



TOGETHER WE DELIVER 2015

Partnerships against Poverty

COVER: The future is brighter for Mangyan children, who now have their own community school in Sablayan, Occidental Mindoro, the Philippines.



TWD

TOGETHER WE DELIVER 2015

Partnerships against Poverty

ASIAN DEVELOPMENT BANK





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Foreword

This year, the Asian Development Bank (ADB) reaches a very significant milestone: it will have been 50 years since we first joined hands with member countries in the quest to improve the lives of millions of people in Asia and the Pacific.

The publication of *Together We Deliver 2015* is an opportunity to reflect on the many ways in which ADB-supported projects transform lives. The book contains 14 stories from across the region that showcase the determination of poor and disadvantaged people in our developing member countries to lift themselves out of poverty, and the dedication and skills of ADB staff and many partners in helping them do so.

As the region's premiere development institution, we have a responsibility to raise awareness and demonstrate the power of working together. These success stories underscore the synergistic effect of strong partnerships forged by ADB in its constant drive for greater results. The stories could not have become a reality without fruitful partnerships with governments, multilateral and bilateral development partners, civil society organizations, the private sector, and people across the region. Partnerships created better outcomes by improving coordination, providing specialized knowledge and expertise, and convening larger amounts of financing. In 2015 alone, ADB leveraged \$10.7 billion in cofinancing from a wide range of partners to achieve a record \$27.2 billion of operations.

Although our region has made tremendous economic progress in the past 50 years, substantial challenges remain. The international community is committed to achieving the global Sustainable Development Goals in the next 15 years: eradicating poverty by 2030, improving the lives of millions, and protecting the planet. It is fitting, therefore, in our 50th anniversary year, that we are scaling up our operations further

and working more closely with partners to meet the challenges ahead.

I invite you to enjoy the uplifting stories in this book that showcase results from a selection of our recent efforts.



Takehiko Nakao
President
Asian Development Bank



Partnerships against Poverty

The agreement establishing the Asian Development Bank (ADB) in August 1966 highlighted the importance of partnerships with other development institutions. Fifty years on, ADB is more committed than ever to joining forces with like-minded international, national, public, private, and civil society partners to eliminate poverty and foster economic growth and cooperation in Asia and the Pacific.

Since 2000, ADB has forged 422 partnerships with 215 organizations, and the pace and reach of this effort continues to grow dramatically. Partnerships create synergies. They leverage ADB's own financial investments and pool efforts, skills, and expertise from diverse sources to create greater development impact. Through partnerships, ADB was able to mobilize a record \$10.7 billion of cofinancing in 2015 to add to the \$16.5 billion ADB approved for operations from its own resources. In the same year, collaboration with civil society organizations in the design of 91% of ADB's projects allowed it to tap a wealth of in-depth local knowledge. In return, partners gain from ADB's expertise, extensive experience, and long-standing relationships in its 40 developing member countries.

Shifts in the development landscape will demand ever-greater and more innovative partnership initiatives. ADB must help harness the huge resources needed to contribute to the 17 Sustainable Development Goals set by the international community in September 2015 to put the world onto a sustainable, inclusive, and resilient path by 2030.

To pursue the goals that mirror its priorities—an end to poverty, the use of affordable and clean energy, action on climate change under a new global deal,

and many more—ADB will seek to work with new partners as well as established ones. Foundations and corporate social responsibility programs offer fresh possibilities. So do two new development banks—the Asian Infrastructure Investment Bank, with which ADB signed a memorandum of cooperation in 2015, and the New Development Bank operated by the BRICS nations. ADB will also continue to engage with nongovernment organizations in dialog, safeguards compliance, and project design and implementation. It will also involve the youth to tap their fresh perspectives to help design new interventions and develop institutions that connect well with targeted beneficiaries. Indeed, two youth volunteers gathered experiences of the local communities and interviewed local government staff in Occidental Mindoro and Bataan, the Philippines, for the production of a story in this book.

Darkening economic clouds also prompt a need for more innovative partnerships. Growth in economies across the Asia and Pacific region and the world is slowing. Financial markets remain fragile and commodity prices weak. Slower economic growth and revenue generation may make it more challenging for developing countries to maintain their infrastructure and deliver basic public services to their populations, particularly to the poor and the disadvantaged.

The good news in this evolving environment is that ADB is continuing to grow into a much stronger development institution. In 2015, ADB's commitments were 4.5 times 2000's levels, and its Board of Governors approved a landmark initiative to combine the lending operations of ADB's concessional and nonconcessional resources. The merger will greatly enlarge ADB's lending and grant operation capacity, and its scope to mobilize cofinancing. Total financing from ADB's own resources and cofinancing partners is projected to rise from \$27 billion in 2015 to about \$40 billion in 2017.

Future collaborations will build on the successes and lessons of past projects and partnerships, including the 14 examples showcased in this book. The stories illustrate how ADB and its partners combined their expertise, problem-solving abilities, and financial

resources to lift people's living standards and solve a variety of pressing development problems.

You will meet mothers in Bangladesh and Uzbekistan cradling newborns who probably would not have survived before ADB teamed up with governments, other multilateral agencies, and a host of nongovernment organizations to upgrade hospitals and clinics.

A partnership project in the People's Republic of China shows the large environmental payoffs to be reaped when power-hungry industries replace their old machinery and production systems with new, energy-saving technology. The combined impact of equipment and process upgrades across Guangdong Province has created an energy efficiency power plant to rival the polluting coal-fired alternative, and has triggered other provinces to follow Guangdong's lead.

In the Pacific, ADB, the World Bank, and a private company collaborated to open a new channel of opportunity for the people of Tonga by laying hundreds of kilometers of undersea fiber-optic cable from Tonga to Fiji, where it connects with a trans-Pacific network. The cheaper and faster internet access that the cable provides is helping businesses prosper and making service delivery easier across Tonga's widely scattered islands.

In Thailand, collaboration between ADB, the government, and a private company developed the country's first large-scale solar power plant. The plant demonstrates a successful model for public-private clean energy enterprises that is being replicated in other parts of Thailand.

And the members of a family in Sri Lanka tell how they—and more than a million people like them—were able to return to their homes in a former conflict zone after the horrors of civil war and resume normal, self-sufficient lives. The well-coordinated efforts of multiple government aid programs and multilateral development banks, including ADB, helped them make a new start.

Developing Asia faces familiar and new challenges. Each country is forging a unique development path that requires carefully tailored assistance from its partners. ADB looks forward to many more partnerships in the years to come as it redoubles its efforts to eradicate poverty and foster a more sustainable, inclusive, and resilient Asia and Pacific region.



A project in Nepal prepared students for in-demand jobs.





Afghanistan

Banking on Business

Dawood Faqiry's business has grown from 12 to 43 assembly line workers with the help of a loan from the Afghanistan International Bank.



A private bank in Afghanistan is helping create thousands of jobs by providing loans that small and medium-sized enterprises desperately need to start or expand their businesses.

After 22 years of civil war and the fall of the Taliban in 2001, Afghanistan was left a shattered country. The economy was in ruins, the finance sector barely recognizable, and people distrusted what remained of the banking system.

In 2004, ADB brought together the Afghanistan Investment Partners Corporation, Horizon Associates, and Wilton Holdings to invest in the development of the nation's first private bank of the post-Taliban era—a challenging investment proposal for all involved. ADB invested \$2.6 million in equity in the new Afghanistan International Bank (AIB) for a 25% ownership stake. As a member of the Board of Supervisors, ADB, together with its partners, assembled the right teams and drew up policies and procedures on operations and credit risk that would enable AIB to stand out as a beacon of transparency and good governance. By stoking competition in the banking sector and promoting best practices, it was hoped AIB would spur economic and employment opportunities so crucial to the stability of the country. But formidable challenges faced the new bank.

Solving problems

Asadullah Fayzi, who joined the bank in 2003, before its inception, and is now its chief operating officer, well remembers those days. “There was a lack of proper infrastructure in the country, communication infrastructure was almost nonexistent, and in Kabul, electricity was unreliable. Few regulations and guidelines existed, and every single piece of IT equipment had to be ordered from outside Afghanistan. Our staff all had to be trained from scratch,” he says.

AIB opened its doors in 2004, with a staff of 15 employees, 2 of them women. After a shaky start, it is now the largest and most profitable bank in Afghanistan. Today, AIB has 680 employees, 80 of them women, and is zeroing in on billion-dollar bank status, with assets of more than \$900 million. In 2008, the bank was appointed banker to the United States (US) forces and is the only bank with ATMs at the US army base. Due to AIB's strict compliance with international banking standards to prevent fraud and money laundering, it is the only bank in the country that can clear customers' US dollars. The bank has two international clearing banks as correspondents, the only private bank in Afghanistan to do so.

Equity Investment in Afghanistan International Bank

Project Information

- Approved: May 2004
- Closed: January 2016 (divestment of equity)
- ADB Equity: \$2.6 million

Bank Services

- During 2004–2015, the number of employees increased from 15, of which 2 are women, to 680, of which 80 are women.
- The number of branches reached 34 since the bank opened its first branch in 2004.
- Dollar clearing, electronic banking, and ATM services provide much-needed safety and convenience to clients.

Small and Medium-Sized Enterprises

- From 2005 to June 2010, AIB's SME loan portfolio expanded to 573 loans amounting to \$94.6 million.



Asadullah Fayzi (left), chief operating officer, says AIB's commitment to its clients, transparency, and staff professionalism are the reasons the bank's customer service stands out.

Commitment to the highest industry standards and global best practices has made AIB the most trusted and respected bank in the country.

The power of collaboration

ADB's vision for AIB was always for the bank to provide desperately needed financial services to small and medium-sized enterprises (SMEs), which are traditionally the highest generators of jobs. To achieve that goal, AIB formed a partnership with the German Federal Ministry for Economic Cooperation and Development, and the German Investment Corporation, a subsidiary of KfW, to establish the Afghan Credit Guarantee Foundation (ACGF). ACGF provides loan guarantees to AIB for SMEs that would not otherwise qualify for loans, as well as technical assistance such as training, product development, and risk management. The synergistic partnership between the two institutions means that feasible businesses without collateral or financial records—common in Afghanistan—can still access finance at the bank.

Bernd Leidner, chair of ACGF, explains that 70% of businesses' properties are not registered, preventing them from using what they own as collateral. On top of that, there was a very weak legal system for foreclosure and enforcement of contracts. "They don't have tax returns or the proper financial records banks normally require when providing loans," says Bernd. ACGF helped AIB overcome these problems by risk sharing. He says AIB was the most forthcoming and determined bank in the country to pursue the SME market. The bank is now a major player in the SME sector and is offering even smaller loans.

Bernd says, "We enjoy very good collaboration with ADB, which provided financing and liquidity to AIB, and with the Government of Germany and the United States Agency for International Development, both of which provided funding for our risk coverage and technical assistance. We now have a bank that is serving Afghanistan in very difficult times. It has



Dawood Faqiry (right) signs a contract with a client at his motorcycle business.

allowed feasible businesses to serve their markets and create more jobs and income.” Bernd points out that each breadwinner in Afghanistan, on average, provides for seven to nine dependents, making the impact of their partnership significant.

Dawood Faqiry is a typical bank customer whose small business would not have flourished without help. He started out working on a motorcycle assembly line 20 years ago. Now 46 years old, Dawood owns the Jahan Lemar Cyclet Montage Assembling and Manufacturing Company.

His initial capital of \$100,000 was not enough to expand, and he could not secure a loan. He used his life savings to buy machinery, but still needed a loan to establish showrooms, hire salespeople, and promote his own brand of motorcycles, Jahan Lemar. Finally, in 2014, he applied for a loan from AIB. The loan was approved, and he was able to expand his business. His company successfully negotiated with a major international motorcycle company to import and assemble their motorcycles and opened a service center in Herat. The company went from 12



AIB customers do business at the bank's modern facilities in Kabul. It is the only bank in the country that can clear customers' US dollars.

to 43 assembly line workers and now has total assets of \$4 million. Dawood was also able to buy a new house and send his son to pursue a master's degree in business administration in Dubai. His younger son is completing his bachelor's degree at Qhalib University in Herat, all thanks to the SME loan from AIB.

Better serving customers

Setting up the bank's first branch outside Kabul in Mazar-e-Sharif was fraught with headaches, recalls Asadullah. Finding an appropriate office in a business location was the first of many hurdles. Logistics supplies and technical expertise had to come all the way by road from Kabul. Traveling to Mazar-e-Sharif was an arduous and dangerous undertaking, as there were no commercial flights from Kabul. "We sent experienced staff for long periods to take care of daily operations and on-the-job training. Unstable and extremely slow internet connections constantly disrupted routine branch operations and hurt the business," he says.

AIB is now firmly established with 34 branches across the country. The bank's trade finance products save time and money for customers who import goods. Afghanistan is a heavy importer, and trading companies faced many difficulties dealing with foreign suppliers, as they demanded 100% advance payment of contracts. Says Asadullah, "One of our customers, an electrical wire manufacturing company, paid a supplier up front and was cheated out of \$60,000 when they failed to deliver the raw materials. Like many SMEs, the company now depends on our import letter of credit facility, and no longer risks being cheated on advance payments to suppliers."

AIB's electronic banking, card products, and the biggest ATM network in the country also paved the way for customers' 24-hour access to their cash and bank accounts.

Training program

Since its inception, AIB provided internal and external training programs including banking compliance, auditing, finance, and accounting, often sending staff to training centers outside of the country, such as to Islamabad, Pakistan. The bank also sponsors eligible employees to pursue bachelor's or master's degrees. Azada Zargar joined AIB in 2011 and works as a financial planning manager. Before that, she was a coordinator in planning and budgeting at the French Medical Institute for Children. She says it is an honor to be part of such a reputable bank in Afghanistan. One of the happiest moments of her life was completing her master's degree in business administration in 2013 at the American University of Afghanistan. "It was a dream come true. Without the financial and moral support of AIB, I could not have achieved such a goal. It has been a great experience working at AIB. My professional skills and knowledge have grown immensely," she says. ■

“It was a dream come true. Without the financial and moral support of AIB, I could not have achieved such a goal.”

*Azada Zargar, AIB
Financial Planning
Manager*



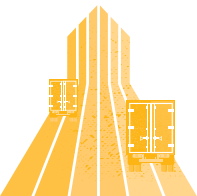
Employee Azada Zargar earned her master's degree in business administration through AIB's continuing education program for staff.



Azerbaijan

On the Road to Progress

Upgrading the East–West Highway has halved travel time, so truck driver Azmi Bekar can now spend more time with his family.



A road project spanning Azerbaijan is moving people, goods, and vehicles faster and improving lives in communities along the way.

Truck driver Azmi Bekar sips tea at one of the dozens of roadside motels that have sprung up since the ADB-supported East–West Highway Improvement Project in Azerbaijan brought increased traffic along what was once part of the famed Silk Road linking Asia and Europe. For 17 years, the 40-year-old has been transporting goods along this 500-kilometer (km) route running from Azerbaijan’s western border with Georgia to the capital city of Baku on the Caspian Sea at the eastern

side of the country. “Before the road was repaired, it took 5 days to drive to Baku, and there were many accidents. My truck needed repairs after every trip,” he recalls. The journey now takes him 2 to 3 days, and his fuel consumption has dropped from 300 to 200 liters per trip. Less time spent on the road means more time with his family. “I have a chance to see my 4-year-old daughter grow up,” he grins.

A highway from partnerships

Azerbaijan stands at the crossroads between east and west in the southern Caucasus, and the transport sector plays a central role in the economy of the country and of the larger region. As one of Azerbaijan’s main routes for external trade, upgrading the East–West Highway was part of the ADB-backed Central Asia Regional Economic Cooperation Program under which 10 countries are working together to modernize and to expand six road and rail corridors. At the time ADB approved the project, the country’s highways were badly run down and, because of Azerbaijan’s geographic location, this hindered both domestic and international trade.

A partnership between ADB, the Government of Azerbaijan, the Islamic Development Bank, and the Saudi Fund for Development provided the funding needed to rebuild 94 km of the route—39 km between Gazakh and the Georgian border and 55 km between Yevlakh and Ganja—the final two western sections needed to complete work on the entire 500 km route. Other segments of the road were improved with assistance from the European Bank for Reconstruction and Development and the World Bank. The entire road transverses six regions with more than a quarter of a million people benefiting from better, safer, and cheaper transport. Vehicle operating costs on the road fell by 20%. Improvements in road safety saw the number of people killed in accidents drop from 14.6 per 10,000 vehicles in 2004 to 9.5 per 10,000 vehicles in 2010. Communities along the route now have better access to markets, job opportunities, and social services.

East–West Highway Improvement Project

Project Information

- Approved: December 2005
- Closed: June 2010
- Cost: \$137.6 million
 - ADB loan: \$39.3 million; ADB Special Funds: \$1.1 million
 - Islamic Development Bank: \$10.4 million
 - Saudi Fund for Development: \$13.0 million
 - Government: \$73.8 million

Traffic

- Daily cross-border traffic between Azerbaijan and Georgia increased from 2,300 vehicles in 2004 to 3,600 vehicles in 2010.
- Traffic increased by an average of 10.8% per year during 2006–2010.

Safety

- Fatal accidents per 10,000 vehicles dropped from 14.6 in 2004 to 9.5 in 2010.

Cost Savings

- Vehicle operating costs fell by 20% on average during 2004–2011.

Small and Medium-Sized Enterprises

- During 2006–2010, 56 new establishments opened along the highway.

Road transport is central to the economy of Azerbaijan and the wider region. The East-West Highway Improvement Project is part of a regional transport modernization program.







Latifa Mirzaliyeva's produce arrives at market in better shape since the new road smoothed the way.

Growing small businesses

Travel time for villagers to town centers has been halved, and their frequency of travel has tripled. Latifa Mirzaliyeva is 57 years old and earned income working on the road construction project as a cook for 5 months. Like her neighbors in Gazakhbeyli near the Georgian border, she grows fruits and vegetables. “We sell our produce at the bazaar in Gazakh town and near the Red Bridge customs post. Before the new road, it took us almost an hour to travel there, and that was if the car did not break down or the tires blow out. Now travel time is 20 minutes, and my produce does not get damaged.”

With traffic on the route increasing by 10.8% each year since 2006, 56 new small and medium-sized business enterprises have sprouted along the highway, catering to the increased traffic. Kanan Abbasov, 35 years old, is from Shikhli-2 village in Gazakh District and is married with two sons aged 11 and 12. In 2013, he used to live in Baku where job opportunities were better, but his childhood friend convinced him to move back and jointly open a restaurant. “Our village is just a few kilometers away from the Azerbaijan–Georgia border, and after the Gazakh–Georgia border highway was repaired, the number of travelers increased,” he says. Together, they renovated an old building and soon had a thriving business. Kanan now employs six people from his village, two of them women, who serve 100–180 customers a day. Every month, he spends about \$150 on dairy products such as milk, yogurt, cheese, and butter, and up to \$2,000 on meat for the restaurant. He also purchases fruits and vegetables. “I buy as many products as possible from our villagers, because I know their produce is clean and natural,” he says. “This benefits local producers and reduces transport expenses.”

Farmer Zemfira Umudova, 56, lives in Yukhari Salakhli along the same stretch of highway. Her family grows watermelons, corn, potatoes, and other crops on their farm, and sells the produce on the roadside. “Compared to previous years, our business has improved, as many more cars, buses, and trucks use



More road traffic means higher sales for farmer Zemfira Umudova's (right) roadside fruit and vegetable stand.

the highway. About 80 customers buy my produce every day," she says.

Saving time, money, and lives

Daily cross-border traffic between Azerbaijan and Georgia at the Red Bridge border post was 3,600 vehicles in 2010, up from 2,300 in 2004, and included 20 large passenger buses and 1,000 trucks. Mahal Omarov saw an opportunity in the traffic growth and became a taxi driver. "Lots of people prefer to cross the border on foot as it is less costly and much faster. So they need a lift to their next destination," he says. The 28-year-old, married with two children, transports passengers who use public transport or get a lift to the border and then cross on foot to all parts of Azerbaijan. He says it takes him a grueling 4 hours to travel 70 km on rough roads similar to how the East-West Highway was before the project. On the smooth Gazakh-Georgia border stretch of rebuilt highway, he



Increased travel on the new road brought so many customers to Kanan Abbasov's restaurant near the Azerbaijan-Georgia border.

covers the same distance in 40 minutes. “Good roads reduce fuel consumption and the need for frequent car repairs. Good roads help save our money and time,” he says.

The project also saves lives. A pediatrician at a clinic in Shikhli-2 in western Azerbaijan, 37-year-old Saadat Eynalova, says the new highway plays a crucial role in remote border villages like this one. “We transport residents with serious health conditions to Gazakh, Ganja, and sometimes even as far as Baku. There are situations when every minute counts, so quick, safe, and comfortable transport of patients can be a matter of life or death.”

Mazahir Gojayev, a secondary-school director in Shikhli-1 village on the Gazakh–Georgia border highway, says the rehabilitated road has improved student attendance. Before the road was repaired, when it rained or snowed, drivers frequently did not see huge potholes on the flooded road and not only damaged their cars but also drenched schoolchildren walking on the roadside, leaving them freezing in wet and filthy clothes, and causing them to get sick or miss school. He says, “Thanks to the new road, this is all in

Student attendance has improved at Shikhli-1 village secondary school since the road upgrade.





the past. Children walk safely to school on pedestrian walkways. Ask what the new road means to me, and I'll tell you better economic opportunities, safety, comfort, and savings in time and cost."

Poverty in communities has dropped due to decreased costs for transport, food, and other necessities. Incomes have risen with better access to employment. Bahruz Yusifov lives in Shikhli-1 village near the Gazakh–Georgia border and works at a roadside filling station. "Thanks to this road, I got my job," he says gratefully. The 30-year-old father of two explains that the filling station was expanded after the road was rehabilitated and the volume of traffic increased. Five others were also hired. The old, dangerous road cost him a close friend, killed in a car accident. His wife delivered their second child 2 years ago at the hospital in Agstafa, 40 km away. "Before the highway was improved, I would not have risked driving my wife to the hospital," says Bahruz. "For villagers like me living in remote places like ours, rehabilitated roads mean more opportunities and a better life." ■

Filling station attendant, Bahruz Yusifov, who got his job because of increased traffic on the rehabilitated road, says the project has brought more opportunities and a better life in remote villages like his.

Rehabilitated roads mean more opportunities and a better life.

*Bahruz Yusifov,
project beneficiary*

Better roads, better lives.







Bangladesh

Saving Lives at the Rainbow Clinics

Through the project, the Government of Bangladesh is working with nongovernment organizations to provide maternal and child care to poor urban mothers like 21-year-old Tamanna Akter Jinat.



Maternity clinics run under public–private partnerships are bringing health care to the urban poor of Bangladesh.

Three days after undergoing a difficult cesarean section, 21-year-old Tamanna Akter Jinat cradles her newborn at Bashbari Nagar Shayastha Kendra urban health care center in Dhaka’s sprawling Mohammadpur slum area. Tamanna is poor and received the surgery for free. It would normally cost more than \$300, a sum far beyond the means of her husband, Kamran Ahmed, who works as a technician at a shopping mall. Tamanna’s mother-in-law, Shahina, heard about the

health care services for the poor from field officers of Nari Maitree, the nongovernment organization (NGO) that runs the center. Shahina, 40, says that in the past, they were forced to go to overcrowded hospitals for medical treatment. “Sometimes, we just consulted the shopkeeper at the drugstore for over-the-counter medicines. It was unthinkable to get admitted to a hospital for childbirth,” she says. She was just 14 years old when her own son Kamran was born in the slum with no facility for poor women, not even a nurse or midwife to assist with the delivery.

The Second Urban Primary Health Care Project has brought about a revolution in health services for the urban poor in Bangladesh by improving access to better health care facilities located near slum areas. A special feature of the project was the contracting of primary health care services to 12 NGOs through 24 partnership agreements between the NGOs and municipalities. Following the success of the earlier ADB-supported Urban Primary Health Care Project, ADB was able to catalyze substantial grant funding and sector expertise from the Department for International Development of the United Kingdom, Orbis International, the Swedish International Development Cooperation Agency, and the United Nations Population Fund. An ADB grant of \$10 million was earmarked for HIV/AIDS and infectious disease control.

The project built reproductive and primary health care centers to provide maternal and child care to poor urban communities. Each reproductive health care center has an ambulance service and employs 32 staff, including a physician for emergency obstetric care, a pediatrician, and four medical officers for round-the-clock duties. The primary health care centers have a staff of 10, including a physician. Two mobile satellite clinics at each facility deliver door-to-door health services. About 80% of the services are provided free or at subsidized rates.

Second Urban Primary Health Care Project

Project Information

- Approved: May 2005
- Closed: September 2014
- Cost: \$69.0 million
 - Asian Development Fund loan: \$21.2 million, ADB Special Funds: \$8.2 million
 - Sweden: \$3.4 million
 - United Kingdom: \$18.1 million
 - United Nations Population Fund: \$3.7 million
 - Government: \$14.4 million

Beneficiaries

- During April 2014–March 2015, more than 5.6 million clients were served, 80% of them women.

Health

- The proportion of births attended by a health professional, either at a health facility or at home, increased by 51.2% during 2006–2012.
- Reproductive tract infection prevalence among women reduced from 26.1% to 3.2% during 2006–2012.

Breast-feeding

- Exclusive breast-feeding in the first 6 months increased from 32.5% to 58.2% during 2006–2012.
- In one health center, exclusive breast-feeding in the first 6 months of life increased from 45% in 2011 to 70% in 2015.



Physician Md. Moniruzzaman (left) checks a baby at the Bashbari Center. After the project, he sees many people seeking help for various health problems.

Transforming health behaviors

Physician Kazi Nurun Nabi, program director of Al-Haj Jahurul Islam Matri Sadan maternity center, says the facility provides health care for an area with more than 200,000 people. “The proportion of women from the slums coming to the center for delivery and other health care services has doubled to more than 70% in the last few years,” says Kazi. The centers also provide health education, and he sees firsthand how health habits among slum dwellers are changing for the better. “Five years ago, only 45% of mothers exclusively breast-fed their babies for the first 6 months,” he says. “Now, 70% do. This is higher than the national average.”

Creating awareness among the adolescent girls and boys about sexually transmitted infections, HIV/AIDS, reproductive tract infections, and family-planning methods means more poor youths are avoiding disease and unwanted pregnancies. “Before coming here, I had no idea about HIV/AIDS,” says Saifuddin

Ahmed, 16, a rickshaw driver in the northern Mirpur area. “Now I know how to keep myself protected.”

As Dr. Md. Moniruzzaman examines Salma Yasmin, 35, and her recently born baby at the Bashbari Center, he explains, “People, mostly women, come with their children and husbands, or sometimes by themselves seeking health care services. Nowadays, they visit the center for minor health problems too, which is a big change in their health behavior.”

Touhidul Islam, project manager at Alhaj Jahurul Islam Nagar Shayastha Kendra Center, estimates it costs as little as \$0.50 to consult a doctor there. “We distribute medicine at a 10% discount or for free if the client is a red card holder,” he says. Red cards entitle poor households in the project areas to free services and ensure that nobody is deprived of health care because of lack of money.

Project Manager Rehana Akhter Mita of the Bashbari Center says staff have successfully persuaded poor people in the local area to come to the clinics for treatment. Men now make up 21% of clients at the centers. “We invite male members of a mother’s family

Women wait for medical treatment at the Bashbari Center, one of the 25 health care centers built by the project.





A doctor (left) advises patients at Rangdhonu Clinic in Dhaka. The project has revolutionized health services for the urban poor in Bangladesh.

to be tested for sexually transmitted infections and help them become motivated to change their health behavior,” she says.

Referral system



With more than 5.6 million people treated under the project during April 2014–March 2015, director Md. Abu Bakr Siddique believes the public–private partnership project can be scaled up to benefit many more.

Physicians at the Bardhonbari Center referred 40-year-old rickshaw puller Abdul Malek, who was suspected of having tuberculosis, to a public hospital for proper diagnosis. The hospital confirmed he had the disease and sent him back to the center for treatment. “I come here often to take medicine for free or at a low cost,” Abdul says. The health centers have become referral points for poor patients, as they send them to specialized hospitals if the case is complicated.

Public–private partnership

The success of the project has shown the importance of the partnership between government and NGOs in delivering health services effectively, especially to the urban poor. Project director Md. Abu Bakr Siddique is convinced that the successful public–private

partnership project is a model that can be scaled up to benefit many more.

During April 2014–March 2015, the project delivered services to more than 5.6 million clients, 80% of them women. The health care centers, known as “rainbow clinics” because of their distinctive logo, provided childbirth services to more than 3,500 women like Tamanna Akter Jinat every month. “This project is helping reduce maternal mortality,” says Abu Bakr. Tamanna knows that without the cesarean operation at the center, the chances of survival for her and her baby were slim. Holding her newborn, she says, “I am so grateful that my son and I are both well.” ■

“The proportion of women from the slums coming to the center for delivery and other health care services has doubled to more than 70% since the project began.”

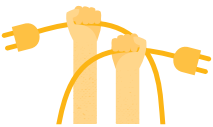
*Kazi Nurun Nabi, Physician at Al-Haj Jahurul Islam
Matri Sadan maternity center*



Cambodia

Power to the People

Physician Keo Sarum (left), head of Ta Phem Health Center, examines a child, one of 18,600 patients the center treated in 2015. Reliable electricity has improved the health service provided and boosted patients' confidence in the center.



