



## Asian Development Fund

Helping the poorest. Changing lives. Working for results.

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In recent years, the Asia-Pacific region has experienced sustained high growth rates, with average economic growth of about 6% per year. However, despite a rapid decline in poverty rates, recent Asian Development Bank estimates suggest that around 600 million people in the region are surviving on less than US\$1 a day.

Non-income poverty is proving to be persistent, as evidenced by the millions of children who still live in hunger, as well as unacceptably high maternal and child mortality, poor quality education in many countries, and lack of access to adequate water and sanitation. The region is on track to meet the Millennium Development Goal (MDG) of halving the number of people who live on less than a dollar a day—a significant accomplishment. However, the Asia-Pacific region is unlikely to meet the MDGs for reducing non-income poverty in areas such as health, education, and sanitation.

Since 1973, the Asian Development Fund (ADF) has been a major instrument for enabling equitable and sustainable development for the Asia-Pacific region through concessional financing. ADF, funded by ADB's donor member countries, offers grants and loans at very low interest rates to help reduce poverty in ADB's poorest borrowing countries.

Initial contributions to the ADF were pledged in 1973 (ADF I). Since then, ADF has been replenished eight times, with the most recent replenishment (ADF IX) covering 2005–2008. Under ADF IX, ADF rose to particularly complex challenges: assisting countries in transition from post-conflict situations to peace and stability, combating HIV/AIDS and other communicable diseases, and supporting capacity building.







Over the past 7 years, ADB, through ADF, has

- built 38,000 schools;
- built or improved 6,700 health facilities;
- given 208,500 households clean water connections;
- irrigated 336,000 hectares of land;
- built and rehabilitated 42,000 kilometers of roads—more than the circumference of Earth;
- built 3,600 bridges to connect people to jobs, markets, and services;
- provided over 820,000 households with new energy connections; and
- installed approximately 110,000 communications lines.

Although challenges to development remain in the Asia-Pacific region—and new challenges such as global climate change are putting particular pressure on developing member countries—ADF has been an important tool for positive change. Since 2001, ADF has provided more than \$1.5 billion a year for programs that help poor families escape poverty. During 2006–2007 alone, 95 loan and grant projects totaling \$4 billion were made to 21 developing member countries, and projects were put in place that would affect several countries simultaneously.

Here, we tell the stories of how ADF is changing people's lives.











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In this publication, "\$" refers to US dollars.





## **Building Roads, Changing Lives**

Decades of conflict destroyed much of Afghanistan's physical infrastructure, including its road network. Rehabilitation and upgrading of the country's roads and highways is improving access to markets, enabling private investment, and expanding foreign trade—all key to Afghanistan's further economic progress.

By Grant Curtis

**KABUL**—Safiullah, a taxi driver, has witnessed the improvements in Afghanistan's road network.

"Until recently, travel between Kabul and Mazar-e-Sharif was very slow and only possible during daylight because of the road's very bad condition," he says. Now, because of the reconstruction of the highway, Safiullah says he "can drive to the country's north anytime, day or night."

"In addition to shortening overall travel time, the improved road has reduced the amount of fuel as well as wear-and-tear on my taxi," Safiullah adds.

## **Key to Rebuilding**

The rehabilitation and upgrading of Afghanistan's badly degraded national road system is a key element of the massive international effort to rebuild the country following more than 25 years of conflict.

An assessment undertaken in early 2002 revealed that following years of civil unrest,



FINAL TOUCHES Road markers are installed along the rehabilitated road from Balkh to Andkhoy.



54% of national roads, totaling 6,100 kilometers (km) in length, were in poor condition and 26% in fair condition, leaving only 20% in "good" condition, but far below international standards. The degraded status of the road network posed a major stumbling block to the overall reconstruction effort. The widespread presence of landmines and other unexploded ordnance, in addition to Afghanistan's harsh and mountainous terrain, has also provided major challenges.

Over the past 7 years, there has been a concerted effort to rebuild the country's road network—with focus on 2,700 km of the "Ring Road"—considered the backbone of the national highway system.

Anwar ul-Haq Ahady, Afghanistan's Minister of Finance, views the improved road network as essential to Afghanistan's further economic and social development: "Rehabilitation of the Ring Road and connecting link roads to neighboring countries is significantly improving accessibility for a large proportion of the Afghan population." In addition, the minister notes that "improved road access will provide opportunities for better livelihoods, including through expanded regional trade."

As part of the international effort to reconstruct the national highway system, as of the end of 2007, ADB had approved some

\$475 million from the ADF to reconstruct about 1,300 km of the Ring Road. ADB also is administering an additional \$100 million in grant financing for major road rehabilitation, with funding from the Canadian International Development Agency, the Japan Fund for Poverty Reduction, and the Kuwait Fund.

With construction work still underway, it is expected that the overall Ring Road will be fully rehabilitated by the end of 2010.

## **Real Benefits**

The major investment in Afghanistan's road infrastructure already has provided real economic and social benefits. "The Ring Road network is not only a source of economic growth, but also serves as a bridge linking provinces to each other," says Afghanistan's Minister of Public Works Sohraf Ali Saffary.

Waheedullah Shahrani, the Deputy Minister of Finance, said that "rehabilitation of the Ring Road is helping unlock the growth potential of the Afghan economy." Citing ADB's "exemplary support" for the rehabilitation of the national highway system, Mr. Shahrani noted that "the upgrading of the Ring Road has provided better connectivity between the various communities and ethnic groups in the country, has contributed to state-building, and has strengthened the credibility of the Government by providing enhanced access and services."

In addition to improved connectivity and market access, the upgraded road network is contributing to increased internal and external



PAVING THE RING ROAD The rehabilitated road will help unlock the growth potential of the Afghan economy.

In addition to improved connectivity and market access, the upgraded road network is contributing to increased internal and external trade.

## ADF-Supported Road Projects

ADB has provided over \$575 million for road projects in Afghanistan, of which about \$475 million was financed by the ADF:

- 2003 Emergency Infrastructure Rehabilitation and Reconstruction Project—\$70 million loan
- 2004 Andkhoy-Qaisar Road Project—\$80 million loan
- 2005 Qaisar-Bala Murghab Road Project—\$55 million grant
- 2006 North South Corridor Project—\$92.6 million loan
- 2007 Road Network Development Project I—\$176 million grant

In addition, ADB is administering \$100 million in grant financing for major road rehabilitation projects, with funding from the Canadian International Development Agency, the Japan Fund for Poverty Reduction, and the Kuwait Fund.

trade. The improved road system will also help promote increased private investment, leading to increased agricultural productivity, increased utilization of the country's natural resources, and—over time—even increased tourism receipts. Such developments also will increase employment opportunities, thus contributing to accelerated poverty reduction.

## **Tangible Evidence**

Improved road transport is tangible evidence of Afghanistan's reconstruction. Freight traffic already has increased dramatically, and is expected to reach 23.7 million tons per km by 2010 and 34.8 million tons per km by 2015.

Complementary investments in regional cooperation, trade facilitation, and road rehabilitation are expected to multiply the value of official trade with neighboring countries from \$4.7 billion in 2005 to at least \$12 billion by 2016.

The improvement of Afghanistan's highway network has not been without difficulty. Contractors' bids for some road projects have exceeded approved funding levels, resulting in the need for supplementary financing. Recent deterioration in security in some parts of the country has greatly increased overall security costs, with attacks by insurgents on contractor compounds and equipment delaying civil works.

The improved road infrastructure will also require sustainable operations and maintenance funding, estimated to be some \$90 million per year. Akbar, a bus driver plying the route between Kabul and Kunduz, notes the importance of ongoing maintenance to prevent the newly improved roads from again falling into disrepair: "Some new roads already need to be repaired. The Government must maintain these roads to keep traffic moving and to ensure Afghanistan's further development."

## **PROJECT INFORMATION**

Emergency Infrastructure Rehabilitation and Reconstruction Project (2003–2013) Financing: \$150-million ADF loan



# A Clean Fuel to Boost Incomes

Compressed natural gas has been around since the 1980s. Through an ADF-supported project, it has finally taken off in Dhaka.

By Pamposh Dhar

**DHAKA**—As with other big cities in Asia, Dhaka suffers from high levels of pollution, much of it caused by vehicular traffic. This teeming city of more than 10 million people has noisy and busy roads, filled with buses, cars, "auto rickshaws," cycle rickshaws, and trucks.

Yet, Dhaka has managed to cut down pollution drastically in recent years. Measured in particulate matter, pollution came down about 60% between 2001 and 2004, said Abdul Wadud, managing director of Rupantarita Prakritik Gas Company Limited (RPGCL).

RPGCL can certainly take some credit for this. The company was charged with introducing compressed natural gas (CNG) in Bangladesh and making this environmentally friendly fuel readily available for use. To this end, RPGCL has opened CNG filling stations and set up conversion workshops for vehicles so that they can switch to CNG. The company has also helped convert many of Dhaka's smoke-belching buses to "green" vehicles using CNG, which is much kinder to the environment than the traditionally favored fuel—diesel.

"There has been a tremendous improvement since CNG was introduced on the streets of Dhaka," Abdul Wadud said.

Buses are the only means of mass transport in Dhaka, which does not have a light rail or subway system. Buses and auto rickshaws are the cheapest modes of motorized transport and are favored especially by the poor. About 1,400 buses now use CNG, making a tremendous difference to air quality in Bangladesh's capital city.

## **Higher Incomes**

All of Dhaka's 25,000 auto rickshaws now run on CNG, which is much cheaper than petrol or even diesel. Three-wheeler auto rickshaws running on CNG were imported from India to replace those running on two-stroke engines, which emitted a lot of heavy smoke. This has given the people of Dhaka a new word: CNG, which on the street almost always refers to an auto rickshaw rather than to the gas itself.

Given the lower cost of running a vehicle on CNG, conversion raises incomes markedly for owners and drivers alike. The owners recoup the cost of converting to CNG by raising the rent that the drivers pay. The drivers do not mind because they still make much more profit than they did when the rickshaws ran on diesel.

Mohammad Nasimuddin, 60, has been driving auto rickshaws for 15 years. He pays daily rent for the vehicle plus the cost of gas, then keeps the rest of his earnings. When the owner of the vehicle switched to CNG some years ago, Nasimuddin's rent increased

fourfold—and yet his profit shot up from 150 taka to 400 taka (Tk) (about \$2.20 to \$5.80) a day! This is mainly because his fuel costs decreased from Tk300 to Tk70 a day.

"Earlier, I made at best 200 taka a day after paying for the fuel, and paid 50 taka to the owner as rent for the vehicle," Nasimuddin explained. "Now, I earn 1,000 taka a day after gas and give the owner 600 taka—that still leaves 400 taka for me and my family."

Life is still hard for Nasimuddin's family of four, but it is certainly better than before. "We can buy more food, and if we can eat better, that's enough," he added.

## **Much Less Smoke**

Nasimuddin, who started life pulling a cycle rickshaw, has seen many changes on the streets of Dhaka. Since CNG was introduced, he has seen a noticeable reduction in pollution.

Before CNG was introduced, pollution was really bad, he said. Since auto rickshaws are open on the sides, their drivers are particularly vulnerable to the effects of pollution. "My eyes and face would burn and I would fall ill very often. I would continue to work, but I'd feel ill," Nasimuddin said. "But now I don't have that problem. There is much less smoke now."

## "There has been a tremendous improvement since CNG was introduced on the streets of Dhaka."

Abdul Wadud (right), managing director of Rupantarita Prakritik Gas Company Limited (RPGCL)









MAKING THE CHANGE Several filling stations have opened and conversion workshops were set up so people can switch to compressed natural gas. With cheaper fuel prices, auto rickshaw drivers' profits have tripled!

The low cost of CNG makes this an attractive option for private vehicles too, especially as oil prices continue to rise. More than 80,000 private cars and jeeps run on CNG, as well as 12,000 taxis.

CNG's popularity, combined with greed, has given rise to an unforeseen and very serious problem. The *Daily Star*, a Dhaka-based newspaper, reported recently that substandard CNG cylinders were being made in some unauthorized workshops in the city. These cylinders are sold cheaply, but exact a deadly cost if they blow up under the pressure of the gas, which they are not built to withstand.

Abdul Wadud of RPGCL pointed out that CNG is perfectly safe so long as people use authorized workshops to convert their vehicles. RPGCL ensures the requisite quality in the vehicles it converts. The company also runs some 72 workshops in Dhaka that are authorized to convert private vehicles.

### An Idea Whose Time has Come

To counter the use of dangerous unauthorized cylinders, RPGCL has started putting out advertisements warning people that they are unsafe. Under the ADB-supported project, RPGCL has engaged a consultant to run a public awareness program to inform the public of the need to use only authorized workshops for conversions.

Those who follow this advice reap impressive benefits. "I save a lot of money," said Shahidul Islam Khokon, a 36-year-old film director who converted his car to CNG about 6 months ago. "The conversion has brought some problems," he said, "affecting the car's pick-up for example. But the savings make it worthwhile."

Mohammad Jehangir Alam works at a CNG filling station and conversion workshop run by RPGCL. The workshop opened in 1984 to convert government cars to CNG, but in 1990 it was opened to all vehicles. "The demand for conversion is increasing," he asserted. "Last month, we converted an average of four vehicles a day. We convert cars, jeeps, microbuses, buses..."

The idea of CNG conversions is not new. It has been around since the early 1980s, but it is an idea whose time has come. "It took 20 years to convince people that CNG is economic, safe, and replaceable," said Abdul Wadud. But it is finally done.

## **PROJECT INFORMATION**

Dhaka Clean Fuel Project (2002–2008)
Financing: \$42.4-million ADF loan, \$30.2-million ordinary capital resources loan, \$9.3-million cofinancing from the Nordic Development Fund, \$31.5 million contributed by the Government and beneficiaries



## Microcredit to End Poverty, Start Lives

Hope, confidence, peace of mind, and progress are just some benefits Bangladeshi women received from a rural livelihood project.

By Pamposh Dhar

**BHUGROIL**—Prosperity means different things to different people. To some, it may signify a big house and an expensive car. To 40-year-old Dulaly Begum, it means nutritious food for her family, a "semi-permanent" house and, most of all, the opportunity to educate her children.

Ten years ago, Dulaly Begum was one of millions of Bangladeshi women resigned to a life of deprivation and despair. "At that time, I had nothing," she said. "We were often short of food. There was no scope for earning an income, no money to do anything."

Then she heard about a new cooperative association for women like her—that is, women from rural households with no assets. "I heard

about the advantages of joining the group from Mazeda Begum, the manager of the group in my village," she said. The Assetless Women's Cooperative Association in Bhugroil village, Rajshahi region, was one of many set up under the Rural Livelihood Project run by the Bangladesh Rural Development Board, with financial support from ADB.

The project mobilized the poorest of the poor in 15 regions in rural Bangladesh, helping to set up separate associations for men and women from households without the land or assets that could generate income or be used as collateral for loans. The associations allow their members to save small sums of money in interest-earning accounts, train members in income-earning skills, and give them credit to start small businesses. The loans come from revolving funds that follow methods made famous by Nobel Prize winner Muhammad Yunus and his Grameen Bank (village bank).

## **Life-Changing Loans**

Poor people receive small loans without putting up collateral. In paying their loans, the borrowers are answerable to their neighbors and fellow members of their association. If they do not pay on time, they may delay a loan to a neighbor. The loans are invariably paid within the stipulated 50 weeks, along with interest at a rate of 10% per annum, said Mazeda Begum, the manager of the association in Dulaly Begum's village.

Provided a borrower pays on time, each member is entitled to borrow repeatedly. Most of the money goes first to the setting up of and then to expanding a village-based business. Women reinvest some of their own profits into the business, but they also use the money to

improve their homes, send their children to school, cover the family's medical expenses, and save something for emergencies.

Dulaly Begum joined the savings scheme with a weekly contribution of 10 taka (Tk)—the equivalent of 15 US cents. Saving roughly 60 cents a month in this way, she has accumulated Tk6,850. She has also taken eight loans from the association, seven of which have been repaid already. These loans and the training provided by the association have changed her life. She now rears calves, selling them as cows or bulls at a profit after a couple of years. She also processes rice, which her husband sells at the weekly market, and grows rice and mustard on leased land. She has a tin-roofed house that does not have to be rebuilt after every heavy rainfall. For the first time in her life, she has savings.

According to the 10 poverty indicators that Professor Yunus released through the Grameen Bank in 2006, Dulaly Begum and others like her have now moved out of poverty. Among the indicators marking a shift out of poverty are a decent house (one with at least a tin roof), safe

"I am well off now. The family eats regular meals and has better food. I have money; I am doing business. Best of all, my sons are going to school and getting an education."

Dulaly Begum, project recipient



PROVIDING THE MEANS The associations allow their members to save small sums of money in interest-earning accounts, train members in income-earning skills, and give them credit to start small businesses, such as growing vegetables (above) and raising livestock (right).



FOR THE NEXT GENERATION With money for education, women know that their children will have better employment opportunities and better lives.



drinking water, a sanitary latrine, savings, and education for the children.

Dulaly Begum shares this view. "I am well off now," she said. "The family eats regular meals and has better food. I have money; I am doing business. Best of all, my sons are going to school and getting an education." She put her older son, Ariful Islam, in school soon after she joined the association. He will be finishing school this year. The younger son, Shariful Islam, is in Grade 6. "I want to see both of them do their college degree at least," said Dulaly Begum, who herself had no opportunity to study beyond Grade 2. Her husband has not been to school at all.

## **Intangible Benefits**

An education for her two children brings hope for the future. They will have better employment opportunities and an easier life than their parents. Hope is one intangible benefit of the project. Another is confidence. "Because of the association, I can stand on my own feet now," Dulaly Begum explained.

"I can motivate people to improve their lives, and through the association, I can help them get the credit and training they need to do this."

Shefali Begum, Chairwoman of the Upazila (subdistrict)
Assetless Central Cooperation Association

This is a refrain heard often among members of the women's cooperative associations. In a society where a woman's role has traditionally been limited to the home, doing business or going to an office is a significant change in itself. In the neighboring village of Baghata, 32-year-old Shefali Begum said the project has changed her life in ways she could not have imagined. She is the chairwoman of the *Upazila* (subdistrict) Assetless Central Cooperation Association. "It feels good to go to office," she said simply. This has made her part of something bigger than herself, a force for good in the upazila. "I can motivate people to improve their lives, and through the association, I can help them get the credit and training they need to do this," Shefali Begum explained.

Shefali Begum's social status has improved, even within her own family, since she was elected to her position as chairwoman. "My husband values me more," she said with a smile.

The project has done much to improve the status of women in the villages. "Women never used to go out of the house in these villages," said Dewan Anisuzzaman, regional director for the project in Rajshahi. "Now there is a chair of the association at the upazila level—an elected representative."

For members of the women's associations, the project has also brought financial security. For the first time in generations, women from the poorest section of society—those without any assets—have money. The savings might seem meager to an outsider, but this money is the only insurance poor families have against illness or accident in rural Bangladesh.

## **Peace of Mind and Progress**

Mazeda Begum, manager of the village-level association in Bhugroil, withdrew Tk2,000 from her savings in 1988 to surgically remove a tumor. She now has Tk7,125 in her account. "This is my nest egg, built up over the years with my Tk10-a-week savings," she said. She earns 4% annual interest on her savings.

In Baghata village, 37-year-old Bibijan has taken four loans, of which she has repaid three. She reinvests the bulk of her savings in her calf-



"People have savings now.
[Those] who did not have homes have their own houses now—houses with indoor sanitary latrines.
The jobless have work. Most households have access to safe drinking water in their own homes. For others, there is a common tubewell in the village."

Mazeda Begum (above), Manager Assetless Women's Cooperative Association

rearing business, but has also deposited Tk2,400 with the association since 2002. With a family of five to feed, as well as the capital needed for her business, saving is not easy, but she believes it is important to set aside some money for a rainy day. By accepting the small deposits that the women can afford, the association provides the opportunity to accumulate some savings, Tk10 at a time. "It is good to save this money," Bibijan said. "Otherwise, we will eat it all," referring to the fact that a large proportion of

SMALL STEPS, BIG CHANGE Shefali Begum (below) runs her own livestock business and motivates other women to improve their lives by joining the association.



her earnings are spent on food for the family.

The support of the cooperative association, with its savings and credit facilities, has brought both security and hope. Two words women use often in describing the project are "shanti" and "unnati"—meaning, peace of mind and progress.

Mazeda Begum explained the reasons for this. "People have savings now," she said. "People who did not have homes have their own houses now—houses with indoor sanitary latrines. The jobless have work. Most households have access to safe drinking water in their own homes. For others, there is a common tubewell in the village."

Mazeda Begum herself used to live as an informal squatter on government land. She, her husband, and their three children all lived in a small makeshift house built from bamboo sticks and straw. Today, she can point with pride to a *pucca* (permanent) house built with bricks and mortar on land she owns. "It feels good and it brings me peace of mind," she said. "I had nothing. But now I have assets and I run a business."

## **PROJECT INFORMATION**

Rural Livelihood Project (1998–2007)
Financing: \$42.6-million ADF loan, \$32.1 million contributed by the Government and beneficiaries



## **Bridge to Prosperity**

The Jamuna Multipurpose Bridge—the most expensive and technically one of the most challenging transport infrastructure projects ever accomplished in Bangladesh—is a gateway to economic growth and prosperity for millions.

By Erin Prelypchan

**DHAKA**—A dream came true for 130 million Bangladeshis when, on 23 June 1998, the Jamuna Bridge was opened to traffic.

One of the largest rivers in the world, the Jamuna River has historically kept the northwestern part of Bangladesh physically separated from the eastern part, depriving about 30 million people of access to more developed civic and economic facilities. The 4.8-kilometerlong and 18.5-meter-wide bridge—with provisions for a power interconnector, gas pipeline, railway, and telecommunication facilities—has opened immense opportunities for economic development for the entire country.

The western half of Bangladesh, which has fertile agricultural land and better crop yields than the rest of the country, is dependent on agriculture to drive its economy. A higher proportion of poor people live in the western half; particularly in the northwest, which has a population of about 30 million. More developed eastern Bangladesh—where Dhaka and the Chittagong port are located—is a key market for northwest Bangladesh's agricultural products and a key intermodal transport link between the country and the rest of the world.

## **Permanent Link**

The Jamuna Bridge is particularly important being the first permanent link between the less-developed northwest and the more developed east. Originally, the Jamuna River was crossable mainly by ferries and manually operated boats. The ferries, that carried cars, trucks, and train

passengers were outdated, costly, and unreliable. This led to frequent and extensive delays at ferry crossings, resulting in high transport costs to move passengers and freight. The May–October monsoon season posed particular risks to cross-river transport. Floods are frequent and boats are overloaded, which is a dangerous combination that leads to deadly accidents.

Although the Government had for sometime highly prioritized establishing a permanent crossing for the river, it had not built a bridge, mainly because of the high costs related to the width of the river, its flow volume, depth, uncertainty of its course, and other technical issues.

In 1994, a project to build the longest bridge in South Asia and 11<sup>th</sup> longest in the world began, with financing from ADB, World Bank, and Japan Bank for International Cooperation, together with the Government of Bangladesh.

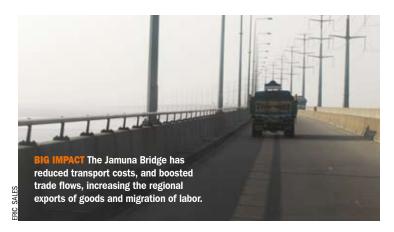
## **Large Undertaking**

The \$754-million Jamuna Bridge was the most expensive and technically one of the most challenging transport infrastructure projects ever accomplished in Bangladesh. The project was a large undertaking that involved training the Jamuna River on both sides, mobilizing a huge amount of other resources, resettling about 100,000 people, and compensating families affected by erosion in the project impact area.

The project was completed on schedule, showing the Government's strong commitment and its capability to implement large and complex projects with multiple stakeholders. Traffic on the project bridge is higher than anticipated, indicating the attainment of benefits beyond the expectation at the time of project appraisal.

As an integral part of the project, ADB also financed complementary follow-on investment projects to expand the road network on the east side of the Jamuna River and connect the separate rail networks on either side of the river. ADB provided \$200 million for the bridge and an additional \$182 million for improving access road and railway links.

## In 1994, a project to build the longest bridge in South Asia and 11<sup>th</sup> longest in the world began.



## **Visible Impacts**

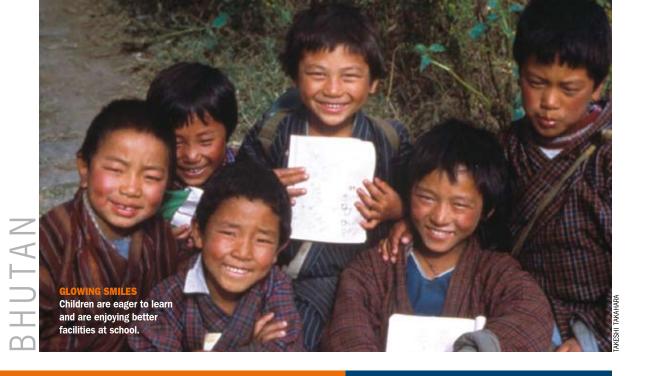
"The Jamuna Bridge has substantially reduced poverty, and increased economic and social opportunities," said Hua Du, Country Director of ADB's Bangladesh Resident Mission. "These benefits are generated both nationally, and especially within the poorer northwest region. At the national level, it is estimated that at least one million people will be lifted out of poverty due to the positive impact of the bridge."

The impact of the project on poverty reduction is visible through increased economic development. The Jamuna Bridge slashed transport costs on goods entering and leaving the northwest, and it sharply boosted trade flows. Lowered transport costs also caused regional exports of goods and migration of labor to increase.

With continued economic growth in Bangladesh and growing road and rail links to neighbors such as India, cross-Jamuna traffic is expected to increase further, bring economic benefits, and make subregional cooperation easier and more attractive.

## **PROJECT INFORMATION**

Jamuna Bridge Project (1993–2000)
Financing: \$200-million ADF loan; \$496 million in cofinancing from the World Bank, Overseas Economic Cooperation Fund, and the Government



## **Lighting Up Lives**

Electricity is casting a new light into the remote areas of Bhutan, and thanks to it, the people are healthier, financially stable, and have brighter futures.

By Pamposh Dhar

**THIMPHU**—Darkness used to fall early in the Himalayan country of Bhutan. In remote villages without electricity, this meant parents stopped work early and children could not do much studying at home. The lack of electricity also limited the work of hospitals and the availability of school facilities.

ADB and other international organizations such as the Japan International Cooperation Agency have helped dispel some of the darkness through a program of rural electrification. The ADF-funded Rural Electrification and Network Expansion Project, which began in 2004, has brought electricity to over 8,000 new consumers, including poor households, hospitals, and schools.

The project included a special feature to provide electrification kits to the poorest

households. A large barrier for these households is the cost to connect the house to the distribution system in the village—about \$75—as well as the cost of doing internal wiring in the house. To address this, the loan developed criteria to identify the poorest households and provide them with the electrification kits, which included a meter, cables for connecting to the distribution system, and wires and outlets for wiring the house.

As more villagers use electricity for light, cooking, and heating, people fall sick less often. In particular, fewer women now suffer from eye and respiratory ailments caused by kerosene lamps and wood fires.

As women increasingly use electrical appliances like rice cookers, they have more time to augment their family incomes with

cottage industries like weaving and tailoring. Both men and women are able to work longer hours, thanks to electric lighting. Other incomeearning activities that have increased in the project areas include carpentry and carving.

Dorji Wangmo of Decheling Gewog village is delighted that she can now put on the rice cooker and sit to weave. "Sometimes I keep on weaving till late at night because during the day I have to attend to other household chores," she said.

Educational opportunities have improved for children and adults: children can study after sundown and adults attend evening classes conducted by the Department of Education in the project areas.

A villager in Gelephu village said, "Now we don't have to depend on timber for cooking, and our children can also do their studies in a better way."

The project's environmental benefits include less pressure on forests as a source of household fuel. Since 1995, when ADB first supported a rural electricity project in Bhutan, kerosene use has come down from an average of 10 liters a month to a liter per household in the areas covered by the project.

Electrified villages have also reported a drop in theft, burglary, and vandalism.

The project, supported by a \$9.4 million concessional loan from the ADF, closed in 2007. A new project is expected to connect another 3,000 rural households over the next few years. ADB has supported other loans and technical assistance projects in Bhutan to build the capacity of energy sector institutions, and establish a regulatory framework and an institutional mechanism for setting and reviewing power tariffs.

"This is one of the main reasons for our success in Bhutan: support for investment operations is intertwined with capacity development," said ADB senior economist Abid Hussain.

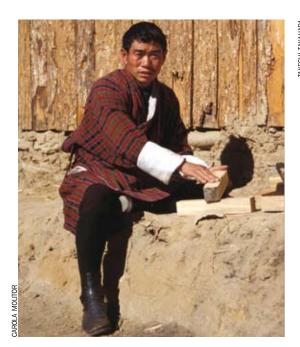
## **PROJECT INFORMATION**

Rural Electrification Network Expansion Project (2003–2007)

Financing: \$9.4-million ADB loan, \$3.6 million contributed by the Government

"We don't have to depend on timber for cooking, and our children can also do their studies in a better way."

Gelephu villager





MORE OPPORTUNITIES Because of the rural electrification program, microenterprises and cottage industries such as carpentry (left) have increased in the project areas; and school children (above) can continue their studies at home long after sundown.



# **Clean Water for Tonle Sap's Poor**

Tonle Sap is the largest freshwater lake in Southeast Asia, but provinces around it have limited access to safe water and sanitation. An ADB project is providing a solution.

By Micheline R. Millar

**PURSAT**—Farmer Vorn Mao used to collect water for her family from foul smelling and hazardous streams in a remote village in Cambodia.

During the dry season, the 36-year-old mother of two would resort to digging a hole near her house in search of water, or trekking two kilometers or more to streams where many people also washed their clothes or bathed.

Without the means to treat the water, she and her family often suffered from diarrhea, fever, and skin problems.

Now, times have changed. Vorn Mao, her family, and neighbors have safe, clean, and readily accessible water supplies, thanks to a deep-well

pump installed as part of the Tonle Sap Rural Water Supply and Sanitation Sector Project.

The project is funded by ADB through an \$18-million grant from the ADF. It forms part of the Tonle Sap initiative launched by ADB in 2002, which aims to promote sustainable economic growth, especially for poor households; provide access to assets; and help effectively manage natural resources.

Tonle Sap is the largest freshwater lake in Southeast Asia, covering an area of 2,500–3,000 square kilometers during the dry season. The resources found in it underpin food security and employment in surrounding regions, and efforts

"With this new water source we have noticed a reduction in sickness especially for children. We get water from the deep-well pump for drinking, washing clothes, and all our needs."

Ly Ho, a farmer and father of four

to conserve its wide-ranging biodiversity are globally important.

The ADB-financed project provides safe water sources and sanitation facilities in remote rural areas of five provinces around the Tonle Sap lake.

## **Reduction in Sickness**

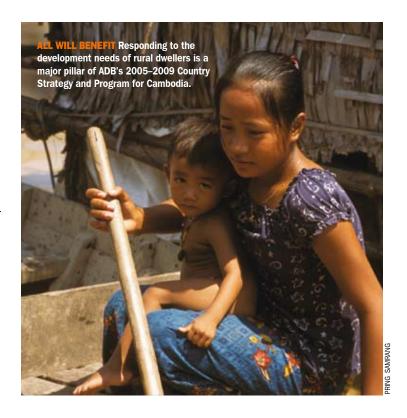
"With this new water source we have noticed a reduction in sickness, especially for children. We get water from the deep-well pump for drinking, washing clothes, and all our needs," said 40-year-old Ly Ho, a farmer and father of four, who lives in a village that benefits from the project.

Vorn Mao agrees. "I'm very happy we now have a water well. Because of the reduction in sickness, we spend less on medicine."

The two live in separate villages in Chheu Tom commune, some 75 kilometers from the provincial capital of Pursat province. Pursat is one of five provinces surrounding the Tonle Sap lake to benefit from the project. The others are Battambang, Kampong Chhnang, Kampong Thom, and Siem Reap.

Responding to the development needs of rural dwellers is a major pillar of ADB's 2005–2009 Country Strategy and Program for Cambodia, with the poverty rate in rural areas estimated at 40.1%, well above the 29.7% level in urban areas. In addition, many rural regions show high rates of waterborne and water-related diseases.

Since approving a national water and sanitation policy in 2003, the Government of Cambodia has been working to ensure that every



rural dweller has access to safe water and sanitation by 2025. It has committed to water supply coverage in rural areas of 50% and sanitation coverage of 30% by 2015, in line with the country's Millennium Development Goals.

However, while the number of people with access to safe water and sanitation in Cambodia has improved since 1989, mainly due to external assistance, rural water supply coverage in the country remains the second lowest in Asia.

The Tonle Sap Project aims to address some of the unfulfilled need and, by the time it is completed in 2011, it aims to provide rural water supply and sanitation facilities to about 1,760 villages, benefiting a total of 1.81 million people in the five target provinces.

## **Community Participation**

A key element of the project is the active participation of the rural communities that benefit from the project. These communities help select, plan, share the cost, implement, operate, and maintain the facilities.

In the case of deep-well pumps that cost an average of \$1,800 to set up, 10% of the cost is shouldered either through cash contributions or in kind by the beneficiaries who, in turn, take

## Water and Sanitation User Groups Ensure Project Sustainability

By Micheline Millar

Cambodia is blessed with freshwater resources but, ironically, only about a third of its people have access to safe water supplies and just 16% to adequate sanitation.

As a result, many rural areas, in particular, suffer from high rates of waterborne and water-related diseases.

Many agencies, including ADB, are involved in providing expertise and financial resources for development projects to address these concerns. To ensure projects are truly effective and sustainable, the country's Ministry of Rural Development has come up with the Water and Sanitation User Group (WSUG) concept that ensures local communities are fully involved in the process from start to finish.

Under the WSUG formula, the government agency introduces the project plan and provides technical training in its operation and maintenance. In turn, project beneficiaries use WSUGs to outline their water and sanitation requirements and to express opinions and concerns. Importantly, it is owned by the communities, and gives them a way to actively participate in providing access to safe drinking water and improved sanitation.

One success story of the scheme has been the ADB-backed Tonle Sap Rural Water Supply and Sanitation Sector Project in Pursat province, with about 517 WSUGs established to date.

"For the sustainability of the project, WSUGs are formed. The project explains to beneficiaries about ownership and about the cost. If the people do not take care of the facilities, the people will face again a lack of water supply. It is explained to them that these water wells belong to them, not to the project," said Ky Seng Ha, manager of the project implementation unit of the Ministry of Rural Development in the provincial capital of Pursat.

As well as selecting the type and location of water supply and sanitation systems, WSUG members also decide on the payment option best suited to them, which can include cash, labor, or materials.

part in managing the facility through a Water and Sanitation User Group (WSUG).

WSUG members are drawn from the heads of user households with five members appointed to a board. WSUGs contribute to the capital and maintenance costs of the facilities.

"We have a plan to protect the facility from any mold. Then I also collect money from the user families to cover maintenance costs. So if there are minor problems, we can have the facility fixed," said Vorn Mao, who is a WSUG board member.

The Tonle Sap Project also provides a latrine to each family-beneficiary to improve sanitation.

The implementation process though has not been without hurdles.

"We need more time to explain to them the benefits of using safe water and in using the toilet. Rural people just use the outside areas of their homes...they do not use the toilets. It takes time to train them to use new methods," said Ky Seng Ha, manager of the project implementation unit of the provincial department of the Ministry of Rural Development in Pursat.

Another difficulty has been gauging where to drill wells to tap ground water. In some instances, drilling has reached depths of 210 meters without striking water.

"In 2008, we will look for adequate information on the situation of ground water first before we start constructing the wells," said Ky Seng Ha.

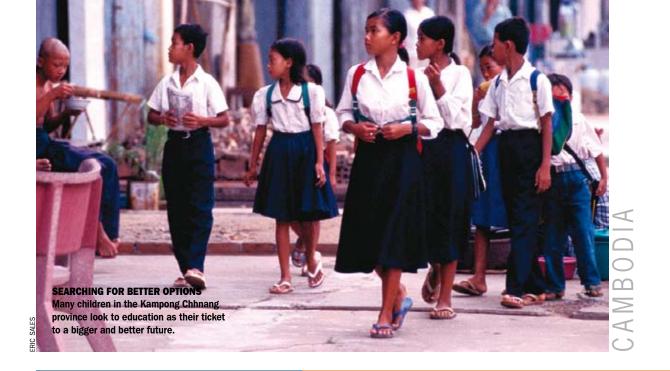
Despite these hiccups, both the beneficiaries and proponents have been heartened by the gains so far.

"With these achievements, those implementing the project are very happy and are willing to continue this work. The people benefiting from the project are happy too and they contribute to the project in cash and in kind for the construction work," Ky Seng Ha said.

## **PROJECT INFORMATION**

Tonle Sap Rural Water Supply and Sanitation Sector Project (2005–2011)

Financing: \$18-million ADF grant, \$6 million contributed by the Government and beneficiaries



## **Building the Future of Cambodia's Children**

New school buildings are allowing the children of Cambodia to dream of a better life.

By Micheline R. Millar

**KAMPONG CHHNANG**—On a warm, clear day in a remote commune some 65 kilometers north of Phnom Penh, 14-year-old Lach Chat takes his place among 77 other students in one of five classrooms housed inside a brand new school building.

He is in lower secondary school, and like his classmates, hopes to one day lead a prosperous life. "I want to have a good future," he said, when asked what motivates him to go to school.

Fifteen-year-old Run Sanop says she wants a higher standard of living. Lah Afiny, her 14-year-old schoolmate, says she wants to have a "good job" someday, while Lah Ramagn, 17 years old, hopes to gain more knowledge.

The children hanker for a life beyond farming, the main source of income in Chhouk Sar commune in Kampong Chhnang province, and they see education as key to creating more options. The occupations they aspire to include teaching and medicine.

The new school, called Chhouk Sar Lower Secondary School in Chhouk Sar commune, built as part of the Second Education Sector Development Project supported by a \$25-million soft loan from the ADF, is helping keep these children in school so that they can fulfill their dreams.

"Before we built this school, students dropped out after they finished primary school because the nearest lower secondary school was about eight kilometers from their homes. So they just stopped studying," said Yun Sauin, an official of the district education office of Kampong Chhnang.

With few families in the 14-village commune able to afford bicycles for their children, added Sauin, up to 60%–70% of students dropped out after primary school.

## **Grateful Parents**

"After this new school was built, nearly 100% of the students continue lower secondary school.

"As a parent, I am happy that the lower secondary school building is close to my house. I push my children to work hard and study to the end to finish their education. I hope my children will be better than me."

Kaui Sar, farmer and father of two



People here do not want their children to go very far from their homes because they want to keep them close. It is traditional among the people," he said.

Among the grateful parents is Kaui Sar, who lives near the new school with his eight children. The 46-year-old farmer has one child already in high school, while another goes to the newly built lower secondary school.

"As a parent, I am happy that the lower secondary school building is close to my house. I push my children to work hard and study to the end to finish their education. I hope my children will be better than me," said Kaui Sar.

This is one of 215 lower secondary schools built under the project, which began in 2005. Another 14 upper secondary schools have been constructed under the project, which also provides for community-based skills training opportunities in underserved areas.

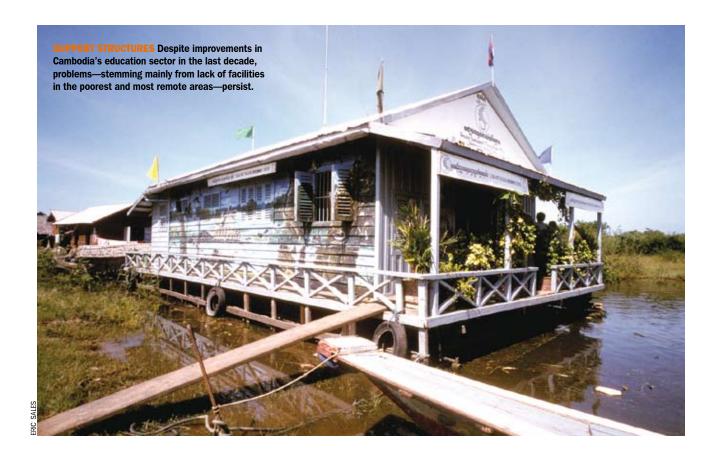
## **Dual Challenge**

Cambodia's rapidly growing urban economy, coupled with the continuing dominance of agriculture as the country's primary employer, creates a dual challenge for the Government in meeting the emerging demand for a qualified, skilled, and competitive workforce while bridging disparities in access to education.

Despite improvements in Cambodia's education sector in the last decade, problems stemming mainly from lack of facilities in the poorest and most remote areas persist. Low enrolment rates at the secondary level and low percentage of students completing school indicate large numbers of young people outside the school system are unskilled and unemployable.

The project, which ends in 2010, aims to improve access to formal education for some 4.2 million children and provide skills training to a projected 3.3 million underemployed youth. This project builds on the achievements of the first Education Sector Development Project,

BIG PLANS The ADB-financed Second Education Sector Development Project seeks to improve access to formal education for some 4.2 million children and provide skills training to a projected 3.3 million underemployed youth.



which supported Cambodia's National Poverty Reduction Strategy for 2003–2005 and the Education Strategic Plan for 2004–2008.

## **More Needed**

"We are happy with this new school building but we still need more," said Sauin, noting that the facility may be unable to accommodate the 197 students graduating from the five primary schools in the commune and starting lower secondary school this year.

Chean Socheat, second deputy commune chief of Chhouk Sar, said the new lower secondary school built with ADB assistance can help the young people living in the 14 villages of the commune achieve their dreams. At the same time, he remains acutely aware of what remains to be done.

"The people and the commune council are very happy that this school will cut down poverty in our area, reduce illiteracy, and push the students to strive for higher education," he said. "This year we have two classes of students in lower secondary school. Next year there will

"The people and the commune council are very happy that this school will cut down poverty in our area, reduce illiteracy, and push the students to strive for higher education."

Chean Socheat, second Deputy Commune Chief of Chhouk Sar

be more and that will cause a lot of problems. With 2008 comes a new academic year, and we hope that donors like ADB will help push through with another school building to meet demand."

## **PROJECT INFORMATION**

Second Education Sector Development Project (2004–2009)

Financing: \$25-million ADF loan, linked to a \$20-million ADF program loan; the Government contributed \$8.6 million



## **Back to Basics**

With decentralization putting the onus on education in Indonesia in the hands of district offices, schools, and communities, a project is aiming to turn this challenge into an opportunity.

By Graham Dwyer

**BALI**—On Bali's west coast, 3 hours from the tourist crowds of the island's capital Denpasar and popular beaches of Kuta, Nusa Dua, and Sanur, is a hidden world of poverty that visitors rarely get to see.

Jembrana—about 120 kilometers west of these tourist areas—is Bali's poorest district, where poverty levels approach 40%. Yet, outwardly, it is deceptively picture perfect, as with much of the Indonesian island. Kilometers of well-paved roads lead past neatly manicured rural communities, picturesque Hindu shrines, and stunning rice terraces overshadowed by distant volcanoes.

But this is a district where unemployment and underemployment are high, wages are low, and many people depend on casual or seasonal labor, mostly in the fields and on fishing boats. Such work nets them the equivalent of little more than \$1 per day—about the cost of a single drink in one of Kuta's clubs. That leaves little for basic subsistence, let alone health and education.

One such laborer is Antiri, who is in her mid-30s but looks much older, her skin hardened by years of outdoor toil. "I am from a poor family," she said. "I have to work hard if I want to put aside some money to pay for schooling of my children."

One of her children, Susilo, while a student at Jembrana's Negara 4 Junior Secondary School, received help under a scholarship supported by the ADB-funded Decentralized Basic Education Project which operates in the province.

"We give the parents 60,000 rupiah (Rp) (\$6.50) for equipment and clothes," explained Juminah, the school's principal. "Three days

later, the parents are required to report back to us what they have bought—bags, shoes, books, or uniforms." These funds go to the neediest children who are identified by the village head, school committee, and teachers.

The scholarships though are just one small part of the Decentralized Basic Education
Project which operates in nine districts in Bali, nine districts in Nusa Tenggara Barat (West Nusa Tenggara), and two districts in Nusa Tenggara Timur (East Nusa Tenggara). Coverage was expanded to the two districts of Nusa Tenggara Timur in June 2005, and encompasses some of the country's poorest provinces with among the lowest national enrollment rates for provincial primary, junior, and secondary education.

The project—supported by an ADB loan of \$100 million and a Government contribution of \$25 million—was approved in November 2001, and is designed to encourage poor families to send their children to school and to allow them to complete at least 9 years of basic education.

A key plank is the refurbishing and rebuilding of schools, with ADB approving in April 2005 the reallocation of \$10 million from its original loan to reconstruct 33 schools in Simeulue District, Aceh that were destroyed by the tsunami of December 2004.

Cofinancing support has come from the Netherlands, which in March 2006 committed \$28 million to expand the project into the additional six districts in Nusa Tenggara Timur.

## **Basic Education for All**

Indonesia's drive for universal basic education, which covers 9 years of primary and junior secondary schooling, was originally targeted for 2003, sharply predating the Millennium Development Goal of universal primary education by 2015. However, as the economy reeled from the 1997 Asian financial crisis and political turmoil, this target was deferred to 2008.

According to ADB's *Key Indicators of Developing Asia and the Pacific 2003*, Indonesia's net enrollment ratio in primary education fell from 95.4% in 1995 to 92.2% in 2000, following 3 years of economic and political

turmoil. The decline was similar to that seen in other crisis-afflicted nations.

Faced with a complex centrally managed system run by three ministries, the Indonesian Government decided in January 2001 to devolve the management and financing of basic education to district governments—a move that puts great responsibility on the planning, monitoring, and evaluation on the district offices, schools, and communities themselves. The project is thus helping the schools and districts to fully cope with the challenges and opportunities posed by decentralization.

In the initial stage of the project, funds were disbursed to 783 schools in Bali and Nusa Tenggara Barat, starting from July 2003. That number has now expanded with a total of 5,273 schools—including Islamic *madrasah* schools—earmarked for support by the time the loan closes at the end of 2008. The funds have been used mostly for light to medium physical school repairs and other improvements, including the

The project is designed to encourage poor families to send their children to school and to allow them to complete at least 9 years of basic education.



**EDUCATION FOR ALL** The ADB-financed Second Education Sector Development Project seeks to improve access to formal education for some 4.2 million children and provide skills training to a projected 3.3 million underemployed youth.



Project beneficiaries believe the message is getting through that education makes good economic sense for poor families, whose children will have higher earning potential.

purchase of new books, reading aids, or training to upgrade the competence of teachers.

As of the end of 2007, close to 90% of the key work under the project was complete, with cumulative ADB loan disbursements of \$97 million and contract awards of \$110.4 million.

With the schools preparing the plans themselves, accountability to the local community for every rupiah spent is crucial. The schools post their accounts under the project on notice boards for all to inspect and conduct outreach activities to ensure transparency. For those that cannot or will not see the accounts, other avenues to get the information are made available, such as having the details read out in reports at local community meetings.

To ensure community participation in rehabilitation work, local skills are harnessed, which cuts the costs of the job.

## **Physical Repairs**

In Jembrana, the project is slowly transforming some of the dingiest parts of the schools from physical wrecks to clean and functional learning centers.

INFORMED AND AWARE With district governments responsible for the management and financing of schools, the greater responsibility of planning, monitoring, and evaluating basic education falls on the district offices, schools, and communities themselves.



Cratered, dusty concrete classroom floors have been replaced with new white tiles, while dirty scuffed walls have been replastered, and dangerously worn bamboo-thatched ceilings have been replaced.

One success story is Yeh Umbul 3 Primary School in Mendoyo Subdistrict.

"The classrooms here were in a critical condition. We have repaired three out of five of them," the headmaster Suama said.

A few kilometers down the road, Embang Kauh 2 Primary School's main aim is connection to the electric grid, another project target for refurbished classrooms. At the school, an average of 40 children, aged 7–11, are crammed in each of the six dark classrooms, which get only limited natural light.

"When the weather is rainy and dark, we don't ask the students to study in these rooms, we try to find some other activity for them to do," headmaster Nurawa said.

Stakeholders say the project is bearing fruit, with dropout rates falling and enrollment rates rising.



**GREATER PARTICIPATION** With the decentralized system, local communities have become more involved in school planning and are interested in improving student achievements in academic and extracurricular activities.

In addition, project officials said they have seen more involvement of local communities in school planning, improved student achievements in both academic and extracurricular activities, and strengthened capacity of district governments to plan and manage the decentralized system.

Education though remains an uphill struggle for the poor in Jembrana. "I am thankful for the extra money. Otherwise, I would not be able to send my daughter to school," said fisherman Narka, whose daughter, Noviastini, received a scholarship allowing her to attend the Negara 4 Junior Secondary School.

Noviastini's goal in life is to become a doctor. While that may be a huge challenge given her family circumstances, project beneficiaries believe the message is getting through that education makes good economic sense for poor families, whose children will have higher earning potential.

For the principal, Juminah, that provides a ray of hope. "I try to motivate parents and children and stress the importance of finishing school, as motivation to attend school has been low in this area," she said. "Now, they are beginning to respond. I hope these children can now have a better life than their parents."



"I try to motivate parents and children and stress the importance of finishing school. I hope these children can now have a better life than their parents."

Juminah, school principal

## **PROJECT INFORMATION**

Decentralized Basic Education Project (2001–2008)
Financing: \$100-million ADF loan, \$25 million contributed by the Government



## **Education for All**

After painful streamlining and reforms, the majority of Mongolia's children again have the chance to gain a decent education with modernized schools, improved curricula, and new textbooks.

By Carolyn Dedolph Cabrera

**ULAANBAATAR**—Winter is long and hard in Mongolia. Even on an early morning in mid-November, the temperature is -12° Celsius and the wind bitterly cold.

Breath steaming, students bundled up in long coats and fur hats trudge down the frozen streets of Dzuunmod, a town of about 20,000, south of the Mongolian capital of Ulaanbaatar. The clanging of the School of Humanity's bell urges them to sprint the last few meters to the door to avoid being tardy.

Cheeks red with the cold, students welcome the warmth of the building. Heat is precious during Mongolian winters—and costly. Schools like this commonly spend a third of their budget on heating alone, leaving little money for paying teachers, buying textbooks, and maintaining facilities.

The School of Humanity was fortunate. It received \$120,000 from the ADB-supported Education Sector Development Project for repairing its badly decaying roof and providing chemistry and physics laboratories, computers, desks and chairs, chalkboards, and new textbooks. Under the Second Education Sector Development Project, that was approved a few years later, the School of Humanity had a new primary school built.

## **Rocky Transition**

During the socialist era, education was heavily subsidized with modern school and dormitory facilities built in all *soum* (district) centers. Every child—even those from nomadic families in remote areas—could go to school. With every school having a full staff complement, student—teacher ratios were among the lowest in the world. Although educationally these ratios were desirable, maintaining them proved expensive.

With the collapse of the Eastern Bloc, Mongolia embarked on a painful transition from a planned to a market economy. As a consequence, expenditures on education eroded drastically, with teachers' salaries having to be cut to minimal levels and textbooks becoming precious. With no budget for maintenance or repair, facilities deteriorated—particularly in rural areas—and many were forced to close.

Preschools that accommodated 97,000 children, were hard hit, with 244 out of 900 closing between 1990 and 2001. By school year 1993/94, enrollment had plummeted to 370,300 from 446,700 in 1989/90, and dropouts soared by 2,300% between school years 1988/89 and 1992/93.

Finding it impossible to guarantee adequate financing for education, the Government saw a need for streamlining and downsizing the system, and asked ADB for financial and technical assistance. So ADB began funding

a comprehensive restructuring and reform program beginning 1996, and also financed basic building rehabilitation, textbook provision, and teacher training.

Using a \$6.5 million loan from the ADF, the Government merged and closed schools, and let thousands of staff members go in a bid to improve quality by concentrating scarce funds on a leaner, more compact system whose needs could be adequately financed.

## **Teachers Now Well Paid**

It was a painful process, but the improved efficiency provided resources for financing essential items, such as teachers' salaries. Today, Mongolia's teachers are enthusiastic and can expect to receive up to \$250 per month. A doctor in Mongolia, for example, earns \$300 a month. This figure puts Mongolia well ahead of other former socialist countries in the region.

Much remains to be done, however.

The Second Education Development Project, partially financed through a \$14 million loan from the ADF, was approved in 2002 to build on reforms and activities started in the first project. Its goal was to help provide universal access to quality primary and secondary education—including for children with



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MULTIPURPOSE EDUCATION Computer laboratories are popular additions to the school, and students get to learn more about computers while simultaneously improving their English skills since there are no computer programs in Mongolian.

disabilities—especially in rural areas and poorer urban communities.

The Third Education Development Project, backed by another \$13 million loan from the ADF—approved in June 2006 and scheduled for completion in 2012—will focus on two major new features: a comprehensive curriculum reform, in support of the Government's decision to extend the schooling period by 2 years; and reforms to the current vocational and technical education system.

The Third Education
Development Project will
focus on two major new
features: a comprehensive
curriculum reform, and
reforms to the current
vocational and technical
education system.

## **Tradition Versus Change**

Boarding education is long entrenched in Mongolia, going back to the days when monasteries provided most of the education. Today, dormitories are crucial for allowing children from poorer families to attend school.

As is common throughout Mongolia, more girls than boys are enrolled in the School of Humanity, which used to be two schools. Although the Government covers the basic expenses, parents often contribute to covering these costs as well with sheep or other livestock.

During the first few years of the 21st century, severe droughts followed by harsh winters killed millions of heads of livestock, depriving thousands of herder families of their livelihoods. Partly due to this, dropout rates in rural schools

skyrocketed, with many boys leaving school to go back home to work as herders, as tradition dictates. Although droughts have abated in recent years—helping curtail dropout rates, particularly for boys—the education sector still faces the challenge of rising costs of everything from food for children to salaries of teachers and doctors.

Nyamdavaa Namjil, a 15-year-old student and dormitory resident at the School of Humanity, plans to avoid the gravitational pull of the herding life. He wants to be a doctor and to live in a town.

"I don't want to be a herder. I want to be a professional. That's why I'm interested in science," he said.

Fortunately for his family, Nyamdavaa's youngest sister, Byambadulam, loves animals and wants to take over the 150 sheep, 50 goats, 50 horses, 17 cattle, and 2 camels from her father, Zuudi Namjil, who does not mind breaking from tradition.

"I prefer Nyamdavaa to continue his studies," said Mr. Namjil. "I want him to be an excellent student and become a doctor for the people of Mongolia."

Unlike many nations, Mongolia is challenged with educating its boys, who only account for 40% of enrollment in upper secondary education. At higher education levels, female students outnumber their male counterparts by over 2:1.

## **Key to the Future**

Computer laboratories have made a big difference in many schools. Fifth-grade students at Ulaanbaatar's School of the Future, formerly known as School No. 80, are well aware of the importance of computers. They are enthusiastically studying the computer—and learning English in the process—because there are no computer programs in Mongolian.

"English is the world's language. Without it, it's difficult to go outside our borders," said 12-year-old Dagontsooj.

"I understand the computer is a key for my future," said Uien, also 12, who wants to be a doctor.

ULTIMATE GOAL The Second Education Development Project aimed to help provide universal access to quality primary and secondary education—including for children with disabilities—especially in rural areas and poorer urban communities.



With 70% of Mongolia's population under 35 years old, education is the foundation of Mongolia's future. Reforms, streamlining, and repairs—mixed with ample optimism and dedication—are propelling Mongolia's education system toward achieving its goal of education for all. Teacher Surmaajav expressed this determination: "All these things will help us provide our children with an educational foundation that matches world standards."

—With additional contributions from Adrian Brown, Asia-Pacific Vision

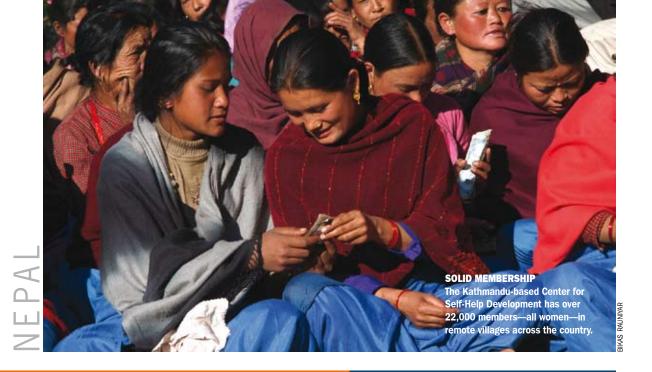
### **PROJECT INFORMATION**

Education Sector Development Program/Project (1996–2002)

Financing: \$15.5-million ADF loan, \$2.3 million contributed by the Government

Second Education Development Project (2002–2008) Financing: \$14-million ADF loan, \$49.8 million in cofinancing from the Government of Japan and the Nordic Development Fund, and \$4.7 million contributed by the Government of Mongolia

Third Education Development Project (2006–2012) Financing: \$13-million ADF loan, \$3.4 million contributed by the Government



## **Funding a Microcredit Revolution**

A rural microcredit scheme is not only reducing poverty in rural Nepal, but also empowering women and breaking down gender barriers.

By Surendra Phuyal

**LAMADANDA**—Against the backdrop of the Himalayas, 50 members of the Lamadanda Women's Self-Help Centre—all in uniform blue saris and traditional ornaments—have gathered together at the homestead of a member for financial transactions.

As local officials and visitors to the picturesque Nepalese village in Bhaktapur district—30 kilometers from the capital, Kathmandu—look on, the women recite their oath. They resolve, among others, not to discriminate against members of lower castes, to spend wisely, save, and abstain from tobacco or alcohol.

They then get down to business.

"Namaste, sisters," says 37-year-old Mana Kumari Shrestha, "I need to borrow 4,000 rupees (NRs) (about \$63). I need some money to pay my children's school fees," she explains, when asked by the coordinator why she needs additional funds after borrowing NRs18,000 (\$286) previously.

After a chorus of "yeas" from the assembled group, the funds are approved.

## **Empowering Women**

The scene is typical of rural microcredit schemes that have sprung up all over the countryside in recent years, with women at the forefront. Observers say they have been pivotal in empowering women, and breaking down gender barriers in Nepal's largely patriarchal rural society.

The Rural Microfinance Development Center Ltd. (RMDC), a private microfinance apex organization set up in 1999, says that 47 out of Nepal's 75 districts have microcredit program through its 60 partner organizations.

"Such programs are making good contributions to reducing both urban and rural poverty across Nepal," says RMDC Senior Manager Meghraj Gajurel.

"The microfinance programs also have a very good loan recovery rate of 99%–100%," he adds. Many commercial banks, by contrast, typically have high loan-default levels.

One key group at the forefront of the microcredit revolution is the Kathmandu-based Center for Self-Help Development (CSD), which is a nonprofit organization running programs in at least seven hill districts of Nepal, including Lamadanda in the adjoining Bhaktapur district—one of its first success stories.

Funded by ADB's Rural Microfinance Project, it now has over 22,000 members—all poor and needy women—in remote villages across the country, says CSD Executive Director Mukunda Bahadur Bista.

## **High Repayment Rate**

Microcredit is not a novel idea in Nepal's development history. There have been statesponsored lending schemes in past decades, but the sector was given a real spur in 1999 by a \$20-million loan under the Rural Microfinance Project.

Rural microcredit schemes have sprung up all over the countryside in recent years, with women at the forefront, [and] they have been pivotal in empowering women and breaking down gender barriers.

Commercial bank shareholders in RMDC now lend their own funds through RMDC, targeting deprived sectors more efficiently. RMDC has a capital of NRs623.16 million (\$10 million), in addition to NRs1,421.20 million (\$22.5 million) of revolving funds, and NRs279.70 million (\$4.4 million) borrowed funds from commercial banks for on-lending to the microfinance institutions (MFIs). MFIs factor in their operational cost and other expenses (to cover their entire cost) and on lend to the ultimate borrower, says Gajurel.

"We have been encouraged by the microfinance success stories and the loan





DOING WELL Sanjamaya Lama (top, far right) took a loan to buy goats and buffaloes, and invest in her children's education; while Musuni Shrestha (above) purchased buffaloes and now has a livestock business that sustains her and her son.



## **Helping Themselves**

By Surendra Phuyal

Before microcredit was introduced to Lamadanda, Yasoda Bantawa recalls how it was like being newly married and constantly struggling while trying to keep her small tea shop afloat. "We didn't have money and were facing extreme hardship," she says.

Now, with the start of the Lamadanda Women's Self-Help Centre 4 years ago, and a small loan sourced from the Kathmandu-based Center for Self-Help Development (CSD), life is better and Yasoda is happier.

"I borrowed 10,000 rupees (about \$158) from CSD, expanded my shop, and turned it into a restaurant," Yasoda says, as she and her husband prepare a typical Nepali meal consisting of *dal* (lentils), *bhat* (rice), *tarkari* (seasonal vegetables), and other Nepalese delicacies for their customers.

Working together in the roadside restaurant near a busy bus stop, the couple earn up to 40,000 Nepalese rupees (\$635) a month. "Which is not bad," adds her husband, as he prepares food for rushing customers.

"We paid the amount back in a year's time, and now there is no debt to be paid. We are relieved and at the same time very happy to be part of the Group," says Yasoda, who proudly leads the center. Both she and her husband originally hail from the remote district of Udaipur in eastern Nepal.

The people of Lamadanda have embraced the couple as their own with the Bantawa restaurant a popular eatery for locals and tourists alike.

repayment rate of 99%. We should be able to replicate this model on a wider scale," says Shyamal Shrestha, a Kathmandu-based ADB officer responsible for the microfinance sector.

## **Success Stories**

Sanjamaya Lama is testimony to that success. The 41-year-old member of the Lamadanda Women's Self-Help Centre lost her husband nearly a year ago, but thanks to a loan, she is coping. "I took about 18,000 rupees and used some of it to rear goats and buffaloes, while the rest is invested in my children's education."

Like her fellow group members, she is clear about how she will pay the loan back. "We make some income. And I also got work at a construction site. No worries. I will have no problem saving so that I can pay it back."

"Being part of the group has not only honed our community, or team spirit, it has also trained me to speak before a group and deal with strangers properly. I feel good, more confident," says Sabita Lama who runs a café by the highway near Lamadanda. With the support of a loan and working with her husband, she now makes NRs1,000 (\$16) daily.

Sabita Lama and the other women of the Lamadanda group are just some of the 2,870 organized into 575 groups that the CSD branch in Sankhu village—a 3-hour walk down the hill from Lamadanda—now assists, branch manager Krishna Neupane says.

Despite the physical demands of her work, Neupane is heartened by the economic and personal empowerment she sees in the women she helps.

"My job is difficult; it requires a lot of climbing up and down our remote hills here. But I feel extremely satisfied with their progress, and with the fact that I am helping many women and families move out of poverty."

## **PROJECT INFORMATION**

Rural Microfinance Project (1998–2007)
Financing: \$20-million ADF loan, \$10.6 million contributed by the Government and beneficiaries



## Rising from the Rubble

ADB's swift response to the devastating October 2005 earthquake is helping make the massive task of rebuilding easier.

By M. Ismail Khan

**MUZAFFARABAD**—Mushtaq Ahmed had been uneventfully collecting firewood on the morning of 8 October 2005 when the earth began shaking around him. Within just a few minutes, the world he had known for years was shattered.

"It was horrific and the most helpless moment in my life as all I could do was to sit there holding my head in disbelief and watching houses perched on hillsides tumbling down all around," he recounts.

"My wife perished in the rubble but then almost everybody in the village lost a dear one. In fact, in some cases, entire families were found buried under tons of debris. Everything was turned upside down, bridges fell apart, schools and hospitals collapsed. Roads, power stations, and electricity transmission lines were washed away in landslides. For a moment, I thought this is just end of the world," the 55-year old recalls.

The earthquake that day that obliterated Mushtaq Ahmed's village of Lamnia in the lower western ridges of the Himalayas, and many other areas in northern Pakistan, was one of the most debilitating natural disasters to ever strike Asia

More than 75,000 people perished and about 3.5 million were left homeless in a mountainous terrain spanning 30,000 square kilometers (km²).

Given the scale of the disaster—and with a brutal Himalayan winter fast approaching—the Government of Pakistan appealed for immediate help in a bid to avert even more loss of life.

#### **Swift Support**

Responding to the challenge, ADB pledged \$1 billion for reconstruction and rehabilitation, mainly in the power, health, education, transport, housing, and social protection sectors. To date,





SWIFT ACTION ADB has provided funding to restore 353 kilometers of roads and bridges damaged by landslides (above) following the earthquake; helicopters (top) have also helped bring construction materials and supplies to remote areas.

ADB has committed about \$740 million in ADF loans and grants, while leveraging another \$180 million in the form of bilateral grant funds for the ADB-funded Pakistan Earthquake Fund and through cofinancing.\*

"We mobilized support swiftly, assembling a dedicated team which has since been working with the Earthquake Reconstruction and Rehabilitation Authority (ERRA) and counterpart regional and provincial bodies to assess the extent of damage, identify priority areas, and to channel funds for the rehabilitation process," says ADB Country Director Peter Fedon.

"The main thrust of assistance was to provide immediate budgetary support to meet financial

requirements in priority areas. We have also set up a satellite office in Muzaffarabad to ensure effective project implementation," he adds.

Rebuilding more than half a million destroyed or badly damaged rural houses is one of the most critical jobs, and with support from the Government, development partners, and the local communities, more than 400,000 rural grant beneficiaries have undertaken the arduous task.

#### **Rebuilding Lives**

One key to the success of this rebuilding program has been the 150,000 Pakistan rupees (PRs) (about \$2,400) given to each beneficiary in three equal installments.

"The decision to let people take charge and build their own houses has paid off," Shaukat Shafi, senior ADB project implementation officer, says.

"The housing reconstruction grant from the Pakistan government, a program partly funded by ADB to the tune of \$400 million, has helped people rebuild their houses based on their own needs, using the choice of designs approved by ERRA," Shaukat Shafi adds, noting that technical help has also been given to ensure that new homes meet seismic resistance standards, making them safer in the event of another quake.

Despite these impressive efforts, there still is a long way to go, with many affected families continuing to live in temporary shelters as they struggle to cope with the high cost of labor and building materials, partly driven by the reconstruction boom itself.

#### **Roads to Recovery**

Shattered roads have also made the reconstruction process a Herculean task. About 6,400 km of roads in nine districts were washed away in the fury of landslides that followed the earthquake.

Rebuilding them, and the many bridges that were damaged or destroyed, was critical in getting relief supplies and building materials to isolated communities.

"In villages situated at higher elevation and in remote areas like ours, no reconstruction was

<sup>\*</sup> By financing the project, ADB does not intend to make any judgment as to the legal or other status of any disputed territories.

possible without first repairing the road," says villager Mushtaq Ahmed.

"Initially, even when the road was partially opened, transporters refused to send their vehicles up into the valley," says another villager, 64-year-old Hakim Ali. With the road works complete, the community can now travel easily by bus, while the cost of getting supplies into the remote region has fallen, thus speeding up the rebuilding process.

ADB has set aside \$163.5 million for rebuilding more than 1,000 km of roads. To date, work has begun on 353 km of roads, with 48 road restoration contracts worth \$21 million awarded.

#### Into the Light

The earthquake also knocked out power, exacerbating the misery of the survivors and making the reconstruction task even tougher.

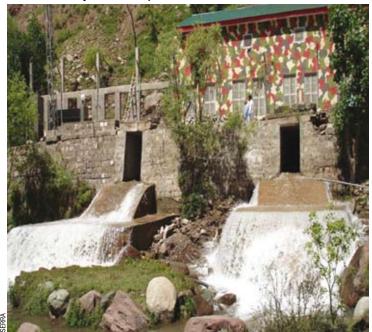
"The entire electricity system feeding the nine affected districts was disrupted. It was a major challenge to restore electricity, but this we achieved within days after the earthquake, thanks to the timely support extended by ADB," says Mohammad Asif Shah, director general of the State Earthquake Reconstruction and Rehabilitation Authority (SERRA).

ADB is the sole funding agency for rehabilitating the power sector, with local electricity supply companies acting as the implementing agencies, tasked with ensuring free electricity is supplied to tent villages and field hospitals. To date, around \$9 million worth of contracts for equipment and civil works have been awarded and the majority of power and grid stations have now been rebuilt.

Rehabilitation work is also being carried out in the education and health sectors. ADB is investing \$110 million to reconstruct 454 primary and middle schools using a state-of-the-art light steel-frame structure that is seismic resistant. It will provide another \$33.2 million to restore healthcare infrastructure, targeting reconstruction of hospitals and rural health centers.

Topping up these efforts, ADB is also supporting the restoration of government institutions such as the judiciary and the police,

**TIMELY SUPPORT** The Katahi hydropower station is one of the many power sources restored within days of the earthquake.



ADB is the sole funding agency for rehabilitating the power sector, with local electricity supply companies acting as the implementing agencies, tasked with ensuring free electricity is supplied to tent villages and field hospitals.

and others that provide special assistance to the earthquake victims.

While much remains to be done even 2 years after the disaster, a semblance of normalcy has returned to the village of Lamnia. With homes rebuilt, water and electricity systems restored, schools and hospitals reconstructed, and economic activity starting to revive, Mushtaq Ahmed and thousands like him in northern Pakistan can now look to the future with hope.

#### **PROJECT INFORMATION**

Earthquake Emergency Assistance Project (2005–2009)
Financing: \$220-million ADF loan, \$175 million in
cofinancing from the Pakistan Earthquake Fund
(ADB, Australia, Belgium, European Commission,
Finland, and Norway), and \$75 million contributed by
the Government



## **New Hope for Women**

Water and sanitation investment projects are empowering women and creating a significant impact on gender relations in rural Pakistan.

By M. Ismail Khan

**DERA GHAZI KHAN**—Bashiran Bibi and other women and girls in the rural heartland of Pakistan's most populous province of Punjab used to spend hours every day collecting and carrying water on their heads in heavy pots.

The water often came from uncovered wells, filthy rivers and streams, and stagnant ponds, putting their and their families' health at risk.

But—thanks to a project jointly funded by ADB and the provincial government—clean water and sanitation are now available to 2.5 million rural Punjabis.

#### **Empowered Women**

The change has not just improved the health of many communities. It has also empowered women, freeing them from a back-breaking chore to engage in other more productive tasks.

"By fetching water 3 to 4 hours a day in

scorching heat, and carrying the pitchers on our heads many of us were even losing our hair to the degree that we were about to become bald. We had to carry water even when we were pregnant making our job even more difficult," says Bashiran Bibi, chairperson of the Women Community Organization in Dera Ghazi Khan.

"Water here is so scarce that we could only take a bath once a week, or sometimes twice a month. Men used to sit around and chat, and it was us who had to fetch water, cook food, and look after the children. This has now changed."

The statistics on access to clean water and sanitation in rural Pakistan make for grim reading.

Of the country's population of 160 million, 84 million live in Punjab and about 60% of that number are rural dwellers. Half of this large rural group is forced to draw water from unsafe sources and only a quarter of Punjab's rural

population has access to household latrines. The lack of toilets causes both health risks and environmental pollution

In a bid to address these issues, ADB joined hands with the Punjab Government for a project to fund water supply and drainage facilities for 1,085 rural communities. An initial ADB loan of \$46 million in 1995 was followed by another \$50 million in 2002.

#### **Active Participation**

Ensuring the active participation of women in the project was key.

"At the project preparatory stage, a gender analysis was carried out to assess how the project could contribute to women's empowerment and overall changes in gender relations. The result of the gender analysis then formed part of the policy dialogue with government agencies, and finally the project design was reconciled with the gender analysis to ensure benefit to women before, and during, the implementation period," explains Raza M. Farukh, ADB project implementation officer.

All community groups established by the project have strong female representation, allowing them to learn from each other and share concerns with project and government officials.

"We could have started with trying to motivate men in the village but we preferred to work with women because the project is about water. Women deal with water-related problems all day long... they understand problems like unclean water, leakages, broken pipes. Men don't care much about such petty problems. Hence, we focused on women and through them influenced the men," says Rabia Kausar, a social organizer from Bhawalpur in southern Punjab.

The positive economic impact of freeing women and girls from their previous long-winded collection chore to engage in other work is unequivocal.

A calculation based on daily collection time of 3–4 hours, an average female wage of about 60 Pakistani rupees (PRs) a day, and other key variables shows that the monetary value of the time saved in a year by ending this task is around PRs2,874 (about \$46) per person.

All community groups established by the project have strong female representation, allowing them to learn from each other and share concerns with project and government officials.



IMPROVED LIVING CONDITIONS Health conditions in the project area have also improved with a significant reduction in cases of dysentery, cholera, and typhoid, as well as miscarriages and premature births.



#### **Back to School**

Another beneficial spin-off is that girls now have time to attend school.

"I have started going to school for the first time and I like it. I don't mind sitting in class with girls several years younger. My mother and I used to fetch water. I started fetching water when I was only 5 years old. Thus, it has been 10 long years," says 15-year-old Shakeela.



OTHER OPPORTUNITIES Women can now spend time on more productive jobs, such as rearing livestock, growing produce (below), and working in the fields; many have also turned to weaving, sewing, and embroidery (left).



"I don't have to go out to collect water, I will complete my education and will become a teacher in the village school."

Shakeela

"At times when I refused to go, everybody including my grandmother would admonish me as disobedient. Now I don't have to go out to collect water, I will complete my education and will become a teacher in the village school," Shakeela adds.

Communities that have benefited from the new water facilities have seen their school enrolment levels soar. Primary school enrolment in one village rose 30%; in another, it tripled among girls and grew 40% for boys.

#### **Healthy and Wealthy**

With their time freed from fetching water, women have been able to take part in a wide range of more productive jobs—such as rearing livestock, raising poultry, and working in the fields—and are now able to supplement and boost their families' income. Many have also turned to weaving, sewing, and embroidery.

Since she received her new water connection, Gulab Mai, in her 40s, has spent more of her time weaving mats. "I get cash for my mats in the market," she says. "Now, I complete weaving a mat in 2–3 days, but before I had the water

connection, it would take nearly a week. Surely, I now have more energy and money to spend on my children."

Health conditions in the project area have also improved with a significant reduction in cases of dysentery, cholera, and typhoid, as well as miscarriages and premature births.

Azeema Bibi, also in her 40s, had no water connection simply because she could not afford the connection fee. Thus, she and her daughter-in-law used to spend hours collecting water twice a day.

"Because of the unhygienic environment and poor quality of water, our girls had become pale and weak, they looked liked patients in hospitals. We really had a problem finding suitable matches. But after the availability of safer drinking water, their health is improving and we are now confident about marrying off our daughters before they get too old," she says.

#### **PROJECT INFORMATION**

Punjab Rural Water Supply and Sanitation Sector Project (1995–2002)

Financing: \$46-million ADF loan, \$14 million contributed by the Government

Punjab Community Water Supply and Sanitation Sector Project (2002–2007)

Financing: \$50-million ADF loan, \$21.4 million contributed by the Government and beneficiaries



# **Restoring the Reef**

NGOs under a pilot ADB project have mobilized some two-dozen shoreline villages to take charge of protecting their marine resources. By trading short-term pain for long-term gain, these villages are beginning to reverse the tide of overexploitation.

By Ian Gill

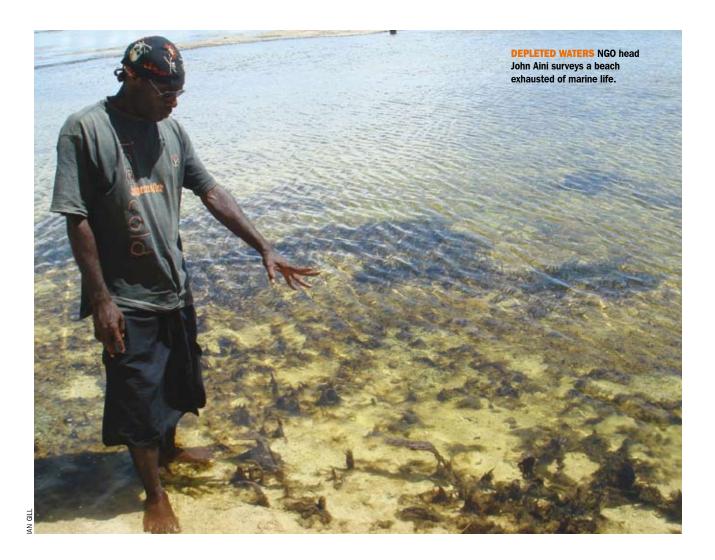
**KAVIENG**—Two stretches of water reveal much of the story of Papua New Guinea's declining coastal resources—and the efforts by some communities to reverse the trend.

In one beach outside Kavieng—the main port of New Ireland—a group of men and women are treading carefully in the ankle-deep water, trying to avoid the razor-sharp edges of broken shells concealed among the sea grasses. If they are lucky, they might find some small shells and the peanut worms that feed on the grass. But the big prizes—sea cucumbers and trochus (sea snails whose thick shells are used for mother-of-pearl buttons)—are long gone, possibly forever.

Two hours away, on the other side of the mountain range that divides this 350-kilometer

(km)-long, narrow island province, it is a different scene. Half a dozen men, holding nets, wade into the sea. They are 30 meters out, with the water lapping around their waists. Within seconds, they catch several mullet, slithering and shiny. Shouting with triumph, they return to the palm-fringed beach and start degutting and cooking the fish over a fire.

The difference between the two locations is that marine life is exhausted in one, while it is recovering in the other. On the beach by Kavieng, one resident complains, "This area has been totally over-fished because it's near town, very accessible, and there are no restrictions or management of the reef. The people who come here have no idea about the importance of



managing these resources."

By contrast, the village of Panakais on the west coast has stuck white poles into the water to demarcate an area that is closed to fishing. On this day, they are allowed to break the ban for a special occasion the next day—a feast to accompany a ceremony with a crucifix that has been brought to these islands from Rome.

The self-imposed no-go zone is only one of several restrictions that the residents of Panakais, a tiny settlement of 300 people in thatched homes among coconut palms and grey sand, have imposed upon themselves as part of a management plan drawn up with the help of a local nongovernment organization (NGO), Ailan Awareness. Other measures include a prohibition on poisoning fish with derris root powder, stunning them with dynamite, fishing with fine mesh by torchlight at night.

After the NGO has explained how some traditional practices upset the reef's ecosystem, villagers typically agree to elect leaders and draw up rules to reverse the fish decline. "The important aspect is that villagers take ownership of the project," says John Aini, head of Ailan Awareness. "Our role is to facilitate and support but the program is conducted at the village's pace."

This community-based management approach to conserving marine resources has been pioneered as part of a Coastal Fisheries Management and Development Project, financed by ADB with a \$5.7 million soft loan.

Seven communities in New Ireland—and another 17 in the province of Morong—were implementing this approach by the time the project ended in 2007. A further 37 were on a waiting list to participate in the scheme.

"This area has been totally over-fished because it's near town, very accessible, and there are no restrictions or management of the reef. The people who come here have no idea about the importance of managing these resources."

Kavieng beach resident

"Our project was to kick start this concept and pilot it, and I'm happy that this has been achieved and we would like to see it replicated throughout the coast," said Allan Lee, deputy head of mission at the ADB resident mission in Port Moresby.

"Some of our inshore resources have been overexploited, like *beche-de-mer* (dried sea cucumber) and others, so this program is very important and the approach is good," says Sylvester Pokajam, acting managing director of the National Fisheries Authority (NFA), the semi-autonomous agency in Port Moresby tasked with managing the country's fisheries on a sustainable and profitable basis.

In Papua New Guinea, as in other Pacific island nations, land is customarily owned by communities and, for coastal villages, this right extends to the sea in front of them. "This makes it important for coastal communities to take responsibility for their own resources," notes Augustine Mohiba, NFA's executive manager for fisheries management.

With a coastline of 17,000 km and located in one of the most isolated parts of the world, Papua New Guinea has a wealth of fisheries—ranging from sea cucumber, *trochus* (shells), and reef fish in coastal waters to prawn and tuna in deeper waters further offshore.

FISH APLENTY A community-based management approach to conserving marine resources and strict fishing measures have ensured that there is enough fish for all.



#### **High Demand**

There is high demand for all these sea creatures, but sedentary ones are particularly vulnerable as they can be plucked from the seabed. For tens of thousands of small-scale and subsistence fishers, the sea cucumber is a source of ready cash as they can be sold to traders to feed a huge and growing demand in Hong Kong and the People's Republic of China, where beche-de-mer is a delicacy. Similarly, trochus and other mother-of-pearl shells are simple to gather and sell for export as decorative items and buttons.

As a result, however, both resources have become increasingly depleted. Reflecting this, exports of sea cucumber plunged to 400 metric tons in 2005 from a high of 700 metric tons in 1991.

Although more mobile, reef fish such as groupers, trevallies, snappers, and emperors are also under threat. One reason is that local fishing methods have become more efficient over the years.

"The problem is localized over-fishing and a lot of this is the result of the impact of technology on traditional methods," says Hugh Walton, a rangy consultant from New Zealand who has been helping NFA implement the community-based management program.

Moreover, recovery is slower in the Pacific

than elsewhere. "With tropical fisheries, we have huge species diversity, but the biomass is not vast—species are slow breeding and slow growing," says Mr. Walton.

All this translates into bad news for Papua New Guinea's coral reefs, once among the most pristine in the world.

A March 2007 report on sea cucumbers in New Ireland that was commissioned by the NFA, found that numbers had dropped to 13% of 1992 levels, which had been alarmingly low even then. "The concern with sea cucumbers is that they need a certain density to reproduce, so some species may be depleted beyond a tipping point," says Michael Schmid, a German marine biologist who was a guest lecturer at the National Fisheries College in Kavieng during 2007.

#### **Remedial Measure**

As a remedial measure, NFA has imposed a closed season on sea cucumber for 3½ months from October 1 to January 15 each year, but many think this is too little, too late. Brian Green, general manager of a fish processing plant in Kavieng, says the beche-de-mer situation is so dire that he has been pressing NFA for a 2-year ban on harvesting them.

"They should recognize that if somebody who makes his living out of selling sea cucumber recommends a 2-year closure, it must be serious. But you have to do these things to make it sustainable," he says.

So far, NFA has not responded to such calls. Ron Kuk, the NFA's executive manager for projects, says it is a political issue. He notes that, "There are so many people who depend on selling sea cucumber to meet basic needs." This is also true. Papua New Guineans are squeezed between a dearth of income-earning

In the past, small and stable populations hardly made conservation necessary, but destructive fishing practices and steadily growing populations have changed the picture.

opportunities and the need to pay for their children's schooling and high-priced imported essentials such as kerosene, clothes, radios, lamps, batteries, and canned food, which are often preferred over fresh fish.

Clearly, in addition to NFA edicts, "there is a further need to involve the community in the overall management of the resources under their respective jurisdictions," as NFA states in a recent annual report.

In the past, small and stable populations hardly made conservation necessary, but destructive fishing practices and steadily growing populations have changed the picture.

A village elder, 70-year-old Marcus Nges, wearing a traditional necklace of white *mis* shells (often used as currency) and *laplap* (sarong), recalls the times when fish were plentiful.

"When I went fishing as a kid with my father, we would lower a meter-deep net into the water and pull it up almost full of fish, big ones like Maori wrasse and dapple-headed parrotfish," he says "We would have enough to feed our family—with enough left over for other families as well."

But over the years, he says, some of the bigger fish disappeared and it took longer and longer to get a sizeable catch.

Thus, much of what they heard when the NGO first arrived at Panakais 2 years ago struck a chord with villagers.

"They told us in a scientific way why we should not catch small fish and why we should leave the spawning fish alone," says Francis Bolaf, a wiry man with a salt-and-pepper beard who is chairperson of Panakais' fisheries management committee.

As more communities decide to make short-term sacrifices for long-term gains, conservation could make significant headway for, unlike forests, fish stocks can recover quickly.

#### **PROJECT INFORMATION**

Coastal Fisheries Management and Development Project (2002–2008)

Financing: \$5.7-million ADF loan, \$3.8 million contributed by the Government



## **On The Same Track**

ADB and its development partners discuss their joint response to restoring roads and bridges in the Solomon Islands through the eyes of the almost complete Post-Conflict Emergency Rehabilitation Project.

By Sally R. Shute-Trembath

HONIARA—Several times a week, Mary Puke travels from Visale in West Guadalcanal to the Central Market in Honiara, the capital of the Solomon Islands. Before the road and bridge network was rehabilitated, the 80-kilometer (km) round trip used to take about 6 hours. Now, after ADB's Post-Conflict Emergency Rehabilitation Project (PCERP) began in 2002 to rehabilitate damaged roads and bridges in east and west Guadalcanal, and on the island of Malaita, the same trip takes only 2 hours.

"Better roads and bridges mean I can get my mangoes to market more quickly and they are fresher when they get there," said Ms. Puke.

Solomon Islands is located just east of Papua New Guinea, and is the third largest archipelago in the South Pacific. It comprises almost 1,000 islands, only about one third of which are inhabited. The islands cover a sea area of more than 1.35 million square kilometers and are mostly rugged mountains and coral atolls.

#### **Worst Conditions**

Major infrastructure linking provincial and market centers to communities in east and west Guadalcanal and on the Island of Malaita were destroyed during ethnic tensions in 1999–2000. Bridges were bombed and roads were severely damaged. A peace agreement signed in October 2000 ended almost 2 years of conflict between groups from Guadalcanal and Malaita provinces. While the peace deal was good news, communities were left without access to markets, clinics, schools, and agricultural services.

"Frankly speaking, these were the worst conditions I'd seen in nearly 30 years of working on road projects," said Rishi Adhar, senior project implementation officer from ADB's Pacific Liaison and Coordination Office.

Fruit vendor Wilson Manei illustrates the impact of the improved roads. "After the tensions, the roads were in terrible condition," he said. Thrice a week, Mr. Manei travels from his home in Numbu, East Guadalcanal to the Central Market to sell *pablos*, a type of citrus fruit. "Before the roads and bridges were repaired, very few trucks would attempt the trip to the market which meant I couldn't get there to sell my fruits, so I could not earn money."

In 2005, after the project had a major change of scope, AusAID (Australia's overseas funding program) made additional funds available through its Regional Assistance Mission to Solomon Islands (RAMSI) budget. RAMSI is a partnership between the Government and people of the Solomon Islands aimed at helping create the conditions necessary for a return to stability, peace, and a growing economy. NZAID (New

"Before the roads and bridges were repaired, very few trucks would attempt the trip to the market which meant I couldn't get there to sell my fruits, so I could not earn money."

Wilson Manei, fruit vendor

Zealand's overseas funding program) injected additional funds into the project, joining forces with Solomon Islands government, ADB, and AusAID to expand PCERP.

#### **Successful Project**

"PCERP has been widely regarded as being quite successful, delivering on its original objectives in an environment that was still quite fragile," said RAMSI Development Coordinator Paul Kelly. "PCERP also contributed to economic growth in Solomon Islands. A working network of improved roads and bridges (particularly in rural areas) has joined communities together and become a lifeline to markets, and hospitals."

When PCERP is completed in 2008, about 102 km of sealed roads, 65 km of gravel roads, and 51 bridges in Guadalcanal and the island of Malaita will have been rehabilitated. "On a daily basis, you see a huge volume of people traveling from the west and east to Honiara in the back of trucks and in buses. That didn't happen before because the roads were full of pot holes and gullies. This is another sign of PCERP making a positive impact on the lives of Solomon Islanders," said ADB's Adhar.

The iconic Tanavasa Bridge, west of Honiara, captures the spirit of the project, as Mike Qaqara, deputy project manager of PCERP, explained. "The Tanavasa Bridge was blown up during the conflict and its loss meant



MARKETING TOOL Trucks (above) are a useful means of transport, moving people and produce across the island, and fruit vendor Wilson Manei (right) appreciates what the rehabilitated roads and bridges have done for his business.



people from the west could not easily travel to Honiara to go to the market, or access other essential services in town."

Rebuilt under PCERP, the Tanavasa Bridge has become much more than a concrete and steel structure that links the east and west sides of the island. During the opening of the new bridge in December 2006, it was unofficially named "The Bridge of Peace" by people from the surrounding communities. It is symbolic of the trust and cooperation that now exists between communities previously at war.

#### **Impressive Results**

"The Solomon Islands Government is very impressed with the results of PCERP," said Moses Virivolomo, PCERP coordinator and Undersecretary in the Ministry of Infrastructure and Development. "We asked ADB to do the

project for us because they are well known for their technical expertise in infrastructure and transport."

While good roads have largely improved the lives of Solomon Islanders, Mr. Virivolomo pointed out they have caused a few unexpected problems. "When the roads were repaired suddenly people drove much faster. There was an increase in accidents, so right now the government is looking into rolling out a public awareness campaign about the dangers of speeding, and establishing pedestrian crossings and speed control signs. That is one of the big lessons we learned from PCERP."

Both NZAID and RAMSI maintain that PCERP was a very good project for its time. RAMSI's Paul Kelly said, "PCERP was a very tangible and powerful project for the community and donors to see in a postconflict environment."



The iconic Tanavasa Bridge, west of Honiara, captures the spirit of the rehabilitation project. It was unofficially named "The Bridge of Peace" by people from the surrounding communities, symbolizing the people's trust and cooperation.



"SIRIP provides policy advice, and capacity building for the Ministry of Infrastructure. It's also engaging much more with communities and the private sector to try and promote labor-based methods of road maintenance, which is one of the most important innovations of the project."

Moses Virivolomo, PCERP coordinator and Undersecretary in the Ministry of Infrastructure and Development

The cofinanciers say they learned a lot about transport infrastructure during the course of the project, because transport infrastructure is not a traditional niche for them in the Solomon Islands. Both agree ADB's expertise in this area was key to them joining the project.

ADB, AusAID, and NZAID have all signed the Paris Declaration on Aid Effectiveness, which commits the development partners to coordinate and harmonize to achieve increased aid effectiveness. Talking about the advantages of coordination, NZAID Manager Guy Redding said, "It's much more effective to work together than to work individually. It's important to share information to ensure we don't duplicate effort. By pooling our different ideas we generally come up with a much better result."

Mr. Redding pointed out that while PCERP is a good example of donor harmonization, he would like to see coordination go a step further and see them adopt more of a sector-wide or strategic approach in the transport sector. "So rather than think about separate transport projects, we need to discuss ways in which we can coordinate to provide sectoral support in the transport area to help the Solomon Islands government achieve its aims outlined in their transport strategy and interlink different forms of transport."

#### **Next Step**

The Solomon Islands Road Improvement Project (SIRIP) follows PCERP as the next big roads and

bridges rehabilitation project in the Solomon Islands, and is more of an integrated project of assistance than its predecessor. Of SIRIP, Mr. Virivolomo of the Solomon Islands government said, "SIRIP provides policy advice, and capacity building for the Ministry of Infrastructure. It's also engaging much more with communities and the private sector to try and promote labor-based methods of road maintenance, which is one of the most important innovations of the project."

Mr. Virivolomo said the Government is very aware of the problem of dispossessed, unemployed youth in the country and in the region. The Government plans to engage youth, school dropouts, and women's groups and provide opportunities for them to work in road maintenance close to home.

The women of the Kusiko community have voiced their support for participating in road maintenance for a fee. Maria Pernada said she would like to participate and earn money that would help pay for her children's school fees. As Mr. Virivolomo points out, "The Kusiko community in West Guadalcanal is made up of about 22 villages and more than 400 people, so hopefully their willingness to participate in future road maintenance programs will lead to other communities in Solomon Islands embracing this task."

Mr. Virivolomo confirmed that the Government had increased its road maintenance budget and all roads under PCERP have been included under the Government's annual road maintenance plan. Mr Virivolomo added, "Engineers estimate that maintenance may extend the life of a road in Solomon Islands by 15–20 years, which suggests that road maintenance is a crucial, cost-effective investment for the future. We just need to spread the word."

#### **PROJECT INFORMATION**

Post-Conflict Emergency Rehabilitation Project (2000–2008)

Financing: \$10-million ADF loan, \$8.5 million in cofinancing from AusAID and NZAID



## **Switched On**

With ADB's help, Sri Lanka's secondary students are finding better schools and programs to provide skills for a changing job market.

By Eric Van Zant

**COLOMBO**—Since independence in 1948, Sri Lanka has provided all children with free primary, secondary, and tertiary education, producing literacy levels of 92% and primary school enrollment of 95%. This is a major achievement in a region where 25% of children are not even enrolled in primary school, and remarkable considering that Sri Lanka's education system has been held back by decades of underfunding and 20 years of civil conflict.

Although the island nation's graduates have strong literacy skills, many lack the skills in information and communication technology (ICT), science, mathematics, and English language on which many economies thrive. By 2004, unemployment among those with advanced-level qualifications was around 18%.

Government underspending likely contributes to the problem. Sri Lanka spends

only about 2.8% of its gross domestic product on education, compared with a 3.5% average in the rest of Asia.

In the last few years, however—with help from two ADB-supported projects—Sri Lanka's government has begun to put things right. The Secondary Education Modernization Project (SEMP), the first phase of which was completed on schedule in June 2006 and the second phase of which began under a \$35 million ADB loan, has already established computer learning centers, improved and expanded the number of schools offering a full curriculum for the first time in decades, and provided extensive teacher training.

To date, electricity has been supplied to 62 schools. Computer learning centers have been installed in 1,006 schools, and A-level science laboratories in 141 schools. Work to establish O-level science laboratories in 41 schools, to



Scholarship programs have been granted to 17,000 teachers, and a scholarship program for 12,000 students from disadvantaged families qualified for A-level science or commerce class is ongoing.

upgrade libraries in 30 schools, provide water supply to 136 schools, to convert science rooms in 43 schools, and to provide and sanitary facilities in 349 schools is ongoing.

Along with these, support for improving the quality of teaching and learning, and capacity development in school planning and management is ongoing. Master trainers and zonal facilitators have been trained in several areas, such as ICT, and are tasked to provide on-site support to schools and teachers in their respective areas and zones. Scholarship programs have been granted to 17,000 teachers, and a scholarship program for 12,000 students from disadvantaged families qualified for A-level science or commerce class is ongoing.

The project's managers can already point to improved student performance since the start of the first phase, although they caution that it is difficult to pinpoint one single factor for that improvement. Nonetheless, they say that the first phase of SEMP underscores the importance of such things as computer-based and activity-based learning systems, private-sector involvement, decentralized management, and school-based assessment systems for improving student performance.

#### **Starting from Scratch**

Work began from scratch in 2001. "At the time we went into the system around the year 2000, only about 15–20 schools in highly urbanized environments had information and communication facilities open for kids. So we went into an almost total vacuum," said Anura Dissanayake, project director with the Ministry of Education.

As Mr. Dissanayake pointed out, school day ended at 2 p.m., and computer technologies were simply not on the agenda.

Education in Sri Lanka is free in government schools, which make up about 94% of the total, and in state-run tertiary institutions. About 10,000 government schools educate around 4 million students, but low investment means disparities in quality—leaving young people poorly qualified to fill the demands of the market for skilled laborers.

The SEMP's goal is to help young people



PREPARING THEIR FUTURES The project also began introducing a full, modernized curriculum in more schools, including English as the medium of instruction; these schools will provide students with the skills they need to find jobs.



graduate with useful knowledge and skills to compete in and benefit from modern society and a modern economy. Generally, it aims to improve the quality of secondary schools through modern teaching methods and assessment, with a focus on ICT to improve learning and increase educational opportunities for poor students. It also aims to improve the delivery of educational services.

Among its myriad components, the project management the establishment of over 1,000 computer learning centers in schools around the country as one major success—about 200 more than originally planned, with another 351 almost completed—and nearly 2,200 multimedia units, equipped with televisions, video cassette recorders, screens, whiteboards, and cassette players. The aim was for effective training and learning facilities covering all of Sri Lanka.

Computer learning centers are critical for connecting schools to the vast resources of the online world and the array of new teaching and training resources available for computer users.

#### **Involving the Private Sector**

An agreement between SEMP and Sri Lanka Telecom helped provide 1,200 schools island-wide with broadband Internet access. Through its work with the telecommunications provider, said Mr. Dissanayake, the project has encouraged the extension of Internet access into remote

Over 1,000 computer learning centers—about 200 more than originally planned—and nearly 2,200 multimedia units have been established in schools around the country.

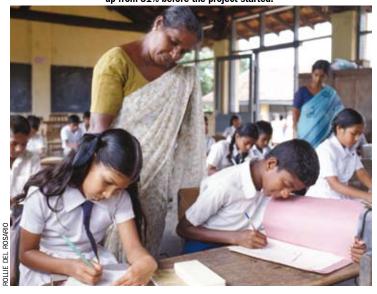
communities where it might have been slower to arrive otherwise.

Training of teachers and principals was given full consideration. Through an "e-citizen guide," 1,398 principals were trained in basic computer-related skills. Some 23,960 teachers were trained using the International Computer Driving License courseware. According to an independent assessment, both numbers are on or close to target.

SEMP also harnessed the potential of the private sector in its teacher and student training. A Microsoft-sponsored competition offered 40 cash prizes for teacher and student-developed education software, and helped the education ministry train another 10,000 teachers. Through a partnership with Intel, 100,000 teachers are being trained in computer education and in facilities management.

By making a full curriculum available in more rural areas, the project is improving access to quality education for poor and remote students.

**REACHING ANOTHER LEVEL** For every 100 students through the system, almost half now pass on to advanced levels, up from 31% before the project started.



The private sector is seen increasingly as a valuable source of funds and ideas for getting resources to the people who need them, in particular, through public–private partnerships. Indeed, such arrangements, which can take many forms, can provide an effective means for reaching the poorest members of society.

#### **Expanding the Curriculum**

Another SEMP success was the expansion of the Sri Lankan curriculum. The project provided materials designed to promote activity-based learning, teaching, and evaluation, as well as application of knowledge. The project then incorporated these materials into the senior secondary curriculum in science, mathematics, environmental studies, technology, commerce, and English.

It provided textbooks on ICT for O-level students, information technology for students at more advanced levels, and CD-ROMs for both levels. Books in Sinhala and Tamil were provided on a range of subjects, including mathematics and social studies.

SEMP also began introducing a full, modernized curriculum in more schools, including English as the medium of instruction, in about 300 schools for the first time in many decades. While Sri Lanka has an extensive network of schools, senior secondary science education, for example, is offered in only 20% of schools. In 2003, 550 Sri Lankan secondary schools offered a full range of courses.

By mid-2006, that number had increased to more than 650 schools and, by 2009, according to Mr. Dissanayake, "we should have 750 schools providing full curriculum at the advanced level. This is a breakthrough; the number was static since 1960."

In particular, by making a full curriculum available in more rural areas—no easy task in Sri Lanka where some areas remain difficult to staff and service due to ongoing civil unrest—the project is improving access to quality education for poor and remote students.

Meanwhile, stipends are being used to try to increase rural students' educational opportunities. As in many countries in the Asia–Pacific region,

Sri Lanka's rural young are often tempted to leave school early to help on the family farm. In Sri Lanka, the dropout rate rises markedly after Grade 9. SEMP offered a scholarship program for 12,000 disadvantaged students who were qualified for A-level science or commerce classes. Scholarships have been promoted and received support from companies such as Microsoft and Redhat. To ease the transition from school to the workforce, an awareness program regarding career guidance units is ongoing in 50 schools, although the Sri Lankan Ministry of Education remains limited in its ability to expand this program due to a lack of capacity.

### **School-Based Assessment and Management**

The project also successfully launched school-based assessment to complement the national examinations system and better monitor performance. Through publicity campaigns, the Government helped "sensitize" employers to the implications of school-based assessment.

School-based management, introduced system-wide in phase one of SEMP, was more controversial. Introduced to decentralize control of the school development to a board that includes principals, parents, community members, senior students, and others, he said it raised concerns that the private sector was creeping into school management.

After consulting with the concerned parties, the name was changed to "Programme in School Improvement," with a categorical assurance that no private companies would be represented on the board.

#### Signs of Life

Originally, SEMP's goal was to see an additional 1 million students pass their O-level exams. At the time of design in 1999, about 31% were passing the exams to enter advanced levels. "For every 100 students through our system, 70% were failing. We wanted to lower that to 50% (about 1 million) by 2007," said Mr. Dissanayake. In the 2006 results, the passing rate was 49%, putting the target in sight.

He was cautious not to attribute the gain

STEPPING FORWARD With the project's help, children in even the most remote rural areas will have the chance to get the best education to fill the demands of the dynamic job market.



Sri Lanka's rural young are often tempted to leave school early to help on the family farm. The project provides stipends to increase rural students' educational opportunities.

to any one factor, but pointed out that in the past, in science and mathematics, or English, for example, the system was using the "blackboard-and-chalk" method of teaching.

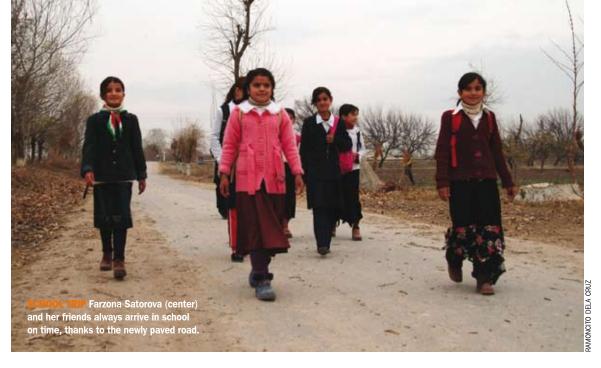
Using computer-based and interactive methods, the teachers enhance their performance and more students become involved in lessons. The multimedia units also helped. "All of it helped break the traditional classroom learning environment. Teachers now have to be better; kids have to listen and cannot just sit back and play," said Mr. Dissanayake.

#### **PROJECT INFORMATION**

Secondary Education Modernization Project (2000–2006)
Financing: \$50-million ADF loan, \$7 million in cofinancing
from the Nordic Development Fund, and \$19 million
contributed by the Government and beneficiaries

Secondary Education Modernization Project II (2004–2010) Financing: \$35-million ADF loan, \$12 million contributed by the Government and beneficiaries





## **Road Out of Poverty**

Improvements to a key road artery in Tajikistan bring a host of benefits to impoverished communities: better access to schools, hospitals, and markets.

By Ramoncito dela Cruz

**KHALTON**—Thirteen-year old Farzona Satorova used to dread the short walk from home to her nearby school, especially in winter when she would sometimes arrive with her clothes and books covered in thick, sticky mud.

"It was very difficult to come to school," the sixth-grade student said, recalling that she often lost her balance in the quagmire churned by rain and snow on the dirt road.

Things were a little better in summer when Farzona and more than 600 of her schoolmates at Secondary School No. 23 in Khatlon province had to brave dust, sandstorms, and temperatures that typically reach 40° Celsius or more. The province has a poverty incidence rate of 91%.

Exasperated by the trying conditions her students had to endure, school principal Amonova Saida approached a group of ADB executive directors visiting a neighboring town in 2005. They were monitoring a road project.

"I showed them the poor road condition to our school," she said. "I told them that students were coming to school very late and very dirty."

As a result of her initiative, ADB decided to include the 333-meter-long road in its Dushanbe–Kurgan-Tyube–Dangara–Kulyab Road Rehabilitation project, which began in 2001 and had paved over 90 kilometers (km) of roads by the time it ended in 2006.

The project also rehabilitated five major sections of the highway linking Dushanbe—the capital city of Tajikistan—and Kurgan-Tyube and Kulyab cities, covering a total of 120 km. This highway, built during the Soviet era and running through the country's main wheat and cotton producing areas, was devastated by civil war and had not been restored for more than 20 years.

"Prior to the rehabilitation, we received a lot

of complaints about loss of time on the road," said Hakimov Nizom, executive director for Road Rehabilitation in the Project Implementation Unit. Before the work, travel time on the 100-km Dushanbe–Kurgan-Tyube section used to take 2½ hours; now it can be covered in just an hour.

#### **Access to Medical Care Improved**

The road improvements have also been a blessing for those seeking treatment from the government-owned medical center just outside Khurasan District.

"We used to see only a handful of patients each day. Now, around 40 to 50 patients come in everyday, and the number is increasing," said Dr. Mirzoev Orif.

One beneficiary is 25-year-old Parvina Shukurova who came in for a post-treatment consultation on her inflamed tonsils, something she says she would not have done if the road was not good, although she lives just 2 km away from the center.

It is also good news for pregnant women because, in the past, some were forced to give birth at home because of the poor road conditions that made it difficult to get to hospital in time.

According to a 2006 survey commissioned by the Ministry of Transport, 90% of respondents said that because of the rehabilitation work, it took them less than half an hour to get to the closest health facilities, up sharply from 50% in an earlier survey in 2002.

In a 2006 Ministry of Transport survey, 90% of respondents said that because of the road rehabilitation, it only takes them less than 30 minutes to get to the closest health facilities, a 50% improvement from 2002.

The improvements have also lowered fuel costs for transporting medical supplies and boosted market access for agricultural goods, something that farmer and livestock breeder Aitov Mahmodmurod, who lives by the main road in Khurasan District, is grateful for.

"It now takes less time for us to go to the market," said the 53-year-old Mahmodmurod, who sells wheat and goats in the town market.

He noted that his income has improved as more people flock to the market to buy farm products. Moreover, he has been able to buy a car and extend his one-storey mud hut from four rooms to six to accommodate his growing family.

#### **Transport Volumes Increased**

According to a Ministry of Transport study, freight transportation volume on the main highway reached 55.1 million tons in the first 9 months of 2006, up sharply from around 28 million tons for the whole of 2000. Freight fares meanwhile have decreased by nearly 20% from 2002 to 2005 due to the faster flow of goods and improved quality when arriving at their destination.





ENTREPRENEURS Young peasants, such as Solehov (above, third from the right), sell pomegranate fruits to drivers going to and from Dushanbe City. The rising traffic volume, which has doubled since 2002, has resulted in the proliferation of small business stalls along the highway.

Another study by the ministry showed that overall traffic volume on the main road doubled between 2002 and 2005, rising between 8.5% and 24.9% annually, depending on the rehabilitated section. Traffic on rural roads has also increased.

As a result, some residents living near the highway have set up roadside stalls selling petrol, fruits, vegetables, soft drinks, and bottled water to serve the growing number of drivers, some from as far away as Afghanistan. The 2006 study also shows that the number of small businesses along the route increased by at least 20% in just a year.

One vendor, 45-year-old C. Solehov, said that he and his family have been able to take advantage of the increased traffic to sell baskets of pomegranates to supplement their income that comes mainly from cotton.

For Mahmodmurod, who has struggled to make a living as a marginal farmer, the road improvements promise a better quality of life for him and his family, especially his two grandchildren, now aged 3 and 4.

"My wish is that we can send our grandchildren to university someday," he said, noting that they would be the first in the family to do so.

FORWARD PLANNING The grandchildren of Aitov
Mahmodmurod (below), an Uzbek farmer who lives by the main
road in Khurasan District, look forward to a brighter future
because of higher income from better access to the market.



Although freight volume reached 55.1 million tons in the first 9 months of 2006, compared to 28 million tons in 2000, fares have decreased by nearly 20% from 2002 to 2005 since transporting goods take less time and are in better quality when arriving at their destination.

Ministry of Transport study

#### **PROJECT INFORMATION**

Road Rehabilitation Project (2001–2006)
Financing: \$20-million ADF loan, \$4 million in cofinancing from the OPEC (Organization of Petroleum Exporting Countries) Fund, and \$2.8 million contributed by the Government



# A New Flow of Opportunities

An emergency loan to fund repairs to Tajikistan's troubled water supply reduces waste, boosts farm productivity, and improves incomes.

By Ramoncito dela Cruz

**LOIKASAI**—It was the day before *Idi Qurbon* (the Feast of Sacrifice) and the normally bustling hillside village of Loikasai was almost deserted.

Under ordinary circumstances such a sight might have been viewed with concern. But 33year-old shop owner Kudrat Safarov said it was a good sign, with most of the villagers gone to the nearby town to sell vegetables and buy food for the 3-day religious festival.

The scene is testimony to a turnaround in the once impoverished Uzbek minority village's economic fortunes, aided in no small part by the revival of its water supply system damaged in an earthquake in May 2001.

The quake cracked the intake structure of

the Loikasai siphon, leaving 56,000 people, 65,000 livestock, and 11,724 hectares (ha) of farmland without water.

Soon after the incident, ADB sent missions to inspect the damage before approving an emergency loan of \$3.6 million which was used to partly cover the cost of rebuilding the siphon, and to construct a 4.2-kilometer bypass canal.

The project also repaired the Vakhsh–Yavan tunnel and the Pravaya Vetka main canal. Although undamaged by the quake, the structures built in 1968 were in poor condition, with malfunctioning and missing gates, that resulted in wasted water. The 30-year-old steel pipelines in two other siphons in Ishmasai (Yavan District)

and Shurchasai (along the boundary of Yavan and Khojamaston Districts) were replaced with fiberglass pipes which have a longer lifespan of 70 years.

Completed at the end of October 2003, the system now discharges 167 cubic meters per second of water to three districts in southern Tajikistan—Yavan, Gozimalik, and Khojamaston. All three districts have high poverty incidence levels of around 90%.

#### **Harvests Improve, Incomes Rise**

The improvements have boosted villagers' disposable income, according to shop owner Safarov. Most people living in the three villages in the Yavan District, which now enjoy a steady supply of clean water for household and irrigation use, earn their living from vegetable and livestock farming.

"I used to earn only 100 somonis (TJS) (around \$29) a day, now the store is earning TJS1,000 (around \$290) a day," Safarov said. The roadside business sells basic household items ranging from salt, sugar, and cooking oil to jackets, rugs, and house ornaments.

"The cotton harvest is much better. The number of cattle and livestock has increased," said Shermatov Ochildi, who lives in Loikasai Village and teaches Uzbek literature and language at the local school.

"The children have better clothing than before," he commented, reflecting the improved standard of living in the local population because of the rebuilt water system.

The increase in income has allowed some



SIGNS OF THE TIMES Kodur Yormatov can now afford his own car.

villagers to buy cars, including 49-year-old Kodur Yormatov who is a supervisor of the water supply system.

"We didn't have much income before (the reconstruction of the canal)," says Yormatov. Now he owns an Opel that costs \$5,000 and supplements his government wages with harvests from a small plot of land just outside his home.

#### **Better Health Care, Better Quality of Life**

Homidjon Hasanov, Deputy Minister of the Ministry of Land Reclamation and Water Resources, noted that in addition to providing a clean and stable flow of water, the system is regulated to ensure that people do not go without supplies even in the harsh summer months when temperatures can rise as high as 45° Celsius in this arid region.

The result has been bountiful harvests for farmers in the area, according to data from the Ministry of Land Reclamation and Water Resources.

In Gozimalik district, the area of irrigated land more than doubled to 13,632 ha in 2003 from 6,431 ha in 2000. The cotton harvest yield increased to 2.3 tons per ha from 0.93 tons in 2000, while the wheat yield rose to 2.74 tons per ha from just 0.86 tons in 2000.

The better quality water has also boosted the health of villagers in Loikasai. "There are less sick people now. We get only seasonal sickness such as flu," community doctor Tangiberdiev Abdumumin said. He used to see 10 patients a day; now, he treats just two or three.

The health gains are also due to a vaccination campaign in the village and better sanitary conditions, he said. "I need clean water to cleanse my medical equipment," notes Dr. Abdumumin who has been serving the community from his two-room clinic for the past 4 years.

#### **PROJECT INFORMATION**

Emergency Restoration of Yavan Water Conveyance System (2001–2004)

Financing: \$3.6-million ADF loan, \$900,000 contributed by the Government



# **Educating Future Professionals**

An education project is helping Viet Nam meet the labor demands of its booming economy.

By Jet Damazo

**LAO CAI**—Inside newly built libraries in upper secondary schools in Lao Cai, scores of students can often be found each afternoon, poring over rented books and hunched over their homeworks. The schoolwork is difficult, says Nguyen Thu Trang, but fun. More importantly, it gives the students a chance to fulfill their dreams of going off to college and becoming professionals.

The new libraries and books are part of a \$55-million project approved by ADB in 2002 that is helping the Government to gradually expand upper secondary education.

"The Government's goal is to expand upper secondary education by 2010, focusing on

industrialization and economic modernization. Quality improvement is of highest priority," says Eiko K. Izawa, an ADB education specialist and the project leader.

#### **Solid Human Resource Base**

In Viet Nam, as in most countries, education is viewed as strongly linked to economic growth; to invest in education is to invest in long-term socioeconomic development. The national education policy rests on the central pillar of rapid human resource development to meet the labor needs of a highly competitive market economy, within a socialist framework to ensure a high degree of equity.



In 22 of the most disadvantaged provinces in the country, over 800 new classrooms now serve as second homes to thousands of students, with about 1,200 more on the way.

Before the project came along, dreams of students living in remote disadvantaged areas of becoming teachers, doctors, or engineers seemed impossible to achieve. Despite the impressive expansion of schooling in the late 1990s, with primary education becoming nearly universal in 2000, much remained to be done to improve the quality of secondary education, particularly of the upper secondary level which can directly contribute to enhancing human resource development.

Only one out of every three Vietnamese teens aged 15–17 years had access to upper secondary education, and the numbers were far more dismal for ethnic minorities. Disparities in enrollment were also significant between rural and urban areas, between the poor and nonpoor, and between boys and girls.

At the same time, the country's employment structure was heavily skewed toward agriculture, which accounts for 70% of the total workforce. In rural areas, over 90% of the workforce had no

QUALITY EDUCATION A new, diversified curriculum; new textbooks and workbooks; and modern teachers' guides are implemented in 11 provinces, giving thousands of Viet Nam's youth the best training to get better employment opportunities.





formal training, while a mere 1.7% had college or university degrees.

If it was to meet the labor demands of its booming economy in a post-World Trade Organization affiliation period, Viet Nam had to both improve and expand access to education.

"The country's economic climate calls for the improvement of education," adds Ms. Izawa. "In order to achieve a sustainable and inclusive growth path and to survive in a globally competitive economic environment, the country needs to build a solid human resource base with adaptable skills."

#### **Classrooms Built, Teachers Trained**

Today, in 22 of the most disadvantaged provinces in the country, over 800 new classrooms now serve as second homes to thousands of students, with about 1,200 more on the way.

"The classrooms have enough space for group study activities, and teachers can manage the

UNEVEN ODDS Ethnic minority youth remain at a disadvantage, particularly in accessing secondary education, and are more likely to repeat grades or drop out of school than other students.



lessons more effectively with the instructional materials and equipment provided by the project," said the Si Ma Cai No. 1 school principal.

To address quality issues, the project is supporting the Government's dissemination of a new, diversified curriculum—along with the accompanying textbooks, teachers' guides, and workbooks—to 11 provinces. Thousands have been given training—core trainers on the new textbooks, school principals on education management, and core teachers on quality enhancement.

In addition, over 8,500 teachers and 300 school principals have now been trained in student-centered teaching methods—far beyond the target of 2,700 teachers and 55 principals. "Students can learn much more actively by this method," said Mr. Trinh Khac Binh, a math teacher in Si Ma Cai No. 1.

A school in each of Viet Nam's 64 provinces has also been given instructional materials and equipment so it can demonstrate to others their effective use.

Since the remoteness of their homes from the schools discouraged many ethnic minority youth, boarding facilities were provided. For poor students, scholarship schemes were developed.

#### **Targeting Ethnic Minorities**

Ethnic minority youth in the country remain disadvantaged with regard to education, particularly secondary education. From 1993 to 2002, net enrolment rate at upper secondary schools increased slightly from just 2.1% to 19.3% for ethnic minorities, compared with 7.9% to 45.2% for the Kinh. Worse, ethnic minorities are more likely to repeat grades or drop out of school than other students.

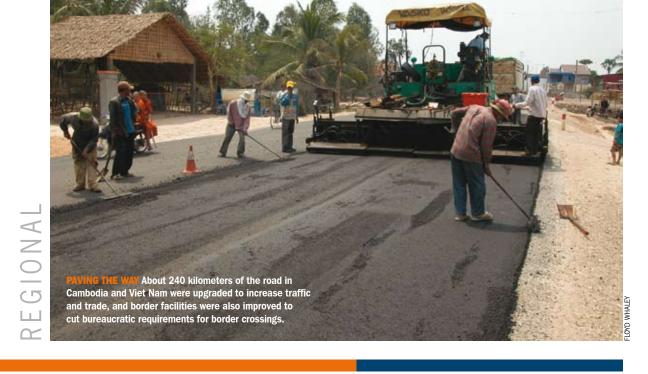
A component of the project financed by the Japan Fund for Poverty Reduction has been specifically addressing constraints to the participation of ethnic minority youth in education. Since the remoteness of their homes from the schools discouraged many, boarding facilities were provided. For poor students, scholarship schemes were developed. For those simply not interested in school, a youth leadership orientation program was devised to provide role models and an appreciation of secondary education.

By project completion in 2009, Viet Nam will have over a hundred thousand new, skilled workers that can help sustain its booming economy. From another perspective, this also means that over a hundred thousand Vietnamese children will have then been given a chance to fulfill their dreams.

#### **PROJECT INFORMATION**

Upper Secondary Education Development Project (2002–2009)

Financing: \$55-million ADF loan, \$25 million contributed by the Government and beneficiaries



# **Road to Opportunity**

Upgrading the road link between Phnom Penh and Ho Chi Minh City marks a milestone in the Greater Mekong Subregion (GMS) initiative to promote economic cooperation in a formerly conflict-torn area.

By Floyd Whaley

**PHNOM PENH**—Chim Somphorse cradles her 10-month-old son, Chea Dy, in the back of a tidy motorcycle shop in southern Cambodia. Nearby, her husband, Chea Noeun, works quietly on a motorcycle engine.

Before the highway between Phnom Penh and Ho Chi Minh City was improved and brought a steady flow of motorcycles and other vehicles to the area, Chim Somphorse worked in a garment factory.

Today, she and her husband run a small motorcycle repair shop that also sells gasoline and helps repair flat tires. She earns about the same amount of money, but her time is spent with her family rather than at the factory.

"Life is easier now," she said. "We own our own business and I can stay with my baby all day." The Phnom Penh–Ho Chi Minh City Highway, where the motorcycle shop is located, is the first multicountry ADB loan project that covers both Cambodia and Viet Nam. It marks a milestone in the Greater Mekong Subregion (GMS) initiative to promote economic cooperation in a formerly conflict-torn area.

The project began in 1998 when ADB approved loans amounting to \$40 million for Cambodia and \$100 million for Viet Nam to upgrade an existing—but rough—road between the two cities.

About 240 kilometers (km) of the road—160 km in Cambodia and 80 km in Viet Nam—were upgraded to increase traffic and trade between Cambodia and Viet Nam. Border facilities were also improved and efforts are under way to cut bureaucratic requirements for border crossings.

"This is one of the first borders in the GMS where we are trying this," said Nou Vaddhananak, project manager for the Cambodian component of the highway. "This is a model project."

#### **Smooth Road Leads to Business Boom**

What used to be a long, grueling ride over rough road is now a much quicker trip over mostly smooth, paved surfaces. Tour buses can now be seen zipping between the two cities throughout the day, and restaurants and other businesses line the highway, offering conveniences for travelers.



"Traffic on the road increased immediately after it was improved," said Javed Sultan, a member of the ADB consulting team that supervised the Vietnamese section of the highway. "In fact, the highway has become so popular so quickly that we now have bottlenecks in some areas that we need to work out."

According to an ADB report, each year between 2003 and 2006, the total value of trade through the border increased by about 41%, the number of people crossing the border increased by 53%, and the number of vehicles crossing the border grew by 38%. The growth in traffic alone generated more than \$450,000 in toll revenue for the Government of Viet Nam in 2004.

In Cambodia, travel time from Phnom Penh to the border has been reduced by 30%. Similar reductions have been achieved in Viet Nam, especially in urban areas. Several bus routes have reduced their trip times by about 28%.

BIG GAINS Cheng Sophon (below), a 32-year-old fruit vendor, has seen a dramatic rise in business and customers now that more people travel between Cambodia and Viet Nam. Situated by the highway, Chea Noeun's motorcycle shop (left) is now doing brisk business in repairs and selling gasoline.



LOYD WHA!





**BOOMING TRADE** The increase in both passenger and goods traffic from Viet Nam has led to the rise of several hotels and restaurants (left) in Cambodia.

economic benefits, including higher levels of traffic, improved traffic flow, increased transport of goods, higher toll revenues, and enhanced bus services for passengers using public transport," an ADB study noted.

Dramatic Rise in Land Prices, Industry Do Ngoc Dzung, vice general director of the

"The project continues to produce sizable

"The project continues to produce sizable economic benefits, including higher levels of traffic, improved traffic flow, increased transport of goods, higher toll revenues, and enhanced bus services for passengers using public transport."

ADB study

Do Ngoc Dzung, vice general director of the Ministry of Transport, who is overseeing the project on the Vietnamese side, said the impact of the road on the area near Ho Chi Minh City has been significant. For instance, new industrial areas have already been built near the project roads, with one industrial area employing over 10,000 people.

"Trade between the two countries, including fish and sugarcane, is increasing," he said.

At the Cambodia side of the border, the increase in both passenger and goods traffic from Viet Nam has led to the rise of several hotels that attract large numbers of tourists. Ancillary services, such as restaurants and gas stations, have also increased along the road. An industrial park close to the border has

also recently opened, providing employment opportunities for the local residents.

The most visible manifestation of increased road use is the tour buses that can be seen throughout the day. Highway improvements have resulted in reduced travel time and ticket prices for passengers, and lower maintenance costs for bus companies and other road users.

"In addition, firms are producing higher-quality service with larger, more comfortable, and, in some cases, air-conditioned buses," the report said. "Transport companies are employing more drivers, using more vehicles, moving more passengers, and generally operating more frequent trips between destinations."

The faster travel time and more comfortable buses have pushed up demand for bus tickets between the two cities. This has triggered fierce competition among bus companies, which have reduced ticket prices from \$20 one way to as low as \$5.

For travelers between Ho Chi Minh City and Phnom Penh, this new fast and affordable land link means an end to long and difficult overland journeys on rough roads—or expensive flights.

For Cheng Sophon, a 32-year-old fruit vendor who works on the Cambodian side of the highway, the growth in traffic flow has resulted in an increase in her income. She uses the extra money to buy books and support her 12-year-old son and 9-year-old daughter.

"My business has doubled since the road was improved," Ms. Sophon said. "There are customers all day now and they are not only Cambodians, but also Vietnamese and people from other countries. The whole town is busier now."

Mr. Dzung, who is with the Viet Nam Ministry of Transport, points out that the greatest economic benefits from the road are still to come as its use increases.

"This road is a major contribution to the economic development of Ho Chi Minh City and an important way for us to work together with our neighbors," he said.

#### PROJECT INFORMATION

Phnom Penh to Ho Chi Minh City Highway Project (1998–2006)

Financing: \$40-million ADF loan, \$10.7 million contributed by the Government





#### **About this Publication**

Since 1973, the Asian Development Fund (ADF) has been a major instrument for enabling equitable and sustainable development for the Asia-Pacific region through concessional financing. ADF, funded by ADB's donor member countries, offers grants and loans at very low interest rates to help reduce poverty in ADB's poorest borrowing countries.

Since 2001, ADF has provided more than \$1.5 billion a year for programs that help poor families escape poverty. During 2006–2007 alone, 95 loan and grant projects totaling \$4 billion were made to 21 developing member countries, and projects were put in place that would affect several countries simultaneously. In this publication, we tell the stories of people whose lives have been improved, thanks to the ADF.

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ADB is a multilateral development bank owned by 67 members, 48 from the region and 19 from other parts of the world. ADB's main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

ADB is based in Manila, Philippines. It has 26 offices around the world and more than 2,000 employees from over 50 countries.

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