Poor,” which was hosted by USAID, AES-Eletropaulo, and ICA in São Paulo, Brazil from December 4-7, 2007. It was attended by over 100 utility managers, experts, and development officials from 23 countries drawn from Asia, Africa, Latin America, Europe and North America. In addition to learning about the

Paraisopolis pilot, workshop participants shared their experiences with SELR programs and explored alternative solutions to the many technical, economic and social issues associated with expanding and improving electricity service for slum communities.

For more information contact Simone Lawaetz, email: slawaetz@usaid.gov.

NEWS & EVENTS

ENERGY TEAM SUPPORTS WASHINGTON INTERNATIONAL RENEWABLE ENERGY CONFERENCE (WIREC) 2008



USAID Deputy Administrator James Kunder meets with Afghanistan Minister of Energy and Water Ismail Khan at the WIREC conference in Washington, DC.

The Washington International Renewable Energy Conference (WIREC) was hosted by the US government March 4-6 in Washington, DC. WIREC was the third global ministerial level event to be held on renewable energy since the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg, South Africa. At that time, WSSD participants recognized that renewable energy is a critical component of sustainable development, energy

security, climate change, and air quality. Since then, the inaugural government-hosted international conference on renewable energy was held in Bonn, Germany in 2004 and subsequently the Chinese government hosted a follow-on conference in 2005.

WIREC featured a ministerial-level meeting, a concurrent business conference, and a trade show. Together, the event attracted over 5,000 people from 70 countries who came together to raise issues, exchange information, share experiences and best practices, and provide a global platform to highlight and promote strategies for significant development and adoption of renewable energy.

Attendees were addressed by President Bush, as well as the US Secretaries of State, Energy, and Agriculture. USAID Deputy Administrator James Kunder moderated a ministerial-session panel on “renewable energy for rural and economic development” at the conference. USAID staff from several missions, including Afghanistan, Mexico, and Brazil, also attended the event. USAID Missions and EGAT also supported the travel of conference participants from Bangladesh, Nepal, and Afghanistan.

Countries were invited to make voluntary pledges at WIREC, and also to submit best practices. A summary of these and the ministerial sessions can be found at the WIREC website,

<http://www.wirec2008.gov/wps/portal/wirec2008>.

MISSION AND USG STAFF ATTEND INFRASTRUCTURE DEVELOPMENT WORKSHOP

Infrastructure issues have significantly increased in prominence over the past few years. Today, infrastructure projects often make up a substantial share of a mission's overall program budget and many infrastructure programs are developed and managed by USAID staff that does not have the technical background in all areas required for designing/managing a large infrastructure program. In addition, in rebuilding countries, USAID needs to coordinate efforts with both the military and other multilateral donors.

To respond to these needs, in December 2007, the Office of Infrastructure and Engineering (I&E) offered a four-day course on the design and implementation of infrastructure programs. Assistant Administrator Jacqueline E. Schafer provided opening remarks. The course was attended by 40 participants from 13 USAID Missions, various USAID Washington Bureaus, the U.S. Military (the Joint Forces Command (JFCOM), Southern Command (SOUTHCOM) and the U.S. Army Corps of Engineers (USACE)), the World Bank, Health and Human Services (HHS) and U.S. Department of Agriculture. There were around 40 presentations by USAID staff, consultants and World Bank staff.

ENERGY TEAM STAFFING

Jas Singh will be leaving the Agency on March 31, 2008, after more than four years with EGAT's Energy Team. He began as the Urban Energy Program Manager in 2004 and subsequently served as the team's Policy, Program and Coordination Advisor. During his tenure, he worked with over a dozen USAID Missions on their energy programs, with an emphasis on designing and implementing effective clean energy financing programs. Jas developed the team's first clean energy credit guarantee, which has had among the best utilization rates to date; he developed the team's first Global Development Alliance (with the International Copper

Topics ranged from approaches to energy; information and communication technologies; and water and sanitation, to military support for essential services. Participants felt that the training provided greater awareness of different approaches, tools, and financing mechanisms for designing new infrastructure activities. The case studies were beneficial as they provided lessons learned from key countries. Panel discussion focused on decentralized and SME approaches to infrastructure and on post conflict approaches to water and sanitation, transportation and road maintenance.

The presentations and supporting materials include a number of toolkits developed by EGAT/I&E and will become the basis for a library of resources on this topic. If you would like a copy of the course materials on a flash drive, please email Ellen Dragotto at edragotto@usaid.gov. This is on a first come basis while supplies last.

Due to the overwhelming response and positive feedback from the participants, the course will be offered again December 15 – 18, 2008.

Association) which support programs in Brazil, India and Mexico; and he developed the Agency's first collaboration with the World Bank's Global Partnership for Output-based Aid (for a slum electrification project in Mumbai, India). Jas has accepted a position with the World Bank's Energy Sector Management Assistance Program (ESMAP) as a Senior Energy Specialist and will focus on scaling-up energy efficiency investments with the Bank's operations globally.

We wish Jas the best in his new endeavor and thank him for his contributions to the Energy Team and the Agency.