Life is a lot brighter in Cambodia since a regional cooperation project brought affordable and reliable electricity from Viet Nam.

When darkness fell in Tram Kok District, Keo Sarum, head of Ta Phem Health Center, would start to worry. Located 80 km from the Cambodian capital of Phnom Penh, 11,500 people from 16 surrounding villages depended on the public health facility. The 44-year-old father of three and his staff of seven knew nighttime would bring a string of emergencies, from horrific road accidents to sudden life-threatening illnesses. Without electricity, the center was at the mercy

of unreliable solar-powered lamps. At around 10 p.m. one night in 2012, he was working on a very risky case, delivering a baby for a mother in a fragile condition. “In the middle of the delivery, the solar lamps suddenly went out and the whole operating room went dark. The patient was shouting for help, and there was chaos in the waiting room,” he recalls. “Luckily, I managed to successfully deliver the baby using small battery-powered lights.” He says losing the lights in the center was a common occurrence. “Without electricity, our patients’ lives were constantly at risk.”

Early the following year, affordable and reliable electricity lit up the health center, banishing fears. Electricity brought improved health services and growing confidence in the public health center, which received 18,600 patients in 2015, 20 times more than in 2012.

Partnership for power

In partnership with the Ministry of Economy and Finance, the Electricity Authority of Cambodia, the Nordic Development Fund, and the World Bank, ADB approved the Greater Mekong Subregion Transmission Project in 2003 to construct 109 km of high-voltage transmission lines to bring cheaper electricity from the Viet Nam border to Phnom Penh. With readily available electricity coming through the new lines, private power distributors were encouraged to connect homes and businesses in small towns and rural areas to affordable power.

Before the project, Cambodia’s electricity supply system was fragmented and lacked a transmission grid. Small-scale providers, mostly using diesel-fuelled generators, supplied electricity. Costs in rural areas often exceeded \$1 per kilowatt-hour, putting electricity far beyond the reach of poor villagers. The high cost and unreliability of the electricity supply posed a major stumbling block to economic growth, investment, and social development.

ADB has played a leading role in Greater Mekong Subregion power sector cooperation by financing a regional master plan for power interconnection, which

Greater Mekong Subregion Transmission Project

Project Information

- Approved: December 2003
- Closed: May 2011
- Cost: \$76.0 million
 - Asian Development Fund loan: \$38.9 million
 - Nordic Development Fund: \$12.9 million
 - World Bank: \$15.5 million
 - Government: \$8.7 million

Beneficiaries

- 90,000 new households, of which 50,000 are in rural areas, have now access to electricity.

Savings

- The replacement of locally generated power with low-cost imported power led to cost savings of \$0.13 per kilowatt-hour.

Health

- In one public health center, number of patients increased from 900 in 2012 to 18,600 in 2015.

Financial Viability

- The project’s economic internal rate of return (47%) and financial internal rate of return (41%) exceeded appraisal estimates.



Everything from keeping records to delivering babies is easier now that the Ta Phem health center is brightly lit 24 hours a day.

included the transmission link between Cambodia and Viet Nam. The project was the first to be carried out under the plan. The project includes new substations, a national control center in Phnom Penh, and reinforcement of transmission infrastructure around the city, bringing power to 90,000 new households, including 50,000 in rural areas along the transmission routes. The rural customers, most of whom are rice farmers living below the poverty line, were offered low-cost connections and allowed to pay fees in installments. Cheap electricity means that they no longer depend on fuels such as wood, charcoal, and kerosene.

Mom Sophol saw her power bill drop by almost 75%, thanks to the project.



Higher grades

The project made a big difference to low-income families in Srae Khvav, Tram Kok District. Mom Sophol, a 39-year-old mother of three, works as a clerk at a public health center earning \$75 a month. Like many others before the ADB-funded project brought power to the village, she used to buy electricity from small-scale local producers for \$20.00 per month. Now she pays \$5.50 a month. “My children can now take extra classes as well as English courses, thanks to cheaper electricity,” she says.

Her daughter Ith is a grade 5 student. “When I was in grades 1 and 2, electricity was very expensive, so I had only 1 hour a night to study. It was difficult for me to earn good grades,” she says. Now, the lights in Ith’s home stay on for as long as she needs them.

Oum Sovannarith’s dream of owning a chicken farm was only possible after the project brought cheaper electricity to his neighborhood.



The 11-year-old proudly declares, “I have enough time to do my homework and read books to improve my general knowledge. I get good grades now.”

Powering up businesses

It is hard to overestimate the positive impact that access to reliable, cheap electricity makes on people’s lives, but it is a particularly potent force for creating and expanding small businesses.

Oum Sovannarith long dreamed of starting his own business. Last year, when electricity arrived in his neighborhood of Udom Sarya Commune, the 27-year-old father of one, set up a chicken farm near his home. His 1,300 chickens need to be fed at night, as they eat little during the heat of the day, so lights need to be on all night. “Without this electricity, my business would not be possible. I spend about \$40 per month on electricity. I would be spending up to \$300 per month for diesel-based power,” he says.

Din Sophea (left) was able to double the size of his welding shop and to hire more welders with savings from lower power bills.

Din Sophea is a typical example of how the project boosted countless existing small businesses.





Physician Keo Sarum (left) smiles a lot more since the project lit up the Ta Phem health center.

The 27-year-old father of two opened a small welding shop in Takeo Province in 2010, but without electricity, his only option was a diesel-powered generator that ate up almost 40% of his income. After the project brought electricity to his town 2 years later, his power bill dropped from \$300 a month to \$85, freeing up money to expand his business. He doubled the size of his shop in 2015 and now employs four welders. His monthly income has risen from \$800 to \$1,500. “With more income, I can buy better food for my children, and I hope to send them to good schools in the next few years,” he says. “My dream does not end here. I am saving money for further expansion, more welding equipment, and to employ more people.”

The project successfully supported the government’s goal of providing an affordable supply of energy throughout Cambodia, and proved that economic benefits from interregional links can be substantial. Viet Nam earned income from the export of surplus electricity, and Cambodia made exceptional economic returns on its investment. The project replaced a large number of old diesel generators, thus improving air quality considerably. Life for hundreds of thousands of Cambodians has been transformed by the flick of a switch.

Examining a patient in his well-lit office in Ta Phem Health Center, Keo says with a smile, “These days, the power supply in the operating room is steady. I am confident operating at night.” ■

“Without electricity, our patient’s lives were constantly at risk.”

Keo Sarum, head of Ta Phem Health Center



People's Republic of China

Riding the Rails to Prosperity

The Dali–Lijiang Railway Project has connected the two historic cities and is bringing more tourists to admire the remarkable scenery and cultures of Yunnan Province.



In the spectacular landscape of Yunnan Province in the People's Republic of China, a railway is proving that ancient cultures, tourism, and economic progress can coexist and benefit all.

Glaciated peaks soaring over 5,500 meters, pristine lakes, nature reserves, and historic towns inhabited by 30 different ethnic minorities still practicing their traditional ways of life have long drawn visitors to fabled northwestern Yunnan Province in the People's Republic of China (PRC). The United Nations Educational, Scientific and Cultural Organization (UNESCO) declared two ancient districts near the cities of

Dali and Lijiang World Heritage Sites. Another, north of Lijiang, lies within the Three Parallel Rivers National Park where the upper reaches of the Yangtze, Mekong, and Salween rivers have cut spectacular gorges 3,000 meters deep.

More than 1 million people, 73% of them ethnic minorities, call this remote and beautiful region home, but the only way to get there used to involve an arduous 17-hour bus trip from the provincial capital of Kunming and a further 8 hours by road between Dali and Lijiang. This discouraged tourists and left the region cut off from mainstream development.

In an ambitious effort to improve living standards and promote economic development, the Government of the PRC, ADB, and Agence Française de Développement (AFD) funded the Dali–Lijiang Railway Project to link the two cities. The railway would also connect the region via existing rail networks to the provincial capital of Kunming, and to Shanghai, Beijing, and beyond, to Greater Mekong Subregion countries and the Pan–Asian railway.

The 167 km single-track Dali–Lijiang railway began operating on 1 January 2010, providing efficient, reliable, and affordable rail travel. Now people cover the distance between the cities by rail in under 2 hours at half the cost of bus travel, and the trip from Kunming has been almost halved to 9 hours.

Protecting the environment and culture

The project partners shared a vision of an environmentally sound transport system that conserved both the natural beauty of the area and the historic cultural heritage of the local people. The project fitted well with the mutual goals of ADB and AFD to reduce greenhouse gas emissions, as the railway cut road traffic. Extensive consultation was conducted by the project team during planning, and precautions were taken to preserve the environment and local heritage. The design of the project ensured construction did not mar tourist spots or harm

Dali–Lijiang Railway Project

Project Information

- Approved: December 2004
- Closed: July 2012
- Cost: \$800.6 million
 - ADB loan: \$180.0 million
 - Agence Française de Développement: \$39.2 million
 - Government: \$581.4 million

Time and Cost Savings

- Travel time between Dali and Lijiang was reduced from 8 hours to 2 hours, at half the cost of a bus trip.
- With the Dali–Lijiang railway connected to the national railway network, travel time from Kunming to Lijiang was reduced from 17 hours to 9 hours.

Environment

- Electrification of the railway reduced energy consumption by nearly 60%.

Culture and Tourism

- Actual passengers carried increased from 1.04 million, of which 0.84 million were tourists, to 2.61 million, of which 2.08 million were tourists, during 2010–2012
- 8,776 people, mostly ethnic minorities, were trained on harmonizing tourism and cultural heritage.

Jobs

- 356 people, of whom 91 are ethnic minorities and 105 are women, were employed for the Dali–Lijiang railway operations.



Passengers arrive at the Dali railway station to board the train to Lijiang.

mountain slopes already prone to erosion. The railway includes 77 bridges totaling 26 km to span rivers and gorges, and 45 tunnels cut through mountains. Together, the bridges and tunnels make up almost 42% of the entire route. When the government electrified the line in 2011, energy consumption fell by nearly 60%, thus further protected the natural beauty of Dali and Lijiang.

The project features a “green corridor” along the route that involved planting thousands of trees and using a special noise-reducing track in sensitive areas. The

Drawn to the region by the convenience of the railway, a family from Beijing enjoys the spectacular scenery along the 167-kilometer route.



alignment runs alongside Erhai Lake National Nature Reserve, so no spoil disposal is allowed within 500 meters of the water body, and all wastewater is treated and transported to municipal facilities to protect water quality in the lake.

Many local people benefited from jobs during construction, which generated 88,000 person-years of work. The project also initiated an ethnic minorities development plan that included tourism training for nearly 9,000 people. ADB assistance promoted training on ethnic arts, and restoration and protection of cultural relics. The project also contributed to increased awareness among local people and government officials of the importance of minority cultural heritage. Funding allowed local government officials, artists, academicians, and village residents to exchange ideas on practical strategies to harmonize cultural preservation with tourism development. These activities ensured that increased tourism would not overwhelm the cultures and traditions of local ethnic groups. The project also reached into the interior of northwestern Yunnan Province by constructing 139 km of access roads to connect remote counties and townships to railway stations.

Benefiting from tourism

Safe and fast rail travel to the region's many attractions brought an influx of more than 4.8 million tourists in 2013. "The railway has helped make Lijiang the second-largest tourism center in Yunnan Province," says Tang Jiaqiong, deputy director of Lijiang Municipal Tourism Development Commission. "More international and domestic tourists are coming to Lijiang and traveling on to the great Shangri-La region," she adds. In Heqing, the poorest of the three counties, a new railway station has spurred the development of tourism-related activities and sites, with a subsequent rise in tourist arrivals of almost 500% during 2004–2011. Revenues from tourism have risen a staggering 35 times.

Wang Mingzheng, director of the Dali railway station, one of 11 stations on the line, sees firsthand the



Tang Jiaqiong, deputy director of the Lijiang Municipal Tourism Development Commission, says the railway has made her city the second-largest tourism center in Yunnan Province.



Wang Mingzheng, director of the Dali railway station, says increased tourism because of the railway project is leading to more jobs for local people.

increase in people taking the train. “The number of daily passengers at our station has gone up from about 100 when the line opened in 2010 to about 2,000 today.” The stationmaster says in the peak tourist month of October, that number climbs to 3,000 a day, and points out that more passengers, 6.5 million in 2013, mean more jobs for local people. “The number of staff working at our station has increased from 25 in 2010 to 65 today, and 70% of them are women.”



Ethnic minority woman and former farmer Zhang Zeying has a better life working as a cook and cleaner at Heqing railway station since the day it opened.

Zhang Zeying, an ethnic minority woman and former farmer from Xiaoshuimei in Heqing County, works at the Heqing railway station cooking for 15 staff and cleaning the station. Because of the job, she and her husband were able to return home from work in Kunming to take care of their son and elderly relatives. She says, “I have worked at the station since it opened and I’m very happy with the job. We hope that in a few years, with the salary from this job, we can finish building our house.”

Cheaper goods, more jobs

The project has lowered the cost of living for people in Lijiang and improved the availability of products in the area. Wu Juan came to Lijiang from Beijing with her husband in 2010 and opened a 10-room hotel. Due to the larger numbers of tourists, their business has grown to 26 rooms, and they have hired four staff. “For the everyday supplies for our hotel business, we now buy in bulk from supermarkets in Lijiang,” she says.

Yang Yubao, 27, owns a grocery store, selling rice, flour, cooking oil, and soy bean products and says the reduction of shipping costs because of cheaper freight charges by rail is saving him about CNY10,000 (about \$1,530) a year. “I only need to arrange delivery from the railway station, instead of hiring trucks to pick up the rice from suppliers,” he adds. Many residents from Heqing County now take the train to Lijiang in the morning to sell their products and return home in the evening.

The railway project has been a powerful catalyst for economic growth. During 2004–2011, per capita rural incomes increased by 66% in the project area as a whole, and by 147% in Heqing County, and by 143% in Lijiang City. Poverty incidence in the project area fell from 30% in 2002 to 9% in 2010. The railway project has shown that with careful planning and execution, cultural preservation, economic development, and increased tourism can successfully coexist and benefit all.



Local resident Deng Shuiqing is one of four workers hired by hotel owner Wu Juan due to increased tourism, thanks to the railway project.



Yang Yubao, 27, says shipping costs have dropped significantly since freight operations began on the railway in 2011.

Duan Jianlin, director of the Heqing railway station, says, “The railway is comfortable and convenient for local people. They take the train to visit their families and friends, for work, studies, and business. The train has shrunk the distance between them and the outside world.” ■



Duan Jianlin, director of the Heqing railway station, awaits the next train on the platform.

“The train has shrunk the distance between local people and the outside world.”

Duan Jianlin, railway station director



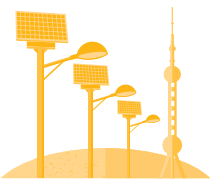
Safe and efficient rail travel to the region's many attractions brought an influx of 2.08 million tourists in 2012.



People's Republic of China

Harnessing Hidden Fuel

A couple pose for wedding pictures in the southern province of Guangdong. Unable to keep pace with its rising energy needs, the province was chosen for a new kind of energy efficiency program.



From LED streetlamps to revolutionary plastic manufacturing, an innovative project in power-hungry Guangdong in the People's Republic of China has made the province a model of energy efficiency.

It is a fact that startles most people: the People's Republic of China (PRC) is the world's largest energy consumer. Although power-generating capacity in the country rose by 8% per year over the past 2 decades, it is still insufficient to meet surging electricity demand. Power shortages plagued more than half of the country's provinces, and Guangdong, in particular, faced a seemingly insurmountable dilemma.

How does a province with 92 million people and the biggest and fastest-growing economy in the nation increase desperately needed electricity supply for its industries without adding to already severe air pollution by burning more coal and other fossil fuels?

There was a better way forward, but it would mean a commitment to a whole new way of thinking by everyone from national and local government staff to business owners and workers. Instead of increasing power-generating capacity, the same amount of electricity would be made available to more users by making a wide spectrum of consumers more energy-efficient. The benefits of tapping into this “hidden fuel” of energy efficiency are beginning to be realized worldwide, as recognition grows of its role as the “first fuel”—the surest and most reliable energy supply that exists.

Creating huge energy savings

The plan in Guangdong Province was to harness energy efficiency on such a scale that it would yield enormous energy savings at half the cost of conventional power generation and without the added pollution. In 2008, ADB and the PRC embarked on the ambitious Guangdong Energy Efficiency and Environment Improvement Investment Program, partnering with the Ministry of Finance, Guangdong Provincial Government, Guangdong Finance Bureau, and Guangdong Finance Trust Company. The energy savings of the “efficiency power plant” they planned to create would amount to a virtual power plant, which has the same effect on power availability as expanding an existing power plant or building a new one. The investments in newer technology to make the efficiencies possible would be recovered through savings on electricity bills and other energy costs from reduced demand.

Through a partnership with the provincial government, the program helped industries, businesses, and public utilities retrofit, upgrade, and replace existing

Guangdong Energy Efficiency and Environment Improvement Investment Program

Project Information

- Approved: June 2008
- Closed: December 2013
- Cost: \$215.4 million
 - ADB loan: \$100.0 million
 - Guangdong Provincial Government: \$13.3 million
 - Subproject entities: \$95.4 million
 - Project Revolving Fund: \$6.7 million

Efficiency Gains

- Annual energy savings amounted to 1,212 gigawatt hours during 2009–2013.
- Cumulative energy savings equaled 2,669 gigawatt-hours during 2009–2013.

Environment

- The energy savings achieved under the project prevented the consumption of 399,891 tons of coal equivalent per year.
- Estimated to have prevented the consumption of 880,733 tons of coal equivalent during 2009–2013.

Model

- Visitors from other provinces come to Guangdong to learn how to replicate the efficiency power plant.



Students at Shunde Jun'an Middle School in Foshan study at night under a new LED lighting system.

equipment with energy-efficient technology—everything from street lights, motors, and steam-recovery systems to steel-making equipment and water pumps.

In Nanhai District, Guangdong Province, 15,000 streetlights along 137 km of roads were retrofitted in 2010 with high-tech LED lights manufactured by Guangdong Real Faith Lighting Technology. “The power savings of 65% greatly reduced the financial burden of our local government,” says Lin Zebin, director of the municipal street lamp division. The company also retrofitted hospitals, schools, and government buildings with high-tech lighting solutions,

Managing director Zhu Kangjian of Borch Machinery explains how the project helped his company engage and invest in research and development that brought an energy-saving revolution to the entire plastic injection-molding machine industry.



including upgrading the entire lighting system of Shunde Jun'an Middle School in Foshan—3,167 lamps in total, including classrooms, offices, and a dormitory. Since the retrofit in July 2013, the school has made annual savings of 239 kilowatt-hours of electricity and reduced costs by CNY210,000 (about \$32,000).



Song Weidong, deputy general manager of Spacekey Auto Electronics, explains how new technology developed through the project is reducing energy consumption by up to 60%.

Energy efficiency in industry

Most opportunities for energy efficiency improvements are in small and medium-sized enterprises, and the program was designed to encourage private companies to implement energy-efficiency projects suited to their own needs.

Plastic injection-molding machine maker Borch Machinery is typical of companies participating in the project. Managing director Zhu Kangjian says the manufacturing process of the entire plastics industry is highly energy-intensive. “Our injection-molding machine is known as an ‘electricity-eating tiger’ in Guangdong Province,” he says. A subproject loan from the program enabled the company to research and develop energy-saving and emissions-reduction technology for the plastic injection-molding machine industry. “We have brought an energy-savings revolution to the whole industry,” he adds with a touch of pride, pointing out that his company has brought energy savings to 300 clients’ factories nationwide.



Wu Xiaobing says it is cooler and quieter in the workshop using the new machines.

Spacekey Auto Electronics makes automobile engine parts and is a client of Borch Machinery. Deputy general manager Song Weidong has found that Borch Machinery's third-generation energy-saving plastic injection-molding machines use up to 60% less electricity than the old machines, and working conditions are far better for employees. In Guangdong alone, new machines in 60 factories are saving a total of 88.5 kilowatts of energy annually. Wu Xiaobing, 29, an injection-molding machine operator who has worked at Spacekey for 5 years, adds, "The new machine has reduced the temperature in the workshop, and it's not so noisy. Our working conditions are much better now. Some of the machines are fully automatic and don't require any human labor. This has made our work much less intense."

Exceeding expectations

A worker operates one of 22 energy-saving yarn-dyeing machines at the Hapchant Dyeing Knitting Factory.

The energy savings in some industries were enormous. Hapchant Dyeing Knitting Factory has 448 employees engaged in the production and processing of woolen fabrics, mostly for export. Since 2013, the company has



installed 22 energy-saving yarn-dyeing machines. The company has saved almost 5,800 megawatt-hours of electricity and reduced annual wastewater emissions by over 1 million cubic meters.

As of 31 December 2013, the program's cumulative energy savings equaled 2,669 gigawatt-hours and are estimated to have prevented the consumption of more than 880,000 tons of coal equivalent, far exceeding the target for the program.

The program's innovative approach has created an efficiency power plant equivalent to 130 megawatts of clean energy and established a model for energy efficiency that is attracting attention in other parts of the country. Shandong and Hebei provinces are already replicating Guangdong's success, each with the assistance of a \$100 million ADB loan. More enterprises have become aware of energy efficiency as a result of the program, and are carrying out technological retrofitting and product research and development with energy efficiency in mind.

The virtual power plant is creating real improvements in the form of a cleaner environment and more sustainable development.

Xu Jiancheng, director of Guangdong Efficient Power Plant Project Management Office declares, "The project has outperformed the targets set by ADB. It has achieved great economic and social benefits." ■

The project has achieved great economic and social benefits.

*Xu Jiancheng, director,
Guangdong Efficient Power Plant Project Management Office*



India

Proud as a Peacock

Mumbai's award-winning new airport terminal is receiving kudos for its innovative and efficient design. The airport handled more than 36 million passengers during 2014–2015.



Mumbai's new Chhatrapati Shivaji International Airport is a triumph of award-winning design and a shining example of how the government's embrace of public-private partnerships is helping solve India's infrastructure deficit.

If airports are the first impression visitors have of a country, then their introduction to India's financial capital of Mumbai was one of dingy and congested facilities, lack of amenities, threadbare carpets, grimy concrete walls, and endless immigration lines. The decrepit 30-year-old terminal

suffered routine flight delays as it strained to cope with twice the passenger and cargo loads for which it was designed.

That all changed on 12 February 2012, when Air India flight AI343 from Singapore touched down, heralding the start of international operations at the newly inaugurated Terminal 2 at Chhatrapati Shivaji International Airport. During 2014–2015, the stunning \$887 million facility handled 36.6 million passengers and 694,261 tons of cargo, four times that of the old airport. The new integrated Terminal 2 and cargo complex are now capable of handling 40 million passengers and 1 million tons of cargo.

The modernization of the international terminal is one of 30 infrastructure subprojects, including roads and two airports, funded by ADB under the \$500 million India Infrastructure Project Financing Facility through the India Infrastructure Finance Company. ADB funded a further 20 subprojects through a \$700 million second phase of the facility. Poor infrastructure is India's Achilles' heel, and the government has turned to the private sector to help provide the staggering sums needed to bridge the deficit in infrastructure financing. ADB's total investment of \$1.2 billion, which aimed to modernize and scale up the development of infrastructure through public–private partnerships, spurred private companies to commit up to \$5.5 billion to finance commercially viable infrastructure projects across the country.

Innovative design

In January 2006, a consortium comprised of the Airports Company South Africa and Bidvest, won the bid to manage and operate Mumbai's airport.

The project employed more than 12,000 workers during construction. The X-shaped terminal has a total area of 439,000 square meters on four levels, with 21,000 square meters of retail space, lounges, and travel services, and a multilevel car park for 5,200 cars, and is surrounded by the city's largest landscaped gardens. The spectacular interior design was inspired

India Infrastructure Project Financing Facility

Project Information

- Approved: December 2007
- Closed: August 2011
- ADB loan: \$500.0 million

Second India Infrastructure Project Financing Facility

Project Information

- Approved: November 2009
- Closed: May 2014
- ADB loan: \$700 million

Financing

- The country's share of private investment in total infrastructure investment rose from 22% in 2007 to 38% in 2012.
- ADB's total investment of \$1.2 billion spurred private companies to commit up to \$5.5 billion to finance commercially viable infrastructure projects.

Roads

- More than 2,000 km of roads were built under the project.

Airports

- During 2014–2015, the Chhatrapati Shivaji International Airport handled 36.6 million passengers and 694,261 tons of cargo, four times that of the old airport.



The project employed more than 12,000 workers during construction. The new terminal features a design inspired by the peacock, India's national bird.

by the peacock, India's national bird, and a white peacock eye motif adorns the airport's soaring pillars and ceilings.

Existing runways were upgraded and new taxiways were added, allowing the airport to handle more than 780 aircraft movements per day. The new terminal keeps passengers moving efficiently with 188 counters for check-in, 60 for emigration, and 76 for immigration. The bright geometric ceilings and natural lighting significantly reduce energy costs.

Terminal 2 is also home to Jaya He, India's largest public art program, a 3.2 km multistory art wall illuminated by skylights that features more than 7,000 pieces of artwork and artifacts from every region of India. Travelers can buy the art from a museum store in the terminal.

There were major challenges in implementing the project. The existing structure had to be demolished and rebuilt. There were space constraints, since the revamped terminal is located in the heart of the city, and construction work had to be undertaken in tandem with ongoing flight operations.

The airport is a resounding success. It was awarded the Best Airport in Public-Private Partnership by the Air Passengers Association of India, and the best airport in India and the third-best airport in the World in the 25 million to 40 million passenger category by the Airport Council International. The 83.5-meter-high innovative wishbone-shaped air traffic control tower received the Hong Kong Building Information Modeling Award.

For frequent fliers like David Swan, who has been using the airport since 1982, the new facilities are a welcome improvement. “There is no comparison between the old terminal and the new one, which is world-class and compares with international airports like Heathrow and JFK. The new terminal is very spacious, and every care has been taken to ensure passenger comfort. It is good to see that safety and security are accorded prime importance at the terminal.”



Passenger David Swan awaits his flight in the new airport facilities.

New roads to higher profits

Madan Mohan Vangara, project manager of L&T Western Andhra Tollways, says the company's involvement with the 55 km tollway from Jadcherla to

The new tollway is part of the government's goal to widen and strengthen national highways.





Project manager Madan Mohan Vangara says the tollway is saving time for commuters and expediting the movement of freight.

the Kothakota bypass on the Hyderabad–Bangalore National Highway 44 has been a success through the innovative project. The tollway is typical of other road projects funded under the facility. The method of infrastructure financing has generated significant benefits by supporting industrial and agricultural development, lowering vehicle-operating costs, minimizing delays in passenger and freight movements and reducing road accidents. The tollway project is part of the expansion and construction of more than 2,000 km of roads under the facility. The project was undertaken on a build–operate–transfer basis, which means the company was responsible for the design, construction, operation, and maintenance of the tollway as well as collecting tolls, and will eventually hand over the infrastructure to the government. The tolls collected have already exceeded the financial model. “The strengthening and expansion of this stretch of national highway is not only saving time for commuters, but also accelerating economic activity with faster movement of goods by commercial vehicles, which now make up more than 60% of toll revenues,” says Madan.



Truck driver Babu Singh, in line at the toll collection plaza on the highway, has been transporting produce on the highway for 12 years. “The road was very bad before, and perishable crops and vegetables would often rot due to long transit times. But that never happens now. The road is so smooth now that I can travel at twice the speed, which means fuel efficiency has gone up.”

Auto-rickshaw driver Anjan Kumar, 29, lives in Kundur, 40 km from Hyderabad, and transports commuters from surrounding villages to the nearby city of Mehboobnagar. “Because of the new road I now make many rounds to the city daily, which has doubled my income.” ■

More commuters means more income for driver Anjan Kumar.



Driver Babu Singh's trip time has been cut by half since the new tollway began operating.

“There is no comparison between the old terminal and the new one, which is world class and compares with international airports like Heathrow and JFK.”

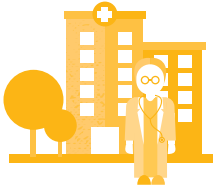
David Swan, passenger



Mongolia

Better Health for All

Myagmar Javzmaa's 10-year-old son, Azjargal (center), receives quality care at Arkhangai Province General Hospital with the help of a telemedicine link to the national hospital in Ulaanbaatar.



A project in Mongolia that modernized an antiquated health system has brought better health care to underserved rural areas.

In March 2015, when Myagmar Javzmaa's 10-year-old son, Azjargal, could not breathe, she rushed him to Arkhangai Province General Hospital in northern Mongolia. The 33-year-old mother, who is an assistant accountant at a nearby health center, anxiously held his hand as nurses administered oxygen and emergency support. With his condition worsening, the young boy could not be transported to the National Center for Maternal and Child Health, 520 km away in Ulaanbaatar.

However, thanks to modern equipment and staff training, an internet-based telemedicine link remotely connected child and doctor. Examining images of the child's lungs and ordering further tests, a specialist was able to stabilize Azjargal and eventually have him transported to Ulaanbaatar. Under Dr. Solongo's care and treatment, the boy made a full recovery. "We would have spent a lot of time and money if we had gone to the city to see the doctor," says Myagmar of the risky trip that they would have been forced to make before the modernization of the health center. "I see how fast and easy it is to receive such care locally. Not only my son but other people I know, have received quality care from this new hospital."

The hospital is part of the Third Health Sector Development Project's efforts to improve the health and quality of life of Mongolians. The project involved everything from improving primary health care and health insurance to building health facilities, upgrading infrastructure, and providing modern equipment and training for medical staff. ADB funded the project and partnered with several government and medical stakeholders, including the ministries of health, finance, and population development and social welfare, the Mongolian National University of Medical Sciences, and the Mongolian Association of Family Doctors. A participatory approach to improving health care provision ensured that planning meetings included not only government bodies and training institutions, but also *soum* (district) and *aimag* (province) service providers and users, and other development partners. Communities were also involved through awareness-raising on health and well-being to shift the focus from curative services to public health and prevention.

Strengthening health care facilities

Mongolia's health care system had been hobbled by the legacy of an era of centralized and inefficient hospitals, poor-quality care, and aging infrastructure, especially in rural areas where power and water

Third Health Sector Development Project

Project Information

- Approved: November 2007
- Closed: June 2014
- Cost: \$16.2 million
 - Asian Development Fund grant: \$12.8 million
 - Government: \$3.4 million

Beneficiaries

- More than 700,000 poor people gained access to better primary health care services.

Facilities

- 10 new health centers were built, 10 health centers were renovated, and 37 wells were constructed.
- 5 general hospitals and 61 family health centers received medical equipment.

Training and Education

- 5,542 health professionals, 76% of them women, were trained.

Health Coverage and Financing

- National health insurance coverage increased from 73% in 2007 to 98% in 2013.
- Antenatal coverage increased nationwide (from 80.0% in 2005 to 87.8% in 2013) and in 5 out of 6 project areas. Most improvement was achieved in Sukhbaatar (from 74.8% in 2005 to 100% in 2013).
- The Health Insurance Law was adopted by Parliament in 2015.



Paperwork is a thing of the past for Amarjargal Narangerel (right) in the medical records department at Khotont *soum* health center. Thanks to the project, records are all electronic now.

supplies were often lacking. Two earlier ADB-supported health sector projects helped win considerable improvements. Building on these projects, the Third Health Sector Development Project aimed to reduce the disparities in access to health services between rural and urban areas by strengthening primary health care services for more than 700,000 people in five provinces. Two districts of Ulaanbaatar with large populations of poor and disadvantaged people were also included, and the project aimed to support health sector reforms nationwide.

Ten new *soum* health centers were built, another 10 renovated, and 37 wells were constructed for access to clean water. The *soum* health centers were provided with wastewater treatment facilities featuring advanced technologies, used for the first time in Mongolia. The project also provided medical, laboratory, and waste management equipment to 90 *soum* health centers, and distributed medical equipment to 61 family health centers. In addition, five general hospitals received medical, diagnostic, and networking equipment, and computers and software

to help them work more efficiently and provide remote diagnostic support to rural health centers.

Amarjargal Narangerel, 22, is a statistician in the medical records department at the new Khotont *soum* health center, built in 2002 under the project and equipped with health information hardware and software. When she worked in the old facility, all patient records were typed, generating reams of paperwork that was shipped to the provincial capital. “Today, we integrate all health information by computer and send patients’ medical histories to the province’s central database via the internet,” she says. “No more writing up every single thing. It saves so much time.”

Growing confidence in modern facilities’ capacity to provide quality medical care in rural areas means local people no longer face expensive trips to larger centers. Narankhuu Dondog, a 33-year-old accountant who receives treatment at the Khotont *soum* health center, also in Arkhangai Province, says before the project, her family had to travel to the provincial capital to seek medical treatment. “It cost MNT7,000 (\$3.50) for bus transport plus food and accommodation. Now, it is

Narankhuu Dondog (left) and her family are now saving on transport costs, thanks to the project.





A group of students practice on simulation equipment provided under the project.

much easier and cheaper to receive care near home,” she says.

Better education, better medicine

From family health centers at the frontlines of primary health care, to district and general hospitals, a key to quality health services is to improve conditions and incomes for medical staff and create a continuing medical education program for doctors, nurses, and community-based rural *feldshers* (health workers). The project provided training for doctors in several areas such as cardiology; imaging diagnostics; and palliative, pediatric, and emergency care. Nurses, midwives, and *feldshers* received training in physiotherapy, home nursing, and basic laboratory tests. More than 5,542 health professionals, 76% of them women, were trained.

The project also supported the development of undergraduate education for family doctors at the Mongolian National University of Medical

Sciences. Mandukhai Amarsaikhan, 22, is one of 10,000 students at 10 schools at the university. The fifth-year medical student is studying to become a general physician. She appreciates the 10 laboratory classrooms featuring simulation equipment and interactive patient diagnostic software funded by the project at the Skill Center. She says that when they practice medicine at the hospital, there is not enough room or equipment. “Having skill development laboratory rooms for practical use now allows us to learn in a more comfortable and spacious environment with sufficient equipment. Fellow female student Munkhchimeg Shagdarsuren, 23, says, “I am grateful for the opportunity to use a well-equipped laboratory, which even some foreign medical schools don’t have.”

Health coverage for all

In partnership with the Ministry of Health, Ministry of Population Development and Social Welfare, and the Ministry of Finance, the project helped develop a new health financing model for Mongolia and supported the preparation of the Health Insurance Law, adopted by Parliament in 2015. National health insurance coverage increased from 73% in 2007 to 98% in 2013, and the government now provides health coverage for vulnerable groups and free access to medical services for the poor.

At Khashaat *soum* health center in Arkhangai Province, 38-year-old laboratory technician Zoljargal Dulam



Training and new equipment means laboratory technician Zoljargal Dulam can get faster test results to patients and doctors.

Emergency services have greatly improved.

*Shilchin Degmid,
farmer and project
beneficiary*

says medical tests are now fully funded by the state budget and free of charge for everyone.

With the laboratory equipment and training provided by the project, the *Khashaat soum* health center is able to administer up to 14 different tests. “Diagnosis of some medical conditions, such as tumors, can now be done quickly, and test results for HIV, syphilis, and liver cancer are usually available in just 20 minutes,” she says.

The success of the project can be seen in improved outcomes in the country’s Millennium Development Goals. Maternal, infant, and under-5 mortality rates have all decreased, along with tuberculosis. Under-5 vaccination rates have risen, and per capita spending on primary health care has doubled.

Part of this success has been down to providing effective health outreach services in the remoter rural areas. Nomadic livestock herders, like 87-year-old father of seven Shilchin Degmid, who moves up to five times a year, pose a big challenge for health care staff due to long distances and bad roads. Ask Shilchin about how improved local medical treatment is helping people and saving lives, and he will tell you about his wife’s treatment at the *Khashaat soum* health center. “This year, my wife suddenly fell ill and needed urgent medical care,” says Shilchin. “The hospital staff came very fast to provide treatment. Emergency services have greatly improved,” he says. ■

A family doctor from *Khashaat soum* health center examines Shilchin Degmid’s wife (left). The elderly pair live a traditional life in remote Arkhangai Province.



A mobile nurse prepares to visit patients in outlying areas. Better medical care is improving people's health and saving lives.





Nepal

Working Their Way out of Poverty

An instructor demonstrates plumbing techniques to students under the Skills for Employment Project, which has helped more than 59,000 students develop skills that are in demand.



The greatest dream for those caught in the poverty trap is to get a decent job. An inspiring project in Nepal is giving marginalized people the skills to do just that.

On a sunny November morning in Kathmandu, workers are putting the finishing touches on homes in a new subdivision. Secured by a safety line atop a bamboo scaffold, a mason builds an outer wall—a common enough sight in the expanding suburbs of the capital city. Masonry is traditionally a man’s occupation in Nepal, but this mason expertly troweling bricks is a 27-year-old mother of two. The only woman

on this job site, Ishwori Sarki, began working for a construction company after she graduated from the Balaju School of Engineering and Technology (BSET) as a qualified mason 6 years ago. Hard work and an eagerness to learn earned her a promotion to full-time staff. “When I worked in handicrafts, I used to earn just NRs5,000 (about \$46) a month. Here at this company my salary is NRs15,000 (about \$136),” she says proudly.

More than 59,000 students in Nepal have graduated from technical and vocational education and training (TVET), thanks to the Skills for Employment Project, a partnership among ADB, the Swiss Development Corporation (SDC), the Ministry of Education, and the Council for Technical Education and Vocational Training, which administers the program. The graduates, most of whom are from marginalized groups, received training in carpentry, masonry, steel working, and basic mechanics—skills that are in high demand in Nepal.

High unemployment and lack of opportunity were recognized as primary causes of conflict and poverty in Nepal at the time the project was developed. Widening access to TVET to provide training in occupational skills was seen as a way to increase youth employment and the income levels of workers. The project raised awareness of the training opportunities available using the media and door-to-door campaigns, prepared students for in-demand jobs, and helped place them with employers. Training of trainers and curriculum development ensured the training given was of high quality.

Many of the skills-training approaches of the project have been incorporated into the TVET policy in Nepal, approved in 2012. Usha Bhandari, national program officer with project partner SDC says, “The collaboration between ADB and SDC was important for policy dialogue, leading to the approval of the TVET Policy. It led to the establishment of the TVET donor group that meets regularly and brings major donors in the sector together for discussions.” The project’s approach to skills training delivery is now being replicated elsewhere in Nepal with support from several development partners.

Skills for Employment Project

Project Information

- Approved: November 2004
- Closed: October 2012
- Cost: \$19.5 million
 - Asian Development Fund loan: \$16.8 million
 - Government: \$2.7 million

Beneficiaries

- 59,129 students graduated from technical and vocational education and training during 2004–2012.
- Total number of vocational training graduates increased by 37% from 1,552 in 2008 to 2,120 in 2010.

Disadvantaged Groups

- 53.8% of the graduates under the project were women, 25.5% were Dalits, and 79% were disadvantaged groups.

Employment

- 61.3% of the graduates were employed within 1 year of completing training.
- 53.3% of those employed were self-employed, 44.3% wage earners, and 2.4% opted for foreign employment.

The project's built-in gender, caste, and ethnicity action plan helped ensure that women and disadvantaged groups would be major beneficiaries. Nirmal Prasad Neupane, the 52-year-old principal of BSET, says the project helps disadvantaged groups such as Dalit ("untouchable" caste) and ethnic women—groups that traditionally faced discrimination—to find employment and improve their lives by giving them the opportunity to learn skills. Of 11,000 graduates from the school, 79% come from disadvantaged groups, including Ishwori. The principal explains, "Once their training is complete, we link graduates to different companies to help them find jobs."

Thanks to the Skills for Employment Project, Ishwori Sarki lifted her family out of poverty after she got a job as a mason at a construction company.

Ishwori heard from friends in her village of Lubhu near Kathmandu that BSET was offering free training. At the time, she was making handicrafts. "We worked hard all day long, but all the profits went to the owner," she says. "I am from a poor family of seven, and our father passed away when I was in school. My mother is a farmhand. What we earned was not enough to keep the family going. It was difficult." The training





she received under the project rescued her and her family from economic hardship. Now Ishwori pays her mother's medical bills and takes care of her family. She even has enough money left to save each month and to send her siblings and her own children to school.

Ishwori's supervisor is 45-year-old project manager Rambabu Singh. "Because of foreign employment opportunities, we have a high turnover of masons. One of the good things about female masons is that they are more disciplined, and they stay longer in the company," he says.

Once training is complete at Balaju School of Engineering and Technology, school officials help students find jobs at local companies.



Masonry students hone their skills under the watchful eye of an instructor.

Training for trainers

Nishi Shrestha, 40, was the only woman trainer at BSET. “Being an instructor at BSET brought huge changes for me,” she recalls. “I was able to provide extra income for my household.” She applied the practical skills she gained as an instructor when she became a supervisor at construction sites. “I am now an examination officer at the National Skills Testing Board and the National Vocational Qualification System, all thanks to my experience as an instructor,” she says. She also taught masonry at Kwopa Engineering College in Bhaktapur, close to Kathmandu.

“My happiness knows no bounds when less-fortunate girls and boys take the training and get jobs. Many students come back to me and say they can never forget me for the change I have been able to inspire in them.” Ishwori is among the students that stand out in her mind for their hard work and success, as does Ravi Magrati. “He took mechanical training here, then opened his own workshop. He has gone on to foreign employment and earns handsomely,” she says.

Another student who has made the most of the skills training offered through the project is 36-year-old Ram Bahadur Bishwakarma, who lives in Besisahar Municipality, about 175 km northwest of Kathmandu, with his wife Man Kumari Bishwakarma and their two young children.

Before attending plumbing training under the project in Kathmandu, he worked with his parents farming corn and millet. The family income was barely enough for their daily needs. Ram was a school dropout and knew he desperately needed a skill to help him find a good job and a way out of poverty, but he was never able to afford the training fee. In 2009, he heard that the project was providing training for free, including

Ram Bishwakarma (left) never looked back after he was trained under the project. He is a well-respected contractor in his hometown of Besisahar.



The project prepared students for in-demand jobs.





“It feels great when people say I am a smart woman and I can work on a par with men. People hold me up as an example in my village.”

*Ishwori Sarki,
mason and project
beneficiary*

meals and accommodation during the training period. Ram jumped at the chance, but his father was less than enthusiastic. “He asked me why I was going to training instead of going abroad as a migrant worker like other youths in the village.”

After 3 months, Ram was a trained plumber and has never looked back. He not only acquired new skills and built confidence, but also drastically changed the life of his family. Ram is now a well-established plumbing contractor and known as one of the best in Besisahar. He is providing his services in 10 private residential buildings and has hired two assistants. With earnings of more than \$625 a month—a high income in Nepal—he has saved up enough money to buy land to build a house, and can afford to send his children to one of the best private schools in Besisahar.

Ram is very happy with what he has achieved so far. He says, “I am not talking only about me and my family, I am able to feed four other families.” He is planning to open a sanitary ware outlet to expand his business.

Mason Ishwori also has big plans and wants to become a contractor too. “It feels great when people say I am a smart woman and I can work on a par with men. People hold me up as an example in my village.” Even a teacher who once discouraged her from going to school because she was from the Dalit community looks up to her. When she told the teacher she had a good job, he says, “That’s great, I am happy for you.” Says Ishwori, “Now I feel I have a secure life.” ■

Thanks to the project, more than 59,000 students in Nepal have graduated from technical and vocational education and training.





Philippines

Rewards from Good Governance

Mangyan schoolgirls puzzle over a tough study question in their highland tribal community in Sablayan, Occidental Mindoro.



A project in the Philippines is helping local governments deliver better public services.

Each weekday in a Mangyan indigenous community, Luningning Catibong, a 32-year-old mother of four, and her husband, Aga, would see their two daughters off to school. As they toiled on their rice farm, their minds were uneasy until they saw them safely home. From the highland tribal community in Sablayan, Occidental Mindoro, the Philippines, the girls joined other children scrambling down muddy riverbanks and often wading across treacherous rivers to reach the nearest road. Even then, they were far from safe. Trudging barefoot along the narrow road shoulder to and from school in the town of San Jose,

they faced constant danger from trucks roaring past. Flooding and impassible roads also meant many school days were missed. Cultural differences and discrimination against indigenous children bred poor grades and high dropout rates. Like other parents, the couple dreamed that one day their children could have a school of their own, right in the community. Little did they suspect that their dream was about to come true, and their children's perilous trek to school would become a thing of the past.

Reaping the benefits of good governance

When the community's first teacher arrived in 2009, Lourdes Magan, 31, found no road, water supply, or basic health services. Tuberculosis and respiratory diseases were rife. The only place to teach was a tiny hut with holes in the roof. "The kids needed a proper school," she declared.

Joining tribal leaders and others determined to improve conditions in the community, they approached San Agustin village captain, 55-year-old Yolanda Patingan. She sought assistance from Mayor Eduardo Gadiano of the Municipal Government of Sablayan. Long an advocate for better social services and conditions for indigenous people, he was keen to help but frustrated by lack of funds.

In 2011, an opportunity arose when his municipality earned the Seal of Good Housekeeping from the Department of the Interior and Local Government. The municipal government won the seal by meeting the stringent standards set by the agency: ensuring participation of the community and stakeholders, solving problems by talking to the people, and being transparent and accountable. This meant that the municipality now qualified for subsidies from the Performance Challenge Fund (PCF) to carry out pro-people projects aligned with the national government's development goals. The subsidies are used as incentives, and the local government must

Local Government Financing and Budget Reform Program

Program Information

- Approved: November 2009
- Closed: March 2010
- Cost : \$441.0 million
 - ADB loan: \$225.0 million
 - Agence Française de Développement: \$216.0 million

Local Government Finance and Fiscal Decentralization Reform Program

Program Information

- Approved: February 2014
- Closed: August 2014
- Cost: \$401.0 million
 - ADB loan: \$250.0 million
 - Agence Française de Développement: \$150.0 million
 - Government: \$1.0 million

Governance

- During 2007–2009, the cumulative internal revenue allotment increased by 30%, from P83.7 billion to P108.8 billion, despite the global financial crisis.
- The number of fraud cases decreased and the amount of money involved in each case declined by nearly 15%.



Teacher Lourdes Magan was determined to see the indigenous children have their own community school.

also provide its own funding to promote a sense of ownership of their projects.

The PCF is one of many innovative programs to improve local government units that have sprung from the Local Government Financing and Budget Reform Program, approved in 2009, and the follow-on Local Government Finance and Fiscal Decentralization Reform Program, approved in 2014. Both are cofinanced by ADB and Agence Française de Développement in partnership with the Department of Finance and the Department of the Interior and Local Government. The programs' main goal is to increase the efficiency and effectiveness of public services delivered by local governments by giving them a larger share of tax revenues, and implementing systems to report on local government finances and measure their performance. The extra money from the program and additional incentives for strong governance and financial due diligence meant that local government units could build schools, health centers, and other projects needed by their constituents much faster. Local governments were trained to implement reforms, develop the capacity to plan and budget in a transparent and accountable

way, and empower citizens to participate in local government decisions.

With subsidies from the PCF, on 2 December 2012, the Inawa Panaynep Elementary School, meaning “fulfilment of dreams,” opened its doors to 144 Mangyan students in the heart of the community. The new school also has a daycare center where children as young as 3 attend. With six dedicated teachers, the school has a zero dropout rate. The children achieve good grades using a customized curriculum that also preserves their cultural heritage. They are taught crafts, such as weaving, and are allowed to wear traditional costumes to school once a week. As a result of its strong financial management, the Sablayan local government received enough funds to give the community an access road, clean water, and a maternity clinic. Three new municipal buildings house nurses and doctors who administer immunizations, medicines, and free checkups. The incidence of respiratory illnesses, such as tuberculosis, has fallen.

Sablayan is a shining example of good local government. Mayor Gadiano proudly points out that in 2014, the municipality was rated among the 10 most efficient local governments in the country. In 2014, 734 local governments received P990 million (about \$19 million) in subsidies from the PCF.



Municipal mayor of Sablayan, Eduardo Gadiano (right), consults with a constituent. When the municipality qualified for subsidies from the national government, the money was used to build a school for Mangyan indigenous students.

Curbing disaster

The city of Balanga in Bataan Province on the main island of Luzon is another part of the Philippines benefiting from the ADB-assisted programs to better people’s lives.

On a September morning in 2013, Editha Balquin, 43, a resort worker in Balanga City, watched anxiously as heavy rain and high winds swelled the Cupang River next to her home. Editha and her husband, Joel, were caretakers of a nearby dam, but despite their efforts, by 4 p.m. the river had breached its banks and flooded parts of the city. “The water almost reached the ceiling of our house,” Editha recalls. “All we could think about was how to get out alive.” In desperation, Joel tied a

The Inawa Panaynep Elementary School enjoys a zero dropout rate among students.





INAWA PANAYNEP ELEMENTARY SCHOOL
DR. ST. JOHN BAPTIST, DR. JESSE M. ROBBEDO, DR. CALAMANSAN SAN AGUSTIN, CALAYAN, OCCIDENTAL MINDORO



Editha Balquin and her husband, Joel, almost lost their lives when parts of Balanga City were flooded.

rope from the back of the house to a nearby perimeter wall. The couple clambered along it to avoid being swept away by the raging river. “We lost everything, but we survived.”

Balanga City, home to 100,000 people, lies on the coastline of Manila Bay in an agricultural area prone to typhoons and flooding. In 2012 and 2013, the city was flooded due to monsoon rains. “That really brought home to everyone that we needed a flood-control program,” says City Mayor Jose Enrique Garcia III. “We came up with a plan to divert floodwaters from the uplands to the Talisay River.” Using calamity and development funds, dikes were erected and silt dredged from the river delta. The city also earned the Seal of Good Housekeeping and tapped the PCF to build a crucial 236-meter-long concrete revetment and repair a sluice gate on the Cupang River. “Without the PCF, we would not have been able to complete this project,” says the mayor.

Since the concrete revetment was built, the sluice gate repaired, and the rest of the flood control project finished in 2014, Editha Balquin says her neighborhood no longer experiences flooding. Barangay captain

Ronald Caparas, 36, says gratefully, “We all sleep soundly at night now. The fear is gone, and so are the floodwaters.”

Village councilor Danilo Isip, 61, chair of the Barangay Committee on Agriculture, points out that the new sluice gate and revetment greatly improved irrigation for 23 rice farmers in the area. He explains that when the sluice gate is closed, water is diverted to farmers’ fields. This is especially valuable in summer months when water is scarce. During heavy rain, when floods threaten, the sluice gate is opened to send water down the Talisay River and out to sea. The married father of four and agriculture technology graduate says, “Better irrigation as a result of the project means there is now enough water for two growing cycles. This has almost doubled farmers’ yields.”



Danilo Isip, chair of the Barangay Committee on Agriculture, explains how flood control under the project also boosted farmers’ harvests.

Serving the people

When Jose Enrique Garcia III first became mayor of Balanga City in 2007, he made strengthening the 25 city *barangays* (villages) a priority. Barangay Week was created, whereby the mayor and other city officials meet with officials of each *barangay* throughout the year. The meetings are open to the public, and anyone interested in upcoming projects can present their views. *Barangay* officials are trained on financial management and disaster preparedness; taught skills, such as computer literacy; and oriented on various laws and protection of the family, women, children, and peace and order. This close interaction with the *barangays* allows the city government to deliver vital services, such as disaster prevention or additional schools and health centers, much faster. “The most important part of Barangay Week is hearing directly what problems our constituents are having,” says the mayor. “Direct interaction with *barangay* officials and constituents allows us to be more responsive to the people’s needs.”

Local governments with a clear vision supported by the people are better able to provide basic public services and continue building on past accomplishments.



Mayor of Balanga City, Jose Enrique Garcia III, says his municipal government welcomes the participation of families in decisions related to local public services delivery.

Balanga City demonstrates this by aspiring to turn the city into a university town. Local thinkers and educators designed a master plan, University Town Vision 2020, patterned after other well-known university towns in the Philippines and abroad. A university education council made up of school administrators and retired teachers created programs for youth. At a university town summit in 2015, 3,000 students analyzed problems facing the city, such as lack of classrooms, environment degradation, and road safety, and came up with innovative potential solutions for the government to consider.

Balanga City also empowers families and seeks their participation in decisions on local public service delivery. When the city asks for their cooperation and help, families respond enthusiastically. Declares the mayor, “If you make leaders out of your parents and heads of families, you don’t need *barangays* or mayors running the city.” ■

With strong financial management, the local government units are able to bring public services closer to the communities they serve.





Balanga City children sleep soundly now that the city flood control program is in place.

“We all sleep soundly at night now. The fear is gone,
and so are the floodwaters.”

*Ronald Caparas,
Barangay Captain*



Sri Lanka

Rebuilding Lives

Kathiresu Tharmalingam measures and bags his paddy harvest for sale in Killinochchi.



An ambitious and wide-ranging project helped return a sense of normalcy to an estimated 1.1 million conflict-affected people in Sri Lanka.

Several months after peace was declared in 2009, Kathiresu Tharmalingam left a displaced persons center with his wife and daughter and headed for the farm that they had been forced to flee more than a year earlier in Killinochchi, one of eight districts affected by 3 decades of civil war in northeast Sri Lanka. Already carrying the pain of two children lost to the conflict, they stood penniless outside of the ruins of their farmhouse with heavy hearts, their 2.4 hectares of land overrun

by weeds, irrigation systems broken, tractor and other farming equipment gone. Like so many others returning to devastated homes and communities without basic services such as hospitals, schools, sanitation, water, or electricity, they despaired as to how they would ever rebuild their lives.

Today, the 67-year-old farmer, through hard work and perseverance, once again has a working farm and a new home. The family also received help to rebuild from the ADB-supported North East Community Restoration and Development Project II. Assistance included restoring crucial irrigation pumps, building a new dam, and refurbishing agrarian outreach centers to supply farmers with essentials such as seeds and fertilizer.

In close partnership with the government of Australia and the Swedish International Development Cooperation Agency, ADB helped build and rehabilitate basic infrastructure and services needed for a fresh start. The local wisdom of provincial project coordination committees enabled the project to select the right activities to support diverse communities and avoid overlap with other development programs. From 2001 to 2012, the project and its predecessor supported government efforts to improve the well-being of tens of thousands of people by bringing health services, education facilities, shelter, water, sanitation, and electricity to conflict-affected areas. The reconstruction work provided much-needed employment for many residents. In 2005, ADB expanded the project to help the victims of the 2004 Indian Ocean tsunami.

Restoring health

More than 1.1 million people benefited from the improved health services, which included 62 rehabilitated hospitals and more than 800 newly trained health workers.

The Killinochchi District General Hospital, left little more than an empty shell in the wake of the conflict, was reopened in December 2009. With a new

North East Community Restoration and Development Project II

Project Information

- Approved: June 2004
- Closed: September 2012
- Cost: \$85.5 million
 - Asian Development Fund loan: \$45.3 million; Asian Development Fund grant: \$13.6 million
 - Australia: \$6.7 million
 - Sweden: \$4.9 million
 - Government: \$15.0 million

Health

- More than 1.1 million benefited from improved health services.
- 62 hospitals were rehabilitated.

Education

- 83,800 students, 45,151 of them female, benefited from reconstructed classrooms.
- 1,950 native Tamil-speaking teachers were recruited.

Infrastructure

- Rural electricity connections were established for 70 villages, benefiting 17,300 families.
- 18,000 families gained access to clean water.

Livelihood

- Irrigated area increased by 9% and number of active farmers increased by 17%.
- 158 women's rural development societies were reactivated in 2004, and membership had risen to 20,000 in 2012.



At Kathiresu Tharmalingam's family farm, chilies dry in the sun.

intensive care unit, a dialysis unit, doctors' quarters, and a wastewater treatment plant, the 222-bed hospital now serves more than 600 outpatients a day. Says medical director P. Karthikeyan, "The hospital is considered a model regional hospital and is visited by health care professionals from around the world."

Better learning and teaching

The conflict caused the closure of many schools, resulting in overcrowding in those that remained, with shortages of 5,000 teachers and high student dropout rates. In response, the project funded the construction of 1,486 new classrooms. Students and teachers received almost 21,000 desks and chairs, as well as educational materials and textbooks. Support was provided to recruit 1,950 native Tamil-speaking teachers, who filled one-third of the vacancies in the rehabilitated schools.

The payoff for project efforts to help students and teachers return to their schoolwork is plain to see at the Vishwamadu Maha Vidyalayam School

in Mullaitivu District, where a block of eight new classrooms and accommodation for teachers were built under the project in 2007. “We used to conduct classes under the shade of a tree or in a temporary structure of palm fronds and mud.” says school principal Mariyadass Nalliah Antonkuladas. “The roof leaked during the rainy season. Now, students have a proper place to study.”

Thanabalasingham Radakrishnan is a 37-year-old physical education teacher at the school, one of 14 living at the teachers’ quarters. Before the facility was built, he and the other teachers slept in their classrooms to avoid a 6-hour daily commute between the school and Jaffna. “We had no water or electricity and used a hurricane lantern for light. It was very difficult for us to prepare lessons. Each morning, we had to wake up early and rearrange the furniture in the classroom before the students arrived,” he says. Now, teachers have time to prepare and conduct extra classes after school. Radakrishnan’s extra coaching in athletics has also proved worthwhile: the girls’ athletics team won first prize at the 2015 provincial sports meet.

Students study in their new classrooms provided by the project at Vishwamadu Maha Vidyalayam School.





Thanabalasingham Radakrishnan prepares tea in the teacher's quarters. Before they were built, he slept in the classroom.

“The impact of the new teachers’ quarters is evident in the pass rate of students in government examinations,” notes Principal Mariyadass. “The government’s General Certificate of Education Ordinary Level examination pass rate increased from 23% in 2010 to 65% in 2013.” One 16-year-old student, Thushana Yogaratnam, dreams of becoming an engineer. She says, “If not for the extra classes, I would not have the confidence to sit the examination this year.”

Building communities

To normalize daily life in conflict-affected communities, almost every area needed support. The scope of the project was enormous: more than 400 km of roads were built, rural electricity connections to 70 villages delivered power to 17,300 households, and new wells and piped systems brought clean water to another 18,000.

A high priority was putting people back to work in better-paying jobs. Vocational training was carried out for occupations in high demand, such as tourism workers, mechanics, plumbers, carpenters, and electricians. Training programs were also conducted for 980 unemployed youths, and the skills of 2,000 government officers were upgraded.

To support women, 158 women’s rural development societies were reactivated in 2004. Membership had risen to 20,000 by 2012. Women received training in developing microenterprises to create self-employment opportunities. Community development activities, which covered a range of village-level activities to restore livelihoods, including livestock, home gardening, and fisheries, also focused on the poorest households, and more than half of those who benefited were women.

These days, farmer Kathiresu Tharmalingam, like so many others caught up in the conflict, tries to put a painful past behind him and look to the future. He appreciates the help his family and community received from the project. Standing by his tractor he says, “Our income has increased drastically, and we are



able to provide more for our grandchildren. We send them for extra tutoring in mathematics and English, something we could not afford in the past. They will have a better life.” ■

Student Thushana Yogaratnam (center) is one of thousands who now have a chance of a brighter future due to better educational opportunities provided by the project.

“Our income has increased drastically and we are able to provide more for our grandchildren. We send them for extra tutoring in mathematics and English, something we could not afford in the past. They will have a better life.”

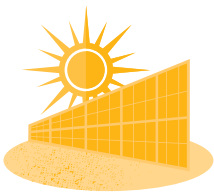
Kathiresu Tharmalingam, farmer and project beneficiary



Thailand

The Power of Sunshine and Strong Partnership

A technician checks photovoltaic solar panels at the Natural Energy Development solar plant in Lopburi Province. The largest in Asia when completed in 2011, the project demonstrated the feasibility of large-scale private sector solar farms.



In Thailand, a solar farm, one of the largest in Southeast Asia, is leading the way to a greener future, and its remarkable partnership with communities is a model of corporate social responsibility.

Sitting in the courtyard of his home in Lopburi Province, 180 km north of Bangkok, Saichol Thanomsak remembers what life was like for the nearly 600 people in Moo 3 village before the Natural Energy Development (NED) Company built Asia's largest thin-film photovoltaic solar energy project nearby and launched an innovative corporate social responsibility program. "Our land is not fertile here; we grew only

low-value crops,” the village head explains. Jobs were scarce, and families were separated as many breadwinners were forced to find work elsewhere. For those who remained, life could be grim.

“The armed forces used nearby fields for firing practice. Some villagers would collect artillery shells for scrap metal,” he says. “Sometimes they blew up and there were many injuries. Today, we don’t have to take such risks. Our village benefits greatly from the solar plant and our good relationship with the company. It has allowed so many of us to stay home and make a decent living.”

Thitima Yoosuborn wholeheartedly agrees. When the 22-year-old graduated as an electrical engineering student—only one of three girls in a class of 43—she knew she would have to move away for work. Her mother, who had encouraged her to complete the course, urged her to apply for work at the solar plant. She is happy to have been able to get a job near home immediately after graduation, and is now the only woman among six operators who maintain and service the plant’s more than 600,000 solar panels.

Leading the way in large-scale renewable energy

A \$250 million joint venture between CLP Thailand Renewables, Diamond Generating Asia, and the Electricity Generating Public Company, the 55-megawatt photovoltaic solar plant was constructed in just 18 months, ahead of schedule and under budget. ADB helped the project obtain long-term financing, a necessary condition for the viability of a solar project. ADB also helped it register and pre-finance certified emissions reductions under the Clean Development Mechanism, which offset the financial risk and attracted several local lending partners, including Bangkok Bank, Kasikornbank, and Siam Commercial Bank.

Solar Power Project

Project Information

- Approved: April 2010
- Closed: September 2012
- Cost: \$72.0 million
 - ADB Nonsovereign loan: \$70.0 million
 - Clean Energy Financing Partnership Facility grant: \$2.0 million

Beneficiaries

- 70,000 households have clean electricity.

Clean Energy

- More than 80,000 megawatt-hours of clean electricity is delivered annually.
- More than 50,000 tons of greenhouse gas emissions are avoided annually.

Jobs

- 1,753 local workers were employed during construction.
- The plant employs 50 staff, most of whom are from nearby communities.



Village head Saichol Thanomsak explains how the nearby solar plant means that many local people are no longer forced to leave home to find work.

ADB is supporting solar energy projects in the region through its Asia Solar Energy Initiative, set up in 2010. The Lopburi solar plant was the initiative's first project. Kasikornbank, one of Thailand's biggest banks, is also committed to financing clean investment projects.



Twarath Sutabutr, director general of the Energy Policy and Planning Office at the Ministry of Energy, says Thailand is strongly committed to the use of renewable energy.

During the construction period, NED employed about 1,700 local workers and bought over B2.2 billion (about \$61 million) of local goods and services. The photovoltaic panels used for the plant were the thin-film type, which work better in hot climates. On 22 December 2011, the solar plant began to feed power to the Electricity Generating Authority of Thailand. It now generates enough clean electricity to power 70,000 households. By replacing fossil fuels, the plant will avoid the release of more than 1.3 million tons of greenhouse gases into the atmosphere over the next 25 years.

As the first large-scale solar power plant in the country and the largest in Asia at the time it was completed, the project has been a pioneer in demonstrating the feasibility of large private sector solar farms in the region. Thailand is one of the biggest energy consumers in Southeast Asia, and the government is leading the way in the region in the use of renewable energy. It has raised its 2021 target for replacing fossil fuels with green energy from 20% to 25% and aims to

reach 30% by 2036. Thailand has also initiated several programs to promote the use of solar energy, such as the Solar Photovoltaic Rooftop Program and the Solar Photovoltaic for Community Initiative Program.

Twarath Sutabutr, director-general of the Energy Policy and Planning Office in the Ministry of Energy, believes that the proportion of renewable energy in Thailand could exceed 25%. “Already, 12% of national fuel consumption comes from renewable energy sources,” he says, pointing out that green energy projects in Thailand benefit from a strong legal and regulatory framework, incentives, and favorable government policies and target commitments.

Corporate and community partnership

More than 10,000 people live in 21 villages within a 5 km radius of the solar plant, with 90% dependent on agriculture. To implement the project’s ambitious corporate social responsibility program, NED partnered with several nearby communities and

Operator Thitima Yoosuborn checks the output of a solar panel array.



By replacing fossil fuels, the plant will avoid the release of more than 1.3 million tons of greenhouse gases into the atmosphere over the next 25 years.





three schools with the goal of developing a model to demonstrate how renewable energy can improve livelihoods. The program is headed by NED's community relations officer, Prated Tangtim, an expert on the use of solar energy in agriculture. "We meet with community members every day and experiment together on how to achieve better livelihoods and benefit from solar energy. It is truly a joint effort."

One of the first tasks in 2011 was to help a group of 30 community members in a local *tambon* (subdistrict) set up a cooperative savings fund. The money would be used to develop highly efficient organic small farms to produce high-value products such as fragrant oils, insect spray, dishwashing liquid, soap, and shampoo under the government's "One Tambon One Product" local entrepreneurship program.

With financial support from NED, farmers learned about sustainable agriculture and efficient organic farming methods. Poor farmland has been transformed into highly efficient and productive organic farms that have become a model for other farmers. "Villagers have developed self-sufficiency," says Prated. "Nothing is wasted. The rice husk is fed to pond frogs, which grow to a huge size with legs weighing half a kilo that

Local produce from organic small farms on display at GreeNEDucation, a renewable energy learning center on the grounds of the solar power plant.





are sought after by local restaurants.” Solar panels also power electric irrigation pumps.

Mathematics teacher Chan Chalee (third from right) and students at Ban Khaotien Mittapharb 134 Primary School show the awards that they have received for the school’s solar energy project.

Youthful enthusiasm for renewable energy

Solar panels that need to be replaced at the plant because they no longer operate at maximum capacity are donated to local schools and communities. The company also provided a renewable energy course for 133 students and their teachers at Ban Khaotien Mittapharb 134 Primary School. The course mainstreamed renewable energy across the school’s curriculum from kindergarten to grade 6 and has received awards for excellence from the Electricity Generating Public Company, the Ministry of Energy, and the Ministry of Education. The school received a prize from the Ministry of Education’s 2014 national renewable energy competition, “Energy for Life.”

Mathematics teacher Chan Chalee, 44, is as enthusiastic about the solar course and activities as his students are. Standing in his classroom, surrounded

I was not fully aware of the problems and the impact of pollution on our environment until I started working here.

*Sunsanee Poltee,
human resources
officer, NED*



Human resources officer, Sunsanee Poltee, is now an advocate for clean energy.

by students, he says, “This program is teaching our children, their families, and communities how to transform abundant sunshine into renewable energy and use it to produce community products, light classrooms, power fans, and water gardens and small farms. The program is a success because it is a three-way partnership among the school, NED, and the community.” There are 15 student households participating in an experimental effort to use solar panels to supplement grid electricity and save money. “We helped one house become 100% solar,” states Chan. “Before NED donated solar panels, the student in that poor household had to study by candlelight. The floor was covered in wax drippings.”

The school has 60 solar panels producing 135 watts each. “We save about B3,000 a month (about \$84.00) on electricity costs in the classrooms,” says Chan. Electric water pumps power sprinklers for an expansive herb garden set in a banana grove on the school grounds. Six plots provide vegetables for the children’s lunchtime meals, and extra produce is sold at local markets, with profits offsetting program costs. Everyone pitches in, kindergarten students weed plots while older children dig and plant. “Students and teachers from four other schools in the district come here to learn how we do things to help ourselves,” he says. The corporate social responsibility program donated 150 student scholarships to four schools, supported teacher training and workshops, built a school library, and organized a renewable energy camp for 100 students and 30 teachers. The program also provides funds to enable students to learn and revive an ancient antiphonal singing tradition known as *Lum Tad* under the tutelage of a local national artist.

Green education

To help the public understand the benefits of clean energy, NED built a \$3.2 million GreenNEDucation renewable energy learning center on the grounds of the solar power plant. The center has received numerous awards, most recently the Association of Southeast Asian Nations (ASEAN) 2015 Energy Awards for Best Practices for Renewable Energy

Project Awards in the On Grid–National Grid Category.

The staff too have become clean energy advocates. Sunsanee Poltee, born and raised in Lopburi, is proud to be part of the solar energy project. The 40-year-old accountant worked in Bangkok for 6 years. On a visit home to see her parents, she applied for a job at NED. Now a human resources officer, one of 50 staff at the plant, she has become an keen proponent of clean, renewable energy. “I was not fully aware of the problems and the impact of pollution on our environment until I started working here,” she reflects, looking out over the shimmering sea of solar panels stretching as far as the eye can see from the steps of the office building where she works.

A brighter future

Husband and wife team Sawang and Wilairat Chatthong work to keep the long grass and weeds down at the solar plant. “There are many poisonous snakes in the area, so it is important to keep the ground under the solar panels clear for operators like Thitima,” Sawang says. The couple lives in Moo 3 Village with their four children. “This project helped develop our community and brought prosperity,” says Wilairat. “The cost of living here is low. We can live well on our salaries and send our children to school. We have a better life and bright future,” she declares. ■



Landscapers Wilairat (left) and Sawang Chatthong (right) clear solar panels of grass to keep operators safe from snakes.



Tonga

High-Speed Revolution

Students at St. Andrews High School computer lab 2 in Nuku'alofa are finding learning online more productive since the project brought high-speed internet to the remote island nation.



An undersea fiber-optic cable network is banishing Tonga's long-standing isolation and ushering in the wired world of the 21st century.

Robert Bolouri remembers trying to do business with the rest of the world from Tonga, when the only option was an extremely expensive and slow satellite service. “We used to joke that if you wanted to access the internet, you would click on the site, go away and make a cup of tea, drink it, and then maybe when you returned to your computer the site would be up—if the system hadn’t timed out. It was that slow.”

For some patients of radiologist Ana Akauola at Vaiola Hospital in Nuku'alofa, lack of high-speed internet was a matter of life or death. Unable to transmit large data files, Tonga's sole radiologist had to mail x-rays and CT scans to colleagues in Australia for a second opinion on a case. "The whole process could take up to 10 days," she recalls. "Sometimes patients died during that time."

Those days without a reliable connection to the outside world ended on 21 August 2013. At the Operation Network Center of Tonga Cable, the King of Tonga, Tupou VI, initiated high-speed internet service with the click of a computer mouse. Alongside the King, then-Prime Minister Tu'ivakano declared, "Faster internet speed and higher bandwidth at cheaper, and more affordable prices are a real opportunity for Tonga."

Linking up Tonga

Tonga is one of the most isolated places on earth, a string of islands scattered over an area of the Pacific about the size of Myanmar. Remittances estimated at 30% from about 100,000 Tongans living and working overseas fell precipitously in recent years in the wake of the global economic crisis, exacerbating a lack of economic opportunity. High-speed broadband internet access has the potential to generate a host of new economic opportunities from e-commerce to online jobs. A 2009 World Bank study calculated that an increase in broadband penetration of just 10% boosts gross domestic product growth by 1.4% in low- and middle-income countries like Tonga. However, the first step to getting Tongans online involved laying an undersea fiber-optic cable by ship from Fiji at a cost of \$25 million, a sum far beyond the reach of a small country like Tonga.

Under the Pacific Regional Connectivity Program, ADB, the the Government of Tonga, Tonga Cable, and the World Bank Group joined forces to finance and support an 827 km submarine fiber-optic cable system linking Tonga to Fiji via the Southern Cross Cable—the

Tonga–Fiji Submarine Cable Project

Project Information

- Approved: August 2011
- Expected Closing Date: June 2016
- Approved Cost: \$32.8 million
 - Asian Development Fund grant: \$9.7 million
 - World Bank: \$16.5 million
 - Tonga Cable Limited: \$6.6 million

Cost Savings

- International connectivity costs fell by 60%.

Health Care

- Quality has improved with faster and more frequent communication with specialists overseas.

Education

- Better educational resources keep students from dropping out.

Business

- Social media marketing and quicker response time boosted profits.

Regional Integration

- Increasing interregional trade improved tourism and introduced business process outsourcing.

Relations

- Communicating with family and friends abroad became cheaper and more frequent.
- Sending remittances and paying bills became easier.



Robert Bolouri, chief executive officer of Tonga Cable, says strong partnerships were critical to the project's success.

main trans-Pacific link between Australia and the United States.

Tonga Cable is the owner and manager of the fiber-optic cable. Chief executive officer Robert Bolouri says the project team completed the job in 4 years, under budget and 1 day ahead of schedule. "Strong partnerships were a critical component," he says. "Cooperation between Tonga Cable and the project team was exemplary, everyone worked well together, and various government agencies all contributed to the project's success."

High-speed broadband internet is transforming everything from health care, business, and government services to education, disaster management, and the social life of Tongans. International connectivity costs have already fallen by more than 60%.

Connected health care

"High-speed internet has touched every aspect of our lives," says radiologist Ana. "Now, when I send x-rays, scans, and patient histories to colleagues overseas, they review the material and report back within hours, not days."

With a fast internet connection, Ala Mea, a general surgeon who has worked at Vaiola Hospital for 12 years, now reviews surgical procedures before she performs an operation. Improved connectivity also



Radiologist Ana Akauola at Vaiola Hospital says high-speed internet is saving lives in once-isolated Tonga.

allows her to continue her medical education and to read journal articles on the web.

The hospital's principal staff nurse, Be Piuela, says faster, more reliable internet improved the administrative part of her job, and her nurses now keep up with their medical education.

Wired learning

Providing fast and cheaper internet access for the health and education sectors was one of the government's prime objectives. Ana Koloto, a medical doctor and director of the Tonga campus of the University of the South Pacific (USP), manages three USP centers in the country—the main campus of 1,300 students in Nuku'alofa, and two smaller centers in the outer islands of Ha'apai and Va'vau. She has seen firsthand the benefits that broadband access has brought to education in Tonga. Before the fiber-optic cable arrived, many USP finance and administration staff worked late at night or early in the morning when internet traffic was low, just to get their work done. They now keep regular hours. High-speed internet means higher work satisfaction, better educational resources and services, and greater responsiveness to students' needs. The Tonga campus is now reliably connected to other USP campuses in other Pacific island countries via videoconferencing and Skype.

Patrick Mahinga, a 20-year-old first-year science student studying biology and chemistry at USP, reviews videos of scientific experiments and uses online resources for homework assignments. He says before USP migrated to the fiber-optic cable, the internet was too slow to be useful and was always dropping.

Schools are benefiting too. Viviana Koloj, a year 12 student at St. Andrew's High School in Fanga Village, Nuku'alofa, says working in the computer lab at school is much more enjoyable since high-speed internet arrived. The 17-year-old uses the internet for her English, biology, and chemistry studies.



Ana Koloto, director of the University of the South Pacific's Tonga campus, says the university is now connected to the USP campuses in other Pacific island nations, thanks to the project.

Keeping in touch

With more Tongans overseas than living in the country, the social impact of broadband internet access is hard to overestimate. Since the nation went high-speed, families and friends are as close as the nearest smart phone or computer, saving costly long-distance phone calls and trips home. Sending remittances, which are still a large chunk of foreign income for Tonga, or paying bills, are just a mouse click away. During breaks at school, Makeleta Napa'a, a 25-year-old science student, keeps in contact with friends on other islands in Tonga and abroad via Facebook.

Boosting business

Suliana Afu started an office supplies business and printing service in Nuku'alofa in 2014. High-speed internet enabled her to expand the business much faster than she expected, growing from a single staff member to 12 employees today. "It really helps being able to reliably communicate via e-mail as opposed to making expensive phone calls," she says. With 99% of supplies sourced overseas, she can now place orders with suppliers by e-mail and get a response right away too. High-speed internet has improved customer service. "When customers ask us for a quote by e-mail, our response time is quicker. We also use the internet to communicate internally with our staff. It's a valuable tool," she adds.

Broadband internet connectivity helped Suliana Afu expand her office supplies business and printing service.



Viliani Takau, a member of the Tonga Chamber of Commerce and Industry, has experienced firsthand how high-speed internet has boosted the ease of doing business in Tonga. It allowed him to develop the chamber's website, something he could have never done before broadband came to town. "More people are using social media for marketing campaigns in Tonga, and many businesses are going online and reaching more customers," he adds.

Ofa Tuikolovatu is a busy mother of four and chief executive officer of the JeZami Hotel Tonga and Mama Tuna's Kitchen restaurant. She also helps her husband run a car parts recycling business. She has a hotel website for bookings and is creating a Facebook page for a recreation package including scuba-diving, whale-watching, and island-hopping activities that the hotel will soon offer. The internet not only allows her to promote her businesses, but also lets her family keep in touch with relatives. "We encourage our 18-year-old son to use the internet to stay in contact with his siblings overseas," she says.

The 14 connected USP campuses are just one example of how high-speed broadband internet access in Tonga has also improved regional integration with other Pacific nations. There is also increasing interregional trade in services, such as tourism and back-office functions. One of many new businesses is a call center that opened its doors in March 2013 in Nuku'alofa.



Businessman Viliani Takau says high-speed internet has boosted business in Tonga.

Bringing the Pacific online

ADB is increasing its support for improved regional information and communication technology as part of its drive to reduce the extreme isolation of island nations in the Pacific and lower the costs of doing business. In addition to financing the construction of fiber-optic cable networks, ADB-supported projects are strengthening regulatory regimes and exploring the potential of e-health, e-education, and e-governance to provide services in remote rural areas.

“When customers ask us for a quote by e-mail our response time is quicker. We also use the internet to communicate internally with our staff. It’s a valuable tool.”

*Suliana Afu,
business owner*

Now that Tonga has joined the growing club of wired Pacific nations, ADB is working with the World Bank to finance a 430 km submarine fiber-optic cable project to link Solomon Islands with the existing cable that runs between Guam and Sydney, and is supporting similar efforts in Palau and Samoa. Country by country, the undersea network is electronically linking far-flung Pacific islands. “Bringing ‘digital dividends’ to the Pacific, in partnership with ADB, is a key component of our engagement in the region,” says Natasha Beschorner, senior information and communication technology policy specialist at the World Bank.

Businesswoman Suliana Afu says businesses and people are very happy about being better connected to the rest of the world via the internet. “I just want to thank ADB and the World Bank for supporting the project that brought the high-speed internet to Tonga.” ■

Tonga has now joined other wired Pacific nations, with high-speed broadband internet helping them overcome the challenges of great distances and scarce human resources.





Uzbekistan

A Healthy Start for New Lives

Modern equipment and skilled medical staff trained under the Woman and Child Health Development Project play a critical role in saving the lives of newborn babies across the country.



A health development partnership is giving babies a head start in Uzbekistan.

The odds were stacked so high against her premature newborn that Matluba Mamasolieva feared she would lose her. The 24-year-old mother of two recalls with tears in her eyes how hard the doctors and nurses at Fergana Provincial Perinatal Center worked to save her baby, weighing barely 1 kilogram and suffering multiple life-threatening health problems. “I lost all hope that my baby girl would survive,” she says.

Sitting next to her sleeping infant’s crib 4 days after delivery, she is thankful for the professional staff and the new facilities at the center,

350 km from Uzbekistan's capital of Tashkent. She is well aware that before the Woman and Child Health Development Project provided this facility and 226 others nationwide with the latest medical equipment and staff training, her story might not have had such a happy ending. Since 2004, mortality rates for mothers like Matluba have fallen by more than 37%, and for their infants, by more than 33%, mostly due to improved neonatal care services.

Yuliya Bazanova, a nurse at Kokand City Maternity Hospital, also gave birth to a premature baby at the center. She sees big improvements since the project, such as individual delivery rooms. Before the project, several mothers gave birth in a single room. Other changes are simple but effective, she says. "The child is with the mother immediately after birth, which was not allowed before." Keeping newborns close to their mothers significantly reduces infant mortality. The 32-year-old adds that the modern equipment and skilled medical staff trained under the project play an important role in the health of newborns with serious complications.

The main goal of the project was to integrate women and child health into the primary health care system. To avoid duplication of effort, ADB worked closely with the World Bank to complement health projects it already had underway in Uzbekistan, and tapped the expertise and activities of the United Nations and bilateral agencies involved in maternal, newborn, and child health. The project aimed to reduce infectious diseases, increase contraceptive use among women, and reduce iron deficiency anemia among pregnant women. With the government reconstructing maternal care facilities and the World Bank building and upgrading primary care centers, the ADB-supported project focused on equipping woman and child health facilities and 227 maternity units in various regions, including obstetric and neonatology departments, diagnosis and laboratory divisions, and perinatal centers.

Woman and Child Health Development Project

Project Information

- Approved: September 2004
- Closed: May 2012
- Cost: \$188.9 million
 - ADB loan: \$38.1 million
 - Government: \$150.8 million

Health

- The maternal mortality rate per 100,000 live births fell from 31.4 in 2004 to 23.1 in 2011.
- Health care resources are allocated across provinces more evenly (the difference between the facilities with most and least allocation was reduced from 11.6% to 6.6%).
- The incidence of moderate iron deficiency anemia among pregnant women was reduced by 45% during 2004–2011.
- Tuberculosis prevalence per 100,000 persons declined from 75.9 in 2004 to 52.9 in 2011.

Facilities and Skills Upgrade

- 227 facilities were modernized.
- More than 20,000 health care professionals were trained.
- 1,870 national, provincial, and district specialists were trained in blood safety.

Matluba Mamasolieva proudly watches over her premature infant.



Health training and education

Critical for success was training health care professionals at all levels in the use of new equipment and the latest methods in maternal and child health care. Working with the World Health Organization (WHO), the United Nations Children's Fund (UNICEF), and the United Nations Population Fund, ADB and the government prepared clinical guidelines, upgraded the curriculum for nurses and general practitioners to international standards, and developed a nursing degree program. Two innovative on-the-job training systems were introduced. A new team approach was used for woman and child health care involving everyone from nurses to midwives and doctors. Cascading the training meant that supervisors, who received the training first, could then train lower-level staff. General practitioners and specialists, including pediatricians, neonatologists, and obstetrician-gynecologists, attended 18 training centers, where courses were also held for 20,000 primary health care nurses. An effective referral system linking primary health care to specialized services equipped to deal with emergencies has been instrumental in reducing neonatal and maternal deaths.



Yuliya Bazanova holds her baby boy close and warm, one of thousands of mothers whose premature babies have benefited from the skilled medical staff trained under the project.

Safer blood

Another of the project's goals was to reduce the incidence of blood-borne infectious diseases. It introduced a national blood safety program and supported restructuring of the blood transfusion supply system, establishing six regional blood transfusion centers with modern equipment and facilities.

Albert Mustaev, the chief medical doctor of the Fergana Regional Blood Center, explains that the government began restructuring blood services in 2008, as blood collection facilities and procedures were outdated and infections were increasing. In collaboration with WHO and the United States Centers for Disease Control and Prevention, the project trained 1,870 national, provincial, and district specialists in blood safety. Storage periods were extended from 3 months to more than 2 years at the 236 medical facilities that received modern blood-storage equipment. Only 60% of blood samples were screened for infectious diseases before transfusion in 2000, but this has increased to 100% under the project, and a new national donor database is now accessible to all blood centers. To promote voluntary blood donations, the project enlisted the support of the ministries of education, emergency, and defense, along with community and nongovernment organizations. Today, 98% of all blood donations are voluntary.



Abdulkhik Abdullaev (right) appreciates the modern facilities at the blood center. He feels it is his duty to donate blood and help others in need.



Each trained nurse at the Oqtapa rural doctoral point visits up to 10 families a day.

Abdulkhalkim Abdullaev, 57 years old, is a regular blood donor at the center. He appreciates the center’s modern equipment and how well the facilities are maintained and sanitized. “It is a blessing for me that I can save someone’s life by donating blood,” he says.

Bringing health care to the neighborhood

The project not only improved maternal health centers, but also upgraded rural primary health care clinics, known as rural doctoral points. At the Oqtapa rural doctoral point in Fergana Province, 29-year-old Feruza Tuhlieva, pregnant with her third child, is consulting a doctor. She used to have to go to the district hospital to see a doctor. That changed when the project provided essential medical supply kits and training to nurses in rural doctoral points for monitoring the health conditions of pregnant women and mothers with newborns.

Feruza receives treatment and iron and vitamin supplements free of charge, and nurses from the primary care clinic visit her home regularly to conduct

essential checkups. Nine trained nurses at the clinic each visit up to 10 families a day. Staffed with three doctors, the rural clinic serves five communities of 10,000 people and is equipped to conduct blood and urine analyses; electrocardiography; and provide ear, nose, and throat services. The rural clinics also offer health education and family-planning services to people in their districts.

Aleksandra Mihneva, who works as an operator at an oil refinery, is another mother who is deeply grateful for the modern facilities at the Fergana Provincial Perinatal Center and the medical staff who also saved her premature baby. “My family and all our relatives waited 2 years for this baby boy. It is a great feeling to be a mother to a child!” declares the 21-year-old.

A group of medical staff concurs with the center’s neonatologist, Umida Kosimova, who says, “Our biggest achievement is providing the medical treatment necessary to give premature babies a chance at life. To see the happiness of a mother whose baby survives after she had lost all hope is priceless.” ■

To see the happiness of a mother whose baby survives after she had lost all hope is priceless.

*Umida Kosimova,
neonatologist*

Aleksandra Mihneva cradles her premature newborn, grateful to the doctors who saved the infant’s life.



List of Partners and Contributors

Project Teams

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Development partner: Afghan Credit Guarantee Foundation

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Azerbaijan: East-West Highway Improvement Project

Government: Ministry of Transport, State Customs Committee

Cofinanciers: Islamic Development Bank, Saudi Fund for Development

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Bangladesh: Second Urban Primary Health Care Project

Government: Local Government Division of the Ministry of Local Government, Rural Development, and Cooperatives; city corporations of Dhaka, Chittagong, Rajshahi, Khulna, Sylhet, and Barisal; and municipalities of Bogra, Comilla, Madhabdi, Savar, and Sirajgonj

Cofinanciers: Swedish International Development Cooperation, Department for International Development of the United Kingdom, United Nations Population Fund, Orbis International

Nongovernment organizations: Bangladesh Women's Health Coalition, Bangladesh Association of Septic Abortion, Population Service and Training Center, Shimantik, Nari Maitree, Marie Stopes Clinic Society, Unity Through Population Services, Progoti Samaj Kaliyan Potishan and Poribar, Chittagong City Corporation, Mamata, Khulna Mukti Seba Sangstha, Southern Gonounnayan Samity, Srizony Bangladesh/ Resource Integration Center

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Cambodia: Greater Mekong Subregion Transmission Project

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Cofinanciers: Nordic Development Fund, World Bank

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People's Republic of China: Dali–Lijiang Railway Project

Government: Ministry of Finance, Ministry of Railways, Yunnan Provincial Government, West Yunnan Railway Company, Dali Local Government, Lijiang Local Government

Cofinancier: Agence Française de Développement

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People's Republic of China: Guangdong Energy Efficiency and Environment Improvement Investment Program

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Mongolia: Third Health Sector Development Project

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Cofinancier: Agence Française de Développement

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Sri Lanka: North East Community Restoration and Development Project II

Government: Ministry of National Policy and Economic Affairs (formerly Ministry of Finance and Planning), Ministry of Provincial Councils and Local Government, Ministry of Economic Development (formerly Ministry of Nation Building and Estate Infrastructure Development), Northern Provincial Council and Eastern Provincial Council (formerly North and East Provincial Council)

Cofinanciers: Government of Australia, Swedish International Development Cooperation

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Thailand: Solar Power Project

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Implementers: Sharp, Italian-Thai Development Public Company

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Tonga: Tonga–Fiji Submarine Cable Project

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