



ADB

Today's People, Tomorrow's Prosperity

Reviving Growth in Central and West Asia

Asian Development Bank

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INTRODUCTION

Central and West Asia: home of the Silk Road and its historic merchant capitals of Bukhara and Samarkand, Herat, and Kashgar; of the fertile fields of the Fergana Valley; and of the many cultures of the Caucasus. The region is rich in diversity.

And just as this region once joined distant and diverse peoples in antiquity, its connections are being revived to do the same again. The Central Asia Regional Economic Cooperation (CAREC) program brings together Afghanistan, Azerbaijan, the People's Republic of China, Kazakhstan, the Kyrgyz Republic, Mongolia, Tajikistan, and Uzbekistan to build transport links, encourage new trade, and promote energy security and efficiency.

"Where caravanserai once stood, there are now new trading routes and four-star hotels welcoming tourists from all over the world," says Juan Miranda, director general for ADB's Central and West Asia Department.

Nearly 20 years since many of these countries emerged from the collapsing Soviet Union, ADB continues to help them rebuild and reform vital services and infrastructure.

In 2009, ADB approved \$3 billion in lending to Afghanistan, Armenia, Azerbaijan, Georgia, Kazakhstan, the Kyrgyz Republic, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan.

In Uzbekistan, people are turning traditional craftsmanship into profitable enterprise with small

and microfinance grants. In Azerbaijan, a flood mitigation project has created a safer environment for more than 200,000 people.

In Afghanistan, loans totaling \$110 million have helped build a mobile phone network, reconnecting displaced families and linking business owners to information. In the Kyrgyz Republic, improved education is helping students prepare for a demanding international economy.

ADB also provides emergency assistance. Since Pakistan's earthquake of 2005, ADB has worked hard to help the victims rebuild their lives.

Everywhere new roads and rails are bringing people together. One regional railway project will connect Mazar-e-Sharif in Afghanistan with Hairatan near the Uzbek border, and eventually extend into Pakistan and Tajikistan. A road program in Armenia will link its southern and northern regions, connecting to railways in Georgia and its Black Sea ports.

ADB opened a resident mission in Georgia in 2009, 2 years after it joined ADB, and has also just announced it will open a resident mission in Turkmenistan.

With help from these and other resident missions, ADB and its developing member countries are driving integration and economic growth in the region.

"The Silk Route awakes and trade is booming," says Miranda.

- **A better road** ADB supported the construction of this road, from Bishkek in the north to Osh in the south of the Kyrgyz Republic. The Too-Ashuu pass shown here makes trucking goods through the mountains easier and cheaper



Small Grants Create Big Impact

Small grants through credit unions in Uzbekistan are transforming rural women into entrepreneurs, improving not only their incomes but also their opportunities

By James Hutchison

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BUKHARA, UZBEKISTAN

In 2009, Sabohat Adizova, 30, wanted to expand her beauty salon in Bukhara, but she needed bigger premises in a better location. Her husband was supportive, but without a mortgage or collateral, a bank loan was out of the question. They decided to seek advice from her aunt, Mahbuba Shodieva.

Besides running her own successful construction business, Shodieva was a member of the Bukhara Business Woman Association (BBWA) and a local agent for Umid ("hope") Credit Union, the second largest in Uzbekistan. Shodieva helped her niece join more than 4,000 other members of Umid, and a loan was quickly arranged. Adizova attended BBWA training seminars on how to run a small business and how to draw up a proper business plan. These seminars included interactive

exercises, with trainers playing the role of banking officers so borrowers would not be intimidated when they went to the bank for the first time.

Beauty and the Business

In August 2009, Sabohat opened the doors to her new beauty salon in the Jondor district of Bukhara City. She called it *Bahor*, which means “spring” in Uzbek. Today, her shop is so busy she has hired another hairdresser.

a client’s hair. “And the training really helped my confidence.” She has already expanded next door and started a wedding dress rental business.

Sabohat benefited from the legacy of the ADB project Training of Women Entrepreneurs in Bukhara—one of 33 small projects of between \$10,000 to \$20,000 a year funded under ADB’s \$850,000 Gender and Development Initiative. The initiative provided seed money to nongovernment organizations such as BBWA.

“Without the Business Woman Association and help from the credit union, I would have made some big mistakes,” says Sabohat, as she styles



- **Threads into gold** Embroidery is common in traditional Uzbek handicrafts. Nurhon Irgasheva has turned this piece of her heritage into a thriving business. Her hand-sewn Uzbek furnishings with gold embroidery are the finest around, and so popular that she now has 70 employees to help her meet domestic and international demand



- **Measuring success** ADB aimed to have 600 women join the Umid Credit Union. Over 1,000 did. The credit union and the Bukhara Business Women's Association are linking these women to the resources and training they need to establish successful businesses and earn more money

Chairperson of both BBWA and the Association of Credit Unions, Dilbar Akhmedova, said that between 2000 and 2007, the modest grants have reaped big results by training unemployed women in rural areas and helping hundreds of women kick-start new businesses.

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Nationally, the BBWA has 5,000 members, who have created over 70,000 jobs and trained over 24,000 women. The Bukhara branch has trained 700 women through seminars and workshops, with 80% of them starting their own business.

"We don't just offer women counseling on how to start a business," Akhmedova says. "They also need to know how to obtain loans from banks, and work with the labor office, the Chamber of Commerce, and local community organizations."

Inspiring Excellence

Nurhon Irgasheva creates the finest hand-sewn traditional Uzbek gold-embroidered furnishings available. In 2002, her 2-year-old business was thriving. Orders included a gift for Uzbekistan President Islam Karimov to present to US President George Bush during a visit to the White House that year. With the increase in business, the 44-year-old mother of three desperately needed a 3-year loan of 1 million Uzbek sum (about \$650) to buy raw materials to expand her business and hire more workers.

But Irgasheva had no credit record or a mortgage, and so commercial banks refused to lend to her. A friend suggested she contact Dilbar Akhmedova at BBWA. Because credit unions specialize in short-term loans, Akhmedova put Irgasheva in touch with the local labor office, which approved the loan. Impressed by the knowledge and network contacts of BBWA, Irgasheva joined and borrows regularly from the Umid Credit Union.

Established by 14 BBWA members in 1997, Umid is now the biggest of seven credit unions in Bukhara *oblast* (province). BBWA's offices are on the second floor of the credit union building, which credit union members paid for with credit union funds.

"Instead of waiting up to a month for a short-term, 3- to 6-month loan from the bank, I can get my application approved right away by the credit union," Irgasheva said. Now she has work from the Russian Orthodox Church and receives orders from other countries, including for embroidered curtains for a French castle. She has 70 employees and many prefer to work from home, also benefiting from a presidential resolution making



them exempt from taxes to encourage such home-based businesses for women.

Irgasheva attended BBWA's training seminars for women entrepreneurs, funded by the ADB project, and advises other women who want to start their own businesses. Her husband, Odil Akhtamov, is proud of her. "I am so lucky to have a supportive husband who I can discuss everything with," she says. Two of her three children are now studying in Tashkent and her daughter wants to join the family business. "With the credit union and the association, advice or money is just a phone call away," said Irgasheva.

Akhmedova says that one of the big advantages of credit unions is fast processing. Customers can walk away with loans in cash in 1 or 2 hours. A mortgage for a house, apartment, or car takes 3 days. "The bank takes 10 days and up to 2 months to process a loan," she says.

Sweet Rewards

When her husband died 3 years ago, Hushvagt Djuraeva, 47, was able to provide for her five children with profits from her sewing business and pastry shop, which combined employ 14 people. She got into business in 2004 after entrepreneur

training with BBWA. "The training gave me the skills I needed to run a business," she said. She is now a BBWA trainer.

A big problem in rural areas, says Akhmedova, is that many women are poor and have no say in household budgets. "They are expected to stay at home, so we support women to overcome this," she says. Twenty women farmers in one district wanted to borrow money from the bank to rent land for farming businesses, but the family land they wanted to use as a mortgage legally belonged to their husbands. "They all agreed to change to joint ownership after we explained the problem."

Sabohat Kulieva, 48, opened a pastry shop 18 kilometers from Bukhara in 2001. She has been training 19-year-old Zebuniso, who gave only her first name, for 3 months in the pastry business. "My dream is to open my own pastry shop," says Zebuniso. "With this training I can see how to make it a success."

Kulieva's business is growing and she caters for weddings and special events now. "Women need the kind of knowledge I learned at BBWA seminars," she says. "We have to understand the laws and how to handle money, and properly deal with documents. ADB projects supporting training were very important."

Credit Union Agents for Change

The second phase of ADB's Training of Women Entrepreneurs in Bukhara began in 2006. The Agents Network for Credit Unions in Bukhara, a 12-month project, was set up to train five BBWA members as credit union agents. The goal was to spread the word about the benefits of credit unions and microcredit and to attract more women—especially those in isolated rural communities. Five agencies were set up in Bukhara, some in remote districts where access to financial services was most needed.

Women selected for training were all BBWA members with more than 10 years' experience. Mahbuba Shodieva, 53, Sabohat Adizova's aunt who helped her with her beauty salon, was one of the agents.

In March 2006, after 2 months' training by five credit union experts, Shodieva and the four others went to work in their assigned districts, handing out cards, holding meetings, and showing video presentations. The project exceeded its goal of reaching 600 women: those seeking information swelled to 4,144. Over 1,000 new members joined Umid as a result of the project.

"It is a struggle to accommodate all the women who want training, but it is the most important thing we can do to improve the status of women," says Akhmedova. "The training and the confidence it brings means they can succeed at their business." ■

Project Information

Gender and Development Initiatives (2002–2005)

Financing: \$843,749.88, Japan Special Fund (ADB)



Inspiring Children

Early childhood education programs in the Kyrgyz Republic are improving the health, nutrition, and psychosocial development of young children

By Philip Wood

DOBOLU, KYRGYZ REPUBLIC

Conventional wisdom says children absorb as much in the first 5 years of life as they do in all their later years combined.

In the tiny Kyrgyz Republic village of Dobolu, however, there was little in the way of stimulation. The adults were busy working—mostly in cattle breeding—and their preschool-aged children generally stayed at home with grandparents or family friends.

"The little kids in this village were being raised by the neighborhood," said Cholponbek Tilenbaev, an ADB education project coordinator in Naryn district. "It was a purposeless existence for them."

In decades past, children throughout the Kyrgyz Republic benefited from comprehensive preschool institutions that offered education for all. But the years following independence in 1991 saw cutbacks in these critical areas, leaving many poor communities like Dobolu to fend for themselves.

"After the breakup of the Soviet Union there was nothing here at all," said Tilenbaev. "Nothing."

Preschools: A Keystone

This lack of formal preschool education also meant that children were less likely to benefit from the range of nutrition and health benefits that had once been offered at school. Fewer school meals and immunizations had a negative impact. In 2001, for instance, an estimated 7% of children in the Kyrgyz Republic were malnourished, and there were high incidences of easily preventable diseases.

It was against this backdrop that ADB in 2003 approved the \$10.5 million Community-Based Early Childhood Development Project to help the government improve the health, nutrition, and psychosocial development of children up to 8 years of age in the poorest mountainous areas.

The project takes a holistic approach that embraces child health and nutrition, early development and care in the home, and training in villages and communities.

The project is geared toward the 12 poorest districts in the country and has established some 300 community-based kindergartens. Thanks to the scheme, preschool attendance has increased



- **Starting early** The project takes a holistic approach that embraces child health, early development, care in the home, and training in villages

dramatically. In the mid-1990s, only 2.5% of children attended preschool; today, that figure stands at 28%.

As well as making funds available to rehabilitate or construct school facilities and build playgrounds, the ADB project provides health and nutrition services and teacher training programs.

Engaging Students and Parents

The new kindergarten in Dobolu is a prime example of the program in action.

Dozens of rosy-cheeked children dart around the schoolyard, chasing one another and scaling the colorful apparatus in the brand new playground. Inside, bright and warm classrooms are filled with the sound of games and laughter.

Shelves are lined with volumes of children's literature—and there are books on parenting, as well.

Principal Toktobubu Chokurova says the books on parenting are an integral part of the project that aims to teach adults about various aspects

of raising infants, early child education, gender issues, and health. Some 17,000 parents have taken courses in these areas as part of the project.

The kindergarten has changed the texture of life in Dobolu beyond recognition. Parents see a difference in their children, and teachers of successive grades can recognize signs of accelerated development as well, says Chokurova.

"The greatest feedback comes from teachers at the first-grade level," she said. "They can immediately spot a child who has been through our program and a child who hasn't." ■

Project Information

Community-Based Early Childhood Development (2006–2010)

Financing: \$2.30 million, Japan Fund for Poverty Reduction (ADB); \$10.50 million, Asian Development Fund (ADB); \$2.57 million, Government of the Kyrgyz Republic; \$400,000, communities



Preparing Students for a Modern Economy

Through an education grant from ADB, the Kyrgyz Republic has revitalized its education sector, providing the basics that will prepare students for good jobs and creating a new curriculum to ready all school children for work in a modern economy

By Kaarmanbek Kuluev

- **Brave new world**
A new computer center and language-learning lab in this Kyrgyz school are giving students a chance to compete in today's modern, technologically advanced, and international economy

PANFILOV, KYRGYZ REPUBLIC

Gulnaz Emilbekova is a 10th-grade public school student who hopes to become an airport dispatcher—someone who communicates with flight crews about safety regulations, weather conditions, and flight plans.

To do that, she needs to achieve a certain competency in English.

“I used to learn English from books, but never heard it in real life,” says Gulnaz, who lives in the northern part of the Kyrgyz Republic. “We don’t have foreigners in our village.”

Fortunately for Gulnaz, her school in Panfilov is among 90 that benefit from an education grant from ADB. With ADB assistance, the school has a new computer center and language laboratory, as well as improved heating and lighting.

Illuminating Ideas

Bashova Tatiana, one of the longest-serving teachers at the Panfilov school, describes the period before the project as the “dark times.”

“Even lighting was a serious issue for us,” says Tatiana, who is the recipient of a Soviet-era award for excellence in education. “Now we have these fluorescent lamps, which make reading easier.”

During the long winters, students can concentrate better on their studies because the school has a new heating system that keeps them warm. And Anara, a 14-year-old orphan, appreciates the new dining hall built in her orphanage, which is attached to the school.

The school’s new language laboratory is a boon for students like Gulnaz. Before, with limited opportunities for learning English, she thought she might become a flight attendant, but now she can aim for something she finds more challenging. “I can hear and practice my English,” she says.

Moving at the Speed of Knowledge

Under the Second Education Project, ADB is also supporting the Ministry of Education to modernize the school curriculum; publish new textbooks; and train teachers for schools in rural areas and in poor communities where school facilities have been poor and attendance low.

Through this modernization, government officials hope to change the entire concept of education in the country.

“We live in a world which is changed by technological progress, where communication is faster than ever,” says education specialist Gulmira Artykbaeva. “Knowledge gets out of date faster than our schools teach it to pupils.”

ADB has funded research on a new curriculum, as well as the publication of first-grade textbooks to be introduced in 2010. Textbooks for higher grades will follow later.

After the disintegration of the Soviet Union in 1991, the economy of the Kyrgyz Republic collapsed, marked by a 50% drop in gross domestic product. Subsequently, education, and the near-universal literacy of the Soviet period, deteriorated as well.

Since the mid-1990s, ADB has been the country’s primary source of external support for education. It has helped modernize the country’s curriculum, strengthen teacher training, and build or renovate rural schools.

At the turn of the 21st century, economic conditions improved, and government funding for education gradually increased. Today, the government consistently spends more on education than on any other single item in the national budget.

ADB remains a core partner for the government in its endeavor to improve access to quality education that will prepare the country’s children for its changing economy. ■

Project Information

Improving Access to Quality Basic Education for Children with Special Needs (2007–2009)

Financing: \$1.0 million, Japan Fund for Poverty Reduction grant (ADB)

Second Education Project (2007–2009)

Financing: \$15.5 million, Asian Development Fund grant (ADB)

- **Raising hands, righting history**
Thanks to an ADB-supported Middle School Program, which helps girls stay in school, young women like these can make real contributions in the classroom, changing local opinions about girls and education

Educating Hajra

An ADB-supported middle school project is making the dream of an education a reality for Pakistan's rural girls

By James Hutchison

SUKKUR, PAKISTAN

Hajra stands up. The 13-year-old eighth grader confidently answers a math question that none of the boys in her class can. Her teacher, Manzoor Ali Abbasi, says proudly, “She is our top student.”

Abbasi, 42, teaches at Sukkur Middle School, which has benefited from an ADB-supported program to help Pakistan’s middle schools—a program that has specifically targeted female students. Says Abbasi, “None of the girls in this class would have gotten past grade five without the Middle School Project.”

The Middle School Project

Literacy rates in Pakistan still fall behind other countries in the region, particularly among women. Although the percentage of literate females rose to 65% in 2006, up from 51% in 1991, Pakistan’s current progress on gender parity in primary education is rated by ADB as slow and off-track.

In 1992, the government requested ADB loan assistance of \$78 million to expand and improve middle school education in Balochistan, North-West Frontier Province, and Sindh. The program especially encouraged the participation of girls like Hajra—poor girls from rural areas—by offering stipends for female students in grades six through eight and by increasing qualified teachers in both rural and urban slum areas.

The project was conceived to accommodate a surge in the number of students expected to complete primary school. A national program at the federal level initiated curriculum reform, prototype textbook development, and student achievement testing. The physical improvements of schools in the project gave each an average of three classrooms, a science room, and basic amenities comprising a head teacher’s room, veranda, toilet, hand pump for water, and a boundary wall.

Sukkur Middle School Principal Soomar Khan Memom points out that before the Middle School Project, his school was only for primary students up to grade five. “With renovated classrooms, new desks, books, toilets, and more staff, we were able to enroll 70 new students, mostly girls,” he says.

Teacher Training

Along with over 15,000 other teachers in the project, Manzoor attended a 4-week training course, acquiring new skills that made him a better teacher. “Before, I used only the blackboard, but now the students work in pairs and teaching is interactive so they learn much more,” he says, noting that provision of textbooks, library books, and guides for teachers made a big difference, with 26,700 teacher’s handbooks provided to teaching staff in the three provinces.

Four weeks of in-service training was given to some 5,500 untrained teachers to improve subject competency, and 15,500 middle school teachers received 10 days training in the revised curriculum, with 4,000 middle school head teachers trained in a 6-week course on school management and supervision.

Helping Girls Become Students—and Teachers

To relieve poor rural families of the financial burden that often prevents them from sending their daughters to school, a rural girls’ stipend program helped a number of girls complete middle schooling, even in remote areas.

To qualify for the program, candidates needed to be enrolled in an eligible rural school and to have attended grade five with acceptable attendance and performance. To reach poor



- **Equal opportunities** The Middle School Project has changed how boys relate to girls in the classroom



James Hutchison

- The student becomes the teacher** Teacher training helps teachers create more interactive, student-centered classrooms, where students can learn from each other



James Hutchison

- Girls making the grade** The program targets female students, like Hajra (left) and her classmate, and gives them incentives to stay in school. As teacher Manzoor Ali Abbasi acknowledges, many girl students would not make it to middle school without this project

families, the project required the annual income of the family unit to be less than 10,000 Pakistan rupees (PRs) (about \$119). The parents or guardians had to promise to keep their daughter or ward in school until grade eight by signing an agreement with the district education officer. Only one beneficiary per family was eligible, with preference for

the eldest. Priority was given to orphans and handicapped girls. The stipend provided an annual cash and book allowance of PRs1,400 (about \$17) to each beneficiary, reaching a total of 50,430 students in the three provinces.

A rural teacher enhancement stipend program not only assisted female students who wanted to become teachers but also helped increase the number of female teachers in rural areas.

A candidate had to be currently enrolled in a rural school and attending grade 10, with acceptable attendance and performance records. Her parents or guardians were required to make a commitment: that she would complete the teachers' training program at a government college and that they would permit her to accept an assignment in a rural middle school for 3 years after she finished her course. The stipend provided a monthly amount of PRs250 (about \$3) plus an annual book allowance of the same amount. Overall, 1,400 aspiring teachers received this stipend.

Changing Communities

At Sukkur Middle School, one can observe another important aspect of the program: in classrooms like Hajra's, boys and girls study side by side.

"It has changed how the boys relate to girls in the classroom," says Manzoor.

Mixed classes foster gender equity by developing a more inclusive attitude toward girls among young males. But the classes do more than that. Project schools like Sukkur, which have opened their doors to rural girls, have created unprecedented opportunities for these girls in their communities by changing attitudes toward female schooling.

By the time it was completed, the project had benefited 70,452 students and upgraded 609 primary schools, including 331 girls' schools, giving thousands of bright young girls like Hajra the opportunity for a better education and the opportunities provided by one. ■

Project Information

Middle School Project (1994–2008)

Financing: \$78.00 million, Asian Development Fund (ADB); \$22.50 million, Government of Pakistan



- **A study sanctuary**
This ADB-supported library in Tajikistan has become an inspiring learning space for high school students. Young men and women read and write under the watchful eye of their teacher

By the Book

An ADB textbook project is at the heart of education reform in Uzbekistan

By James Hutchison

SAMARKAND, UZBEKISTAN

Walking through the school museum at Samarkand City School Number 21, Director Sayora Melikova points out bags, pens, inkwells, and old textbooks, all in use when she began teaching here 33 years ago. “Uzbekistan’s education system is going through the biggest changes I have ever seen,” she says.

In the courtyard of the school, one of the oldest in the country and where President Islam Karimov graduated with honors in 1955, she points out new renovations, part of several government initiatives that are transforming the country’s education system.

14 One of the most visible and important for her 1,500 students and their families and teachers has been a project funded by ADB that brought affordable textbooks to the nation’s school children: the Basic Education Textbook Development Project (BETDP), implemented between 1998 and 2004.

Updating, and Translating, the Curriculum

After the fall of the Soviet Union and the declaration of independence, the country faced many challenges in its transition to a market economy. An economic downturn left the government with an underfunded education system mired in an outdated Soviet curriculum. The quality of basic education and access to it became major concerns. In 1997, new laws on education and the National Program for Personnel Training were adopted, requiring a comprehensive review of the curriculum and

the rewriting and reprinting of all textbooks. It became a priority for education reform to provide better designed, more durable, and more widely available textbooks that would be produced more efficiently.

The government turned to ADB to help fund an ambitious government program to produce millions of new textbooks with modern content. A new curriculum meant everyone, from teachers to book authors, would have to be retrained. The old printing facilities and presses that produced Soviet-era textbooks were incapable of meeting the requirements of a modern education system, so a modern publishing and printing industry would have to be created. The four-color textbooks would have to be durable enough to last for 4 years, but still be affordable. The task of providing textbooks for various subjects for almost six million school children, grades one to nine, and in seven different languages—let alone teacher guides and other publications—was staggering.

Of the \$111 million project cost, ADB provided two loans of \$20 million each. One was to be re-lent via a commercial bank to publishers and printers to upgrade equipment and procure high-quality paper and cover board. The other was for capacity building and the purchase of textbooks. Two technical assistance grants were also approved.

Around the time of loan approval, the government announced a few new initiatives affecting the education system: the introduction of the National Program for Personnel Training to guide long-term educational reforms in teacher training, the extension of compulsory education to 12 years,



- **Ready, set, write!**
Just as writing tools have moved beyond ink pens and inkwells, so too have Uzbekistan's needs for curriculum and textbooks developed. Here students use newly printed activity booklets to capture and organize their lessons



James Hutchison

- **Hardbound business** As a result of the project, the printing and publishing industry in Uzbekistan has undergone a revolution. Where there used to be one textbook publisher, now there are 30, vying to meet domestic and regional publishing demand



James Hutchison

- **Cultivation and care** At Samarkand School Number 21, students look through their textbooks. Some might be 4 years old but they look shiny and new. They are well made says the director, Sayora Melikova, but she believes that the program's rental scheme has inspired students to respect their books

and new state education standards. At the same time, moves were made to introduce market mechanisms in textbook provision and to free up limited budget resources by abolishing free textbooks for all students except first graders. Parents now had to pay for textbooks.

Dilshod Khamzayev, Ministry of Public Education project implementation manager with the Second Textbook Development Project, remembers what it was like to be a student back then. "Buying new textbooks was a financial burden on me and other

families and they were difficult to find." It was estimated that in 2000, 60% of students and parents were facing difficulties in finding affordable new textbooks.

Innovating Distribution Solutions: Book Rentals

In 2000, the Ministry of Public Education gave BETDP experts and consultants of the British Council and International Book Development the task of proposing an affordable solution. The best way to make the new books affordable, they decided, was through an innovative textbook rental scheme whereby parents paid an annual rental fee for each book.

The government decided to pilot-test the scheme among 250,000 students in about 500 schools, including in poor areas. ADB provided the funding to print the pilot set of textbooks. The textbooks were supplied to schools, which collected rental fees and deposited them in interest-earning special accounts in local banks. The annual fees covered the cost of replacing the books after 4 years and were administered by school textbook committees.

The rental scheme proved so successful the government approved its gradual nationwide introduction in September 2002. The cost is typically 500 Uzbek sum (about \$0.30) a year for each book. The government is providing free textbooks to all students in first grade and an estimated 15% of students in grades two through nine who cannot afford the fee. A total of 17,482 librarians, teachers, and school directors were trained in support of the textbook rental scheme. A resolution of the President in 2006 established the Republican Special Book Fund Foundation to manage rental fees and textbook procurement and distribution based on orders placed by schools. The foundation operates with the participation of schools and parents.

A Printing and Publishing Revolution

Amid the roar of high-speed, computer-controlled presses and automated binding machines inside O'qituvchi, one of the largest publishing and printing houses in Central Asia, Director Rustam Mirzayev snatches a book from a stream speeding past on a conveyor belt and thumbs to a page of high-quality four-color pictures. "This is the kind of thing we had to learn to do when we took on the new textbooks," he said.

In the past, O'qituvchi alone provided textbooks in Uzbekistan. But the huge number of new books required—nearly 30 million textbooks, as well as

teacher's guides and other publications—meant using multiple printing houses.

The Ministry of Public Education produced specifications and set standards for textbook production that could be used by any printing company. Funding from the BETDP helped printing houses and publishers transform from producers of low-quality products to modern publishing and printing operations, capable of creating durable textbooks using high-quality paper and cover board and automated bookbinding techniques.

ADB provided loans of \$8.5 million to modernize and upgrade printing and binding equipment, and \$11.0 million to purchase high-quality paper. "Before the BETDP, only one publishing house produced textbooks for schools," says Guzal Tugeeva, BETDP project manager. "Now we have around 30."

Training for the industry included a seminar on textbook production for 30 publishing directors, printers, and production managers. Twelve directors and publishing managers took a study tour to publishing houses in the United Kingdom. The project also called for groundbreaking in-country training for 29 participants from the printing industry. Seventeen local publishers took a seminar on textbook marketing: in the past they had no need to market their books and had no specialized staff with marketing skills.

Successful competitive bidding for textbook production was launched, bringing market efficiencies to the industry. "We have contracts to print textbooks for surrounding countries like Tajikistan now," said Mirzayev.

Measuring Success

By the end of the BETDP, 15 million textbooks were published. About 700,000 new textbooks were produced in Karakalpak, Kazakh, Kyrgyz, Russian, Tajik, and Turkmen languages. Two million teacher's guides were also published, 49,000 visual kits of supplementary materials distributed, and to date 560,000 copies of supplementary books, comprising 28 titles, have reached school library shelves nationwide.

The Ministry of Public Education monitors the children's academic progress each year and has measured improvement as a result of the project. ADB rated the BETDP highly successful and has followed it up with a loan of \$25 million toward

the \$55 million cost of the Second Textbook Development Project. It focuses on ensuring the sustainability of affordable textbooks by introducing the textbook rental scheme in the sixth to eighth grades as well as by strengthening education policy and further developing book publishing and libraries.

At Samarkand School Number 21, 15-year-old Mekhrangiz proudly shows her 4-year-old English textbook imprinted with a publication date of 2006, which—like the books on her classmates' desks—looks brand new.

"They are well made," says Melikova, but she also credits the students. "The rental scheme has taught them to respect their books." ■

Project Information

Basic Education Textbook Development Project (1998–2004)

Financing: \$18.92 million, ADB; \$19.51 million, National Bank for Foreign Economic Activity in Uzbekistan; \$59.85 million, Ministry of Public Education in Uzbekistan

Textbook Sector Development Program (2003)

Financing: \$150,000, Technical Assistance Special Fund (ADB)

Second Textbook Development Project (2004–2009)

Financing: \$25.0 million, Ordinary Capital Resources (ADB); \$30 million, Government of Uzbekistan Special Fund



James Hutchison

- **Booking the work force of the future** New textbooks and new curriculums empower these young people and prepare them to join the workforce and fuel Uzbekistan's economic growth



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Leapfrogging to Mobile Telephony

ADB is helping Afghanistan's largest telecom operator develop nationwide mobile phone infrastructure and expand cellular services

KARACHI, PAKISTAN

Decades of conflict devastated Afghanistan's communication systems. Fixed telephone lines are virtually absent in a country with rugged terrain, limited electricity, poor roads and postal services, and an unstable security situation.

The arrival of mobile phones, therefore, represented a telecom revolution, enabling the country to leapfrog straight to 21st-century satellite technology.

It has enabled families displaced by the conflict to remain connected, business owners to more easily search for good prices and remain informed, and isolated communities to further integrate into the economy. It has also provided basic banking functions in a country where banking is limited, but remittances play a vital economic role.

Demand for mobile phones was strong from the outset, but service rollout was constrained by limited financing options in the challenging political and security environment.

With help from ADB's private sector operations, however, the Telecom Development Company Afghanistan—known as Roshan and the largest operator with over 3.2 million subscribers—has been able to expand its mobile network infrastructure nationwide and improve its range of services. In July 2008, ADB provided its third loan to the process, this time \$60 million. This followed loans of \$35 million in late 2004 and \$35 million in mid-2006.

"The development impact of mobile phones has spread across the country and through all levels of society," says Craig Steffensen, ADB's country director for Afghanistan. "Having access to information and knowledge is as critical for the education of the young—almost half the population is under 15—as it is for the social development of women."

With expansion, Roshan has been able to lower the cost of its mobile phone services, increasing accessibility to the poor.

Innovative Services

Among its innovations, Roshan introduced M-paisa, a sort of mobile wallet, enabling the transfer of funds by mobile phone in a quick, easy, safe, and cost-effective way for peer-to-peer transfer,

repayment of microfinance loans, purchase of airtime, and salary disbursement. This has brought financial transaction services to a country where only 3% of the population has a bank account.

Countrywide, Roshan sets up public call offices for those without a mobile phone, partnering with First Microfinance Bank to lend entrepreneurs capital to set up the offices. Roshan also supports women-only public call facilities, an important feature given ongoing gender segregation.

The company is also installing solar photovoltaic panels to power telecom towers, thus reducing diesel fuel consumption and greenhouse gas emissions. And in 2009, it piloted TradeNet, which provides farmers with market prices through text messaging, which allows farmers and traders to secure the best prices for their crops.

Telemedicine: Linking Health Workers with Experts

On a wider level, the provision of mobile telecom services is helping improve the delivery of essential services such as health care, education, and security.

Roshan has pioneered a telemedicine project that links doctors in Kabul and in a rural hospital in Bamyán to more experienced staff at the Aga Khan University Hospital in Karachi, Pakistan. (The Aga Khan Fund for Economic Development is Roshan's majority shareholder). This potentially life-saving telemedicine project has impacted the lives of 400 patients and trained 300 Afghan medical personnel. It could play a key role in reconstructing Afghanistan's health care system.

Khalid Ansari, a radiologist at the French Medical Institute for Children (FMIC), uses telemedicine to transmit imagery from the hospital's magnetic resonance-imaging scanner to colleagues in Karachi. "If we have a complicated diagnosis, it takes just one click to put the pictures on our server and send them to the Aga Khan Hospital, which can send us back a report within 24 hours," he says.

Not long ago, FMIC established a connection with a provincial hospital in remote Bamyán, which has 14 physicians serving more than 600,000 people. In an interview by video link, moments after a class on infection control, hospital manager Matthew Rodieck said, "We are very isolated here, but if one of our specialists comes across a case that's difficult to understand, he or she can bring



Jason P. Howe

- **High-tech health** Telemedicine enables long-distance diagnosis of medical conditions

The Telecom Development Company Afghanistan—known as Roshan—has pioneered a telemedicine project that links doctors in Kabul to staff at the Aga Khan University Hospital in Karachi, Pakistan. This potentially life-saving project has helped 400 patients and trained 300 Afghan medical personnel.

the patient to the telemedicine room and consult with a physician in Kabul or Karachi.”

The link can also be used for medical education: the course on infection control connected students in Bamyan, Kabul, and Karachi, while videoconferencing equipment enables doctors and nurses in Bamyan and Kabul to sit in on lectures delivered in Karachi.

In Afghanistan’s isolated areas, where traditions and infrastructure have changed little over centuries, mobile technology is connecting people and changing lives—one step at a time. ■



Jason P. Howe

- **Dr. Video** This dentist is using a video link to guide her in her work. Health professionals feel less isolated with video links, which are also being used for medical education

Project Information

Roshan Expansion Project (Phase I) (2004–2006)

Sponsors: Alcatel Participations SA., Monaco Telecom International, MCT Corporation, Aga Khan Fund for Economic Development

Financing: \$35 million, Private Sector loan (ADB)

Roshan Expansion Project (Phase II) (2006–2008)

Sponsors: Monaco Telecom International, MCT Corporation, Aga Khan Fund for Economic Development

Financing: \$35 million, Private Sector loan (ADB); \$30 million, ADB B-Loan; \$15 million, Political Risk Guarantee (ADB)

Roshan Expansion Project (Phase III) (2008–2010)

Sponsors: Monaco Telecom International, TeliaSonera, Aga Khan Fund for Economic Development

Financing: \$60 million, Private Sector loan (ADB)

HAMADONI, TAJIKISTAN

Five years ago, the swollen Pyanj River surged over a series of antiquated embankments in Tajikistan's fertile Hamadoni district, sweeping away everything that lay in its path.

"The river turned into an avalanche of mud and water," recalls Gadoi Masayumov, who owns what was once a riverside restaurant in the town of Hamadoni.

"When we returned to the area one day later, the water level was higher than I am," added Masayumov, raising an arm high above his head.

Incomes Washed Away

Thanks to advanced warning systems and a swift government response, the flood in Tajikistan's southwestern Khatlon province caused no fatalities. But more than 250 buildings were destroyed, along with roads, bridges, and water towers.

The area's farmers were equally hard-hit, as some 4,000 hectares of Tajikistan's richest arable topsoil was swept away. In a country where more than 60% of the population relies on agriculture as its major source of income, that meant that livelihoods were swept away as well.

"Our people are mostly involved in agriculture, in growing fruit and potatoes and onions," said Sitam

The government, with help from ADB, is reducing vulnerability to floods in Tajikistan, which has suffered from a lack of levee maintenance in the years following independence

By Philip Wood

Changing the Course of Emergencies

- **How to hold off a river**
Huge dikes of earth and rock, built with support from ADB, protect the people of Hamadoni from the Pyanj River, which is increasingly prone to flooding

Sharifov, a resident of Hamadoni. "But the flood destroyed all of our agricultural fields. People lost their harvests and so lost their income."

Deputy Chief of Hamadoni District Abdujabor Katayev surveys barren landscape that stretches as far as the eye can see. It is bare, sandy expanse covered in mud piles and littered with chunks of concrete.

"The flood destroyed the bridge, the road, residential households," said Katayev. "Two streets in one village were fully flooded, so fully destroyed."

ADB Tajikistan Country Director Makoto Ojira says the socioeconomic impact of what happened in Khatlon is still being felt throughout the province.

"There is a strong link between floods and poverty, and in Khatlon there was a very substantial loss of livelihood," Ojira said, adding that residents of the area have experienced disease, deteriorating drinking water quality, and other hardships which, in turn, have led to greater emigration.

Mitigation Measures from Earth and Rock

With its mountainous terrain and high levels of rainfall, Tajikistan has always been prone to flooding and other natural disasters. But the flood of 2005 was unprecedented.

A lack of routine maintenance in the tumultuous years following Tajikistan's independence in 1991 was largely responsible for the failure of the dikes to contain the river.

ADB has provided a \$22 million loan for the Khatlon Province Risk Management Project to help prevent future flooding.

The project represents a shift from reactive, infrastructure-oriented flood control to a comprehensive, integrated, and proactive approach to flood management.

A major part of the project is the rehabilitation of 8.3 kilometers of flood protection embankment along the Pyanj River. At the project site, which abuts Tajikistan's border with Afghanistan, border guards patrol as huge trucks haul in soil, rock, and earth.

The materials are packed into high, sloping embankments that are covered with concrete blocks. These dikes will reach almost 10 meters



Gennadiy Ratushenko

• **The size of disaster** Gadoi Masayumov shows how high the Pyanj River rose during a catastrophic flood in 2005 that washed away roads, bridges, and livelihoods

in height, a full 3 meters taller than the walls breached in 2005.

Mark Kunzer, a senior environmental specialist with ADB's Central and West Asia Department, said the new embankments will help protect the area from the climate change impacts that are increasingly being felt in the Hindu Kush and the Pamir mountains, and which are causing glaciers to melt at accelerated rates.

"This will result in increased flows in the rivers of the region, such as the Pyanj, which are fed by glacier melt from the mountains," Kunzer said. "Climate change is likely to alter traditional weather patterns and also bring about more extreme weather events. When the occurrence of extreme events is combined with the increased



Gennadiy Ratushenko

- **Surveying the damage** Deputy Chief of Hamadoni District Abdujabor Katayev points to the remains of the town's bridge, destroyed by the unprecedented flood of 2005

river flows, there is a significant potential for further serious flooding in the region."

The project reforms have gone beyond building physical embankments. ADB assistance has helped the government build over 130 houses away from flood-prone areas and to improve flood management systems. This includes upgrading warning mechanisms, better maintenance of protection structures, and new regulations to restrict land use in high-risk areas.

ADB has also helped the government undertake topographical, social, environmental, and economic surveys, and conduct computer modeling of flooded areas. From these surveys, risk maps were prepared.

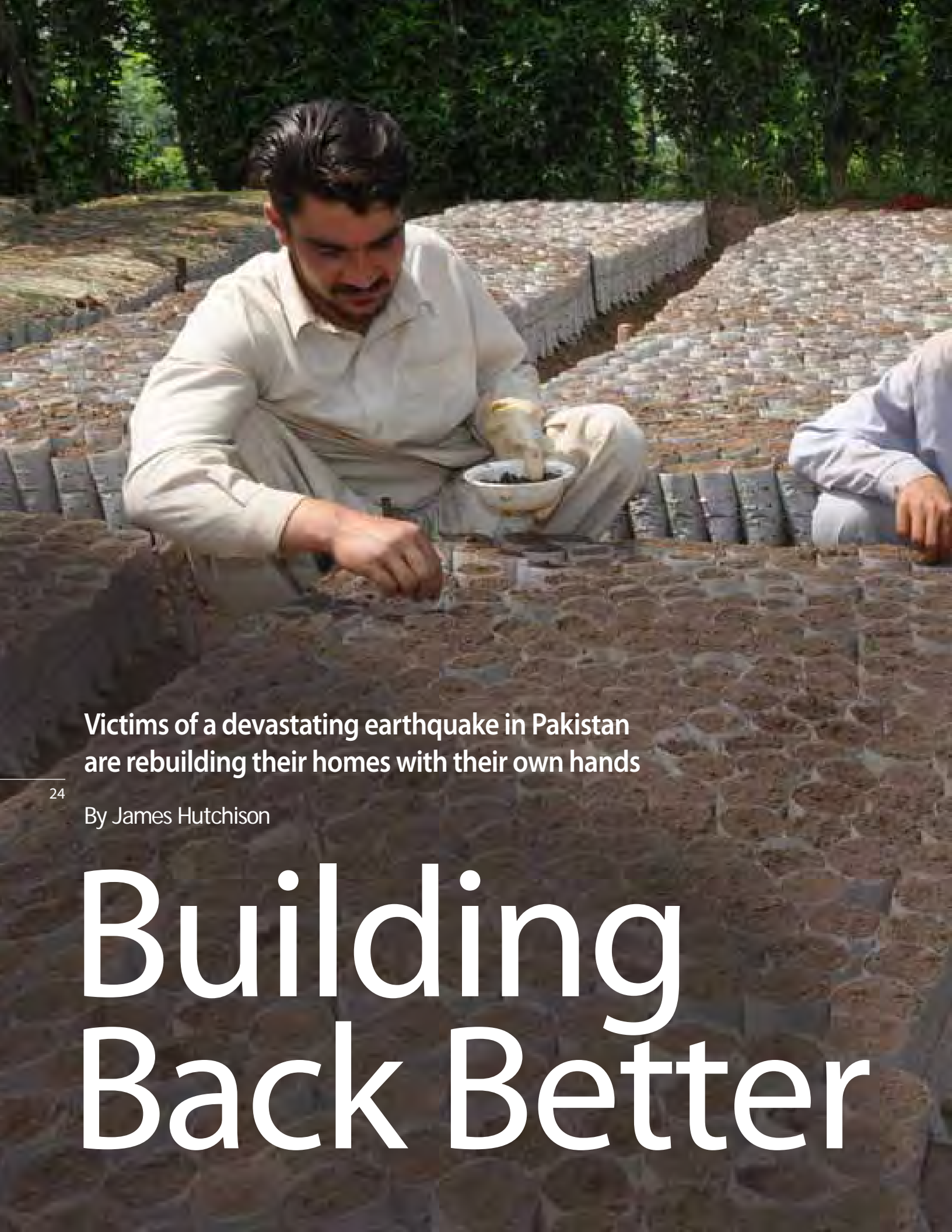
To improve forecasting, the government has rehabilitated and modernized the Agency for Hydrometeorology's climate stations and river gauges, as well as the agency's database.

"When we have finished this project," Katayev said, "the whole population of the area will be protected from future floods." ■

Project Information

Khatlon Province Risk Management Project (2006–2010)

Financing: \$3.0 million, Japan Fund for Poverty Reduction (ADB); \$500,000, Technical Assistance Special Fund (ADB); \$22.0 million, Asian Development Fund (ADB); \$6.612 million, Government of Tajikistan



Victims of a devastating earthquake in Pakistan
are rebuilding their homes with their own hands

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By James Hutchison

Building Back Better



ABBOTTABAD, PAKISTAN

“Our house, farm, livestock, we lost everything in the earthquake,” says Shahida Maqsood.

Over 3.5 million others like Shahida and her family of five were left destitute by the massive earthquake that struck the North–West Frontier Province and surrounding areas on the morning of 8 October 2005, taking an estimated 80,000 lives.

ADB’s response was multifaceted. First it pledged \$1 billion in bilateral grants and loans to the Pakistan Earthquake Fund and implemented the Earthquake Emergency Assistance Project, which supports the government’s efforts to rehabilitate earthquake-hit areas. ADB provided assistance to reconstruct power grids, roads, schools, rural houses, and health facilities. Electricity is being restored in affected areas through rehabilitation of 9 hydropower stations and 10 grid stations. ADB is also reconstructing 433 primary and middle schools using state-of-the-art light steel frame buildings that are easy to assemble and earthquake resistant.

These projects were designed not to restore communities to pre-quake conditions, but to build back better—to make affected neighborhoods more prosperous and more resilient than they were before 8 October 2005.

Innovative Rebuilding Scheme

One of the government’s goals was to reconstruct and rehabilitate houses so that they would be earthquake resistant. In 2007, to support this goal, ADB made a second emergency assistance loan of \$400 million, the Earthquake Displaced People Livelihood Restoration Program. Funnelled through the Earthquake Reconstruction and Rehabilitation Authority and its provincial branches, this loan provided displaced people with funds for materials to rebuild their own houses, and with construction training and subsidies. The authority specified standards and designs.

The subsidies were determined based on the market replacement value of a typical house (39 square meters), irrespective of the size of the original houses. The government disbursed graduated payments in accordance with the amount of damage—as determined by field inspectors from the army and from nongovernment organizations (NGOs).



James Hutchison

- **Rebuilding together** Men and women gather in a community meeting to discuss the process of rebuilding homes and livelihoods after the devastating earthquake of 2005

For example, for a completely destroyed house, owners received 175,000 Pakistan rupees (PRs) (about \$2,061). For a home with minor damage, owners received PRs25,000 (about \$295).

The reconstruction of infrastructure also created many jobs for skilled workers and benefited the local construction material industry, increasing the prices of key construction materials like cement.

New Responsibilities for Women

The earthquake has shifted gender roles of women and men due to the loss of male partners. Many women's responsibilities have increased as they cope with the additional burden of caring for orphaned children and persons with disabilities, while also emerging as heads of households.

This new reality requires rethinking social conditioning, as well as the type of contributions that members of the household and the community can make. In particular, stakeholders report that female-headed households, widows, and orphaned children (mostly girls) have had little access to supplies and services due to their limited mobility or absence of proper identity documents to support these claims. A gender and vulnerability action plan ensures that essential needs, constraints, and priorities voiced by

women, and extremely vulnerable individuals and families, are heard.

The multisector program also supported gender equity and inclusive social development. Through these program components, Shahida and her neighbors were able to start raising chickens and selling the eggs at the local market. They also planted small wheat fields, making them self-sufficient in bread for their families.

As head of her Women's Community Organization, once a week Shahida goes to the local branch of Habib Bank from her resettlement area near the village of Rara to deposit the money she and the other 22 women in her group have earned from their home-based ventures. They have saved PRs30,000 (about \$354) and use the money for expenses and also provide microcredit finance to other women to start their own businesses. They give priority to the many widows left without breadwinners by the earthquake, as their needs are greatest.

Funded by the ADB Livelihood Restoration Project, social organizer Salma Bano of the National Rural Support Programme helped the women set up their organization and learn everything from better farming techniques to how to keep a set of books.

"For the first time we are contributing to our family's income," says Shahida. "Without the help of this program we would still have nothing but our clothes."

Raising the Bar with Reconstruction

Last year, a 2-kilometer access road funded by the program and the villagers connected the village to the main road to allow construction material and trainers to reach the community.

Before the road went in, Abdul Latif's daughter Ruqiya fell and injured her head while working in their field, and because it took so long to get her out to the main road by donkey and to a clinic, she is now disabled. "That would never happen now; we are just 10 minutes away by car," says Abdul—another example of the reconstruction program's resolve to "build back better."

At the monthly meeting of the Rara Community Organization, Abdul reports on the rebuilding progress of the 700 villagers: 25 homeowners are installing roofs and four are still working on their walls, but all 135 homes have been rebuilt.

About 25,000 master house-building trainers in the region, mainly drawn from the ranks of the army and NGOs, trained more than 200,000 affected house owners, who rebuilt with payments made at various stages of progress, which were verified by inspectors. About 71% of targeted destroyed houses have been reconstructed, and by June 2010, it is expected that 85% of 585,000 rural houses will be rebuilt.

Strolling around Rara today, one sees little sign of the devastating earthquake that decimated almost all the houses and killed 17 people. Thanks to the reconstruction, there are only homeowners finishing up their new dwellings. ■



James Hutchison

- **Home improvement** A villager works on his house in the village of Rara, in the North-West Frontier Province



James Hutchison

- **Reaping what they sow** Women in the project area are able to plant small wheat fields, which help them provide for their families

Project Information

Emergency Earthquake Assistance Project
(2006–2010)

Financing: \$220.0 million, Asian Development Fund (ADB); \$110.0 million, Pakistan Earthquake Fund (ADB); \$37.0 million, Asian Tsunami Fund (European Economic Community); \$74.7 million, Government of Pakistan

A young boy with short brown hair and rosy cheeks is shown in a close-up shot. He is wearing a bright green button-down shirt with a patch on the pocket that reads 'EXT. 005-8'. He is holding a large, dark, cylindrical metal water container with a handle on top. Water is flowing from a tap on the side of the container into his cupped hands. The background is a soft-focus view of green hills and trees, suggesting a rural mountain setting.

Safe Water

Before a new water and sanitation system, women and children in this village in the Kyrgyz mountains had to walk for miles and spend hours to collect clean water

By Kaarmanbek Kuluev

- **Refreshingly easy to drink**

In the mountains of the Kyrgyz Republic, fewer children are getting sick thanks to the clean water available at the village's new water pump. This boy enjoys clean cool water straight from the tap

Despite the abundance of fresh water here, women and children in the mountainous areas of the Kyrgyz Republic often had to walk miles, and spend hours, to collect the precious resource from the nearest river. But that is changing, thanks to an ADB grant, which is improving water supply and sanitation infrastructure in rural areas.

Abdymanap lives with his family in Josholu village, in the mountainous Alai district in the south of the country. “Water in the river is not bad,” he says. “But during the rainy season the water turns brown because of the dirt.”

Villagers had to leave the water in buckets for a few hours to let the dirt sink, explains Abdymanap. “It was a very primitive filtering system.”

The other problem with river water is that cows and sheep, which are bred in the district, drink from the same river, and often spoil the water, too. As a result, children who drank straight from the river would get sick.

“Before the water pipe was built we had many cases where people were getting infections from the water,” says Janargul, a nurse in the local hospital. Diarrhea was very common, she adds.

The hospital itself was so short of water even doctors thought twice about washing their hands. Nurses walked 3 kilometers to bring two buckets of water from the closest river.

In the village, women and children were responsible for bringing water home from the river. Even 5-year-old Aziza had to carry a bucket of water, but she was lucky—the river is only 50 meters from her house.

The ADB-financed project called Tazasuu (“clean water”) enabled local communities to construct water pipes. The pipes provide spring water to many villages in the country, including Josholu, which has 4,500 residents.

Today, women and children collect water at standpipes in the village. The standpipes have become social centers where the women meet and chat. There are 56 standpipes around the village, on almost every corner, providing fresh, clean spring water from the mountains.

Women have lighter loads, never carrying more than 10-liter buckets of water. Children have less work to do and more time to study or play.

Once the springs have been located they are covered with a special tent to eliminate spoiling from rain and animals. Pipes take the water from the spring to a reservoir at the top of the village. The reservoir can hold up to 500,000 liters, enough to provide water to the village for 1 day, in case the springs stop running.

Abdashym, who takes care of the reservoir, does not believe the springs will stop producing water. “It will never happen,” he says. “But even if it does, the village will not stay without water for very long.”

The ADB project also helped build a backup water supply system which can take water from the river and then filter and distribute it to the village.

Now women have lighter loads, never carrying more than 10-liter buckets of water. Children have less work to do and more time to study or play.

Zamir and his brother Beksultan like to play with their dog after school. They can spend more time enjoying life and can drink water any time they want. Fetching water is not a big problem anymore, Zamir explains. The standpipe is just around the corner, and water is always available. ■

Project Information

Community-Based Infrastructure Services
(2006–2009)

Financing: \$1.25 million, Japan Special Fund (ADB); \$30.0 million, Asian Development Fund grant (ADB); \$36.0 million, Asian Development Fund loan (ADB); \$5.50 million, Government of the Kyrgyz Republic; \$3.0 million, communities; \$500,000, provincial and district governments



On Track

A railway modernization project is making Uzbekistan a regional leader in rail transport

By James Hutchison



• **Killing time** The Shark, a new and speedy train from Tashkent to the fabled Silk Road city of Bukhara, has taken hours off the travel time between these corporate and cultural centers, improving local tourism and business

TASHKENT, UZBEKISTAN

On the platform at the Tashkent railway station, food and drink vendors call out to passengers. Conductors in snappy Uzbekistan Temir Yollari (UTY) railway uniforms check tickets and help people to their seats. The train sports a shark logo, emblematic of its speed. Not long ago, however, the service between Tashkent and Bukhara was anything but swift.

A New Start for an Old Railway

Before boarding, Lyudmila Romanenko hugs her sister and niece. In the past, she only saw them twice a year: getting to them took an arduous, bone-rattling journey, bumping along on hard seats for over 9 hours or more each way. The modernization of the 430-kilometer (km) route between Bukhara and Tashkent has changed that. "Now with the new trains, it takes just 7 hours and I travel in comfort, so I visit every 2 months," Romanenko says, smiling. "That makes it easier to wave goodbye to them."

In the locomotive cab up ahead, driver Andrey Oleynik sits before computer screens, performing systems checks on the powerful diesel–electric engine, in preparation for the run from Tashkent through historic Samarkand and to the fabled Silk Road city of Bukhara. With 26 years on the railway, Oleynik remembers well the route before the ADB-funded Railway Modernization Project was completed in December 2006. On almost every trip, the poor condition of the track forced locomotive drivers to stop or slow to a crawl. Crumbling sleepers and rickety rails brought spiraling maintenance costs and ever-increasing delays, especially for large freight trains transporting the bulk of the country's cargo—everything from cotton to mining ore—putting a drag on economic development.

Today, on modern electrified track and concrete sleepers, trains like the Shark whisk passengers smoothly between Tashkent and Bukhara at an average of 90 km per hour (kph), up from 60 kph. Freight trains similarly increased their speed, bringing faster fleet turnaround, higher track utilization, and reduced transport costs.



- Drivers of growth** Performing systems checks on the powerful diesel-electric engine, driver Andrey Oleynik recalls the days when crumbling sleepers and rickety rails brought spiraling maintenance costs and delays, especially for large freight trains that carried the bulk of the country's cargo.

As Oleynik eases the Shark out of Tashkent, picking up speed, passengers lie back in reclining seats, enjoy snacks, and watch television. In a private compartment, Badgan Shakhnazarov, a partner in a small engineering company, explains between sips of tea how he used to fly from Bukhara to business appointments in Tashkent. "The train was unreliable; you never knew when you were going to get there; it was difficult to make appointments with customers and suppliers. Now I take the train. It is comfortable and arrives on time."

After Uzbekistan declared independence from the former Soviet Union, the Uzbek part of the Central Asian Railway became the UTY, a state-owned company responsible for operating Uzbekistan's railway system. Independence brought a host of challenges, however, including a sharp drop in traffic, deteriorating infrastructure due to lack of maintenance, and an urgent need for new lines to create a national rail network.

"Now with the new trains, it takes just 7 hours and I travel in comfort, so I visit [my sister and niece] every 2 months. That makes it easier to wave goodbye to them."

Lyudmila Romanenko

ADB provided a \$70 million loan for the \$130 million Railway Modernization Project, which followed on the heels of the Railway Rehabilitation Project, the first of its kind in Uzbekistan. This original project, begun in 2001, took 6 years to complete and was also funded by a \$70 million ADB loan. It tackled the rehabilitation of the main rail corridor from the Kazakh border in the northeast to the border with Turkmenistan in the southwest—the route that carried the highest volume of rail traffic. The most recent railway project, completed in December 2006, rehabilitated the stretch between Tashkent and Bukhara.

One Railway, Myriad Benefits

Besides improving the efficiency of both freight and passenger rail traffic, the project employed over 5,000 people at the peak of construction and created 500 new jobs, including for maintenance staff, machine operators, and station officers.

It facilitated international trade by improving access to neighboring countries and seaports. It introduced modern track-laying equipment and efficient maintenance of railway tracks. The installation of 200 km of fiber optics for telecommunication systems and new radio equipment has greatly improved UTY's entire communication network and has made communications more reliable and efficient.

Human resources have also improved because the project trained staff in ways to sustain these technological improvements. It also established a small business fund for former railway workers. ADB and the Organization of Petroleum Exporting Countries (OPEC) Fund for International Development (OFID) financed equipment and telecommunication improvements, while UTY financed track rehabilitation.

Going Modern: Innovative Sleepers and Rails

Department head at UTY Navruz Erkinov says the main improvements were fully replacing the old tracks with steel rail especially formulated for modern railways, state-of-the-art concrete sleepers, and special flexible rail fasteners—the same system used in Europe where trains reach 350 kph.

To speed up the process, the government contracted private companies to set up factories and manufacture track and sleepers in Uzbekistan. In an unanticipated benefit of the project, these

plants are continuing to supply concrete sleepers and high-quality track for new projects elsewhere in Uzbekistan, which has a railway network of over 4,500 km.

At the concrete sleeper manufacturing plant on the outskirts of Tashkent, railway track specialist Aleksey Ovchinnikov walks the three production lines where 300 workers produce 1,250 sleepers a day.

“These are the world’s most advanced sleepers,” he says. The company has manufactured a staggering 1.25 million sleepers since it began producing them for UTY in 2004. The rails are fastened to the sleepers with a “fit and forget” elastic British Pandrol Fastclip that can be preinstalled at the factory and that cannot be dismantled without a special tool, for enhanced security.

As the concrete sleepers are poured, 16 wires inside are held under tension until the mix sets, creating great strength. While wooden sleepers have a lifespan of about 15 years, these high-tech concrete models are guaranteed for 50 years. The combination of the elastic clip and sleeper design drastically cuts installation time on-site and maintenance.

Erkinov says that in 2010 the Spanish company Talgo will supply UTY with two high-speed locomotives and 11 cars capable of reaching 250 kph on the modernized track between Tashkent and Bukhara. These will be in service by 2011, says Erkinov.

The trip is expected to take 2 hours or less. “City center to city center,” he says, “it will be faster than flying.” Higher-operating speeds contribute to increased fleet turnaround and more efficient track utilization, which reduces transport costs. ■

Project Information

Railway Modernization Project (2006–2007)

Financing: \$450,000, Japan Special Fund (ADB); \$70.0 million, Ordinary Capital Resources (ADB)



• **Daily bread** An entrepreneur sells bread at a new train station, which has created a space for commerce



• **Enjoying the ride** In new train cars, passengers are able to rest, read, or work, thanks to modern conveniences and a smoother ride



Railway to Regional Integration

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By Philip Wood

A new railway will connect Afghanistan to Uzbekistan's expansive rail network, making the war-torn country a hub for trade between Central Asia and world markets

HAIRATAN, AFGHANISTAN

For many centuries, Afghanistan's strategic location has proven to be a liability. But today, as new trade routes are forged connecting landlocked Central Asia with the booming economies of South Asia and the Middle East, Afghanistan's geographic position is proving a valuable asset.

The presence of massive bulldozers on the dusty northern plains of Hairatan attests to the fact that Afghanistan is poised to become a regional hub for trade and commerce.

It is here, just across the river from neighboring Uzbekistan, that the first building blocks of a 75-kilometer single-line railway are being put in place—massive section by massive section—thanks to a \$165 million ADB grant.

The Hairatan border post already serves as the gateway for almost half of Afghanistan's road imports, but the existing transport infrastructure cannot cope with the expanding volume of trade.

When completed in late 2010, the new rail line will help remove the major physical bottlenecks that have formed at the border, thereby quadrupling capacity and boosting regional trade.

As part of the Transport Strategy and Action Plan under the Central Asia Regional Economic Cooperation (CAREC) Program, the rail project will open up alternative supply routes for national and international trade, as well as for humanitarian relief.

The new line will connect Afghanistan to Uzbekistan's expansive rail network. The initial segment will run between Hairatan and Mazar-e-Sharif, Afghanistan's second largest city. Future links are planned that will run across the north and to other parts of the country and region, including Herat, Pakistan, Tajikistan, and Turkmenistan.

"The new train line will boost freight volumes, lower costs, and raise the profile of Afghanistan

Project Information

Hairatan to Mazar-e-Sharif Railway Project
(2009–2010)

Financing: \$165 million, Asian Development Fund (ADB)



Government of Uzbekistan

- **Laying plans** Contractors and consultants look over an outline of the proposed route of the new railway, which will have a major economic impact on towns and villages along its path

as a transit route," said ADB Afghanistan Country Director Craig Steffensen.

"In addition, Central Asian states and Xinjiang, People's Republic of China, will be able to access world markets more cheaply and easily via Afghanistan and seaports on the Gulf, thus improving their competitiveness in world markets."

ADB's major role in the Uzbekistan–Afghanistan railway project is testament to its emphasis on CAREC. Founded in 1997, CAREC is a partnership of eight countries—Afghanistan, Azerbaijan, the People's Republic of China, Kazakhstan, the Kyrgyz Republic, Mongolia, Tajikistan, and Uzbekistan—and six multilateral institutions: ADB, the European Bank for Reconstruction and Development, the International Monetary Fund, the Islamic Development Bank, the United Nations Development Programme, and the World Bank. ADB has served as the CAREC secretariat since 2000.

CAREC provides the finance and ideas—notably in the areas of energy, trade, and transport—to promote economic development and reduce poverty. Its backbone is a plan to develop a seamless network of six transport corridors to connect member countries to one another as well as to the fast-growing economies of East and South Asia and established markets in Europe and the Russian Federation.

Simply put: the Hairatan to Mazar-e-Sharif rail link is CAREC in action. ■

Road to Recovery

A white box truck is driving on a road towards the viewer. The background shows a sunset with a bright sun low on the horizon, casting a warm glow over the scene. The sky is a mix of orange, yellow, and light blue. The road is dark asphalt with a white line on the right side. In the distance, there are some hills or mountains under the sunset sky.

A rehabilitated east–west corridor has a vital role to play as Azerbaijan develops a fledgling non-oil industrial base.

By Ian Gill

BAKU, AZERBAIJAN

The grandeur of a new generation of hotels and buildings that sprang up in Azerbaijan’s capital during its latest oil boom, alongside the palatial residences and civic structures built during the oil bonanza of a century ago, present a sharp contrast to harsher conditions in the rest of the country.

Yet the divide between capital and countryside is narrowing. The largely agrarian countryside still struggles with the transition from a command to a market economy nearly 20 years after the fall of the Soviet Union—and with the effects of conflict with Armenia in the mid-1990s. But its travails are being made easier with the upgrading of a road that starts in the east at Baku, on the Caspian Sea, and traverses westward to Georgia, Europe, and beyond.

Key sections of the 500-kilometer (km) east–west corridor, being rehabilitated under projects supported by ADB, will cover 132 km at a cost of \$370 million. This is part of the larger ADB-backed Central Asia Regional Economic Cooperation (CAREC) Program, under which eight countries have agreed to spend \$18.7 billion to modernize and expand six road and rail corridors that traverse what was once the Silk Road network between the People’s Republic of China and Europe.

It is no small task: half the country’s roads are gravel based and 70% need repair, and oil still accounts for over 90% of export earnings. But the government is keen to diversify and is allocating more oil revenues—which are expected to run to hundreds of billions of dollars in the coming years—for roads and other infrastructure.

Improving Product Quality is Crucial

Closer transport and trade ties with its neighbors and the east–west corridor are crucial to this effort as much of Azerbaijan’s attraction lies in its being part of a regional bloc. “To multinational companies, we sell Azerbaijan as part of the Eurasia Business Platform that comprises nine countries,” says a Baku-based trade analyst who represents international and local exporters.

“Much of the industrial strategy involves processing agricultural goods and accessing the highly competitive and quality-conscious European markets,” says Emil Majidov, head of Azpromo, the government agency tasked with encouraging exports and investment.

Majidov aims to persuade small and medium-sized producers in the food-processing sector, for example, to come together to improve product quality as well as become more competitive in marketing and distribution.

Painful Transition

The road is also important to resuscitating an agriculture sector still stricken by the dismantling of Soviet-era collective farms.

This is evident around Ganja, the country’s second largest city 430 km west of Baku, where farmers are adjusting to new realities, says Arif Jahangirov, deputy director of the Ganja Regional Consulting Centre, a privately funded agency that advises farmers how to increase productivity.

After independence, rural land was redistributed among villagers who received, on average, 1 hectare each. The process was “very painful for people, who had been only laborers, to learn about farming, especially if they didn’t have money to buy farm equipment,” says Jahangirov.

But he is now advising farmers to band together again to achieve economies of scale if they want to revive exports of wheat or grapes to the Russian Federation, for example. So far, this notion is meeting resistance as memories of collective farming remain fresh.

Nonetheless, at the village of Morul, 30 km north of Ganja, a former manager of a collective farm is showing the way. As well as raising crops and breeding cattle, Oruch Mammedov, 63, sells seeds to other farmers. At the time of the interview, he planned to construct a market in a nearby town in hopes that he and other farmers could negotiate



Ian Gill

- **Seeds of prosperity** Oruch Mammedov is selling better-quality seeds to other farmers to improve productivity

better prices as a group. “Better roads will help this enterprise,” he says.

Typical of the small-scale farmer is middle-aged Novruz Huseynov, who grows potatoes, onions, and pomegranates in his garden and other small lots in the village of Tovuz on the east–west corridor, 40 km from the Georgian border.

Because of its soil and climate—and a tradition of wine making going back over 1,000 years—Tovuz produces excellent grapes. But most villagers opt for smaller, individual enterprises such as cultivating fruits and vegetables and breeding cattle.

For Huseynov, the newly completed section of the east–west corridor outside Tovuz is a hopeful sign. ■

Project Information

East–West Highway Improvement Project
(2005–2010)

Financing: \$49 million, Ordinary Capital Resources (ADB); \$3 million, Special Funds (ADB); \$277 million, Multitranches Financing Facility (ADB); \$10.4 million, Islamic Development Bank; \$11 million, Saudi Fund for Development; \$19.8 million, Government of Azerbaijan

- **Concrete improvements**
The new paved road from Dushanbe will eventually connect to the Kyrgyz Republic border, helping local farmers and boosting trade as businesses find new markets for their products.

Paving the Way for Growth

Thanks to a new concrete and asphalt road from their village to the capital, residents of Obi Garm can travel to Dushanbe in half the time as in years past

By Philip Wood

No sign indicates where a major ADB road project tapers off in Rasht district, Tajikistan. But close your eyes and it is easy to tell. Smooth concrete road abruptly gives way to jarring, rutted terrain, and vehicles heading east from the capital Dushanbe begin a 45-kilometer (km) crawl.

Drivers coming in the other direction find the concrete to be a welcome relief after enduring a long, sandy potholed stretch of road. On arriving at level asphalt, they stop at a makeshift car wash where they throw buckets of brackish water over their dirt-encrusted vehicles.

This bumpy transition from concrete to dust can be found in the village of Obi Garm, some 95 km east of Dushanbe. It marks the juncture between two phases of a major ADB road rehabilitation scheme that will eventually connect the capital with the Kyrgyz Republic border some 340 km to the northeast.

Improved Access, Appreciating Incomes

Upon completion, the Dushanbe–Kyrgyz border road will have benefited from three ADB investments totaling \$118 million. Work on the initial phase—from Dushanbe to Obi Garm—began in 2003 and was completed in 2008. Work on the second phase, which includes the 45 km bumpy stretch heading east from Obi Garm, is scheduled to begin in mid-2010. Work on a third phase—the rehabilitation of the final 120 km stretch leading to the border—began in 2008 and is scheduled to finish in 2013.

Targeting a region with a poverty incidence estimated at 90%, the ADB-funded road upgrades have had immediate impacts.

Residents of Obi Garm speak of how the upgraded stretch leading to Dushanbe has changed their lives. "You cannot appreciate how much the population here appreciates this road," says Safir Karimov, a village resident. "Before, people only went to Dushanbe when they had to," he said. "Now, people are willing to go all the time because they can."

Nusratullo Ishanjanov, an engineer with Tajikistan's Ministry of Transport and Communications, describes how travel time between Obi Garm and Dushanbe has been cut in half, meaning cheaper

"Improvement of the Dushanbe–Kyrgyz border road along with rural roads reduces Tajikistan's isolation and has remarkable direct social impact on the poor."

Makoto Ojira, ADB's Country Director for Tajikistan

transport costs for everything from people to produce.

"This is a largely agricultural region, and therefore most of the products that come from here are perishable," he said. "Improved roads help get fruits and vegetables to the market more quickly and also bring down the cost of doing so," said Ishanjanov, .

Important Links to International Markets

When the entire road is complete, vehicles will be able to drive from Dushanbe to the Kyrgyz border in just 6 to 8 hours, a jaunt compared with the 24 hours it took before ADB-financed road improvements got under way.

In the meantime, drivers traveling between Obi Garm and the Kyrgyz border will have to continue to endure dirt, dust, and delays.



- **Freedom of motion** Safir Karimov and his son live in Obi Garm. Before the road, said Karimov, residents rarely made the trip to the capital, Dushanbe. "Now they go all the time because they can."



Vyacheslav Oseledko

- Makeshift car wash** Now that he has reached the paved portion of the Dushanbe–Kyrgyz border road, this driver uses water from a nearby stream to wash dirt and dust from his car.

A few kilometers down the unpaved road, a solitary figure shovels dirt. Cars and trucks crawl by. What is he doing there?

"Filling all these holes," says Said Saidov, who works for the local district authority. "My job is to pack them, to fill them with earth."

Said's job is important. Even in its current state, the Dushanbe–Kyrgyz border road is one of the most significant trade routes in all of Central Asia, a transport link connecting landlocked Tajikistan and the Kyrgyz Republic with the People's Republic of China and beyond.

The road—concrete and dirt sections alike—is one of six Central Asia Regional Economic Cooperation (CAREC) transport and trade corridors that crisscross the entire region. The CAREC network links Central Asia with the vast markets that surround it: the People's Republic of China and Japan to the east; Pakistan, India, and the Persian Gulf states to the south; Europe to the west; and the Russian Federation to the north.

"This investment perfectly showcases ADB's commitment to poverty reduction in Tajikistan and to regional cooperation in Central Asia," said Makoto Ojiro, ADB's country director for Tajikistan.

"Improvement of the Dushanbe–Kyrgyz border road along with rural roads reduces Tajikistan's isolation and has remarkable direct social impact on the poor." ■

Project Information

Dushanbe–Kyrgyz Border Road Rehabilitation Project, Phase I (2006–2009)

Financing: \$15.0 million, Asian Development Fund (ADB); \$6.0 million, Organization of the Petroleum Exporting Countries; \$2.6 million, Government of the Kyrgyz Republic

Dushanbe–Kyrgyz Border Road Rehabilitation Project, Phase II (2006–2010)

Financing: \$20.0 million, Asian Development Fund (ADB); \$29.0 million, Asian Development Fund (ADB); \$500,000, Asian Development Fund grant (ADB); \$14.6 million, Government of the Kyrgyz Republic

CAREC Regional Road Corridor Improvement Project, Phase III (2007–2010)

Financing: \$29.6 million, Asian Development Fund grant (ADB); \$12.5 million, Asian Development Fund grant (ADB); \$500,000, Technical Assistance Special Fund (ADB); \$40.9 million, Asian Development Fund loan (ADB); \$50,000, Government of the Kyrgyz Republic



- **Stitching incomes** Women in the Kyrgyz Republic are earning extra money through handicraft projects such as the production of traditional *shirdak* carpets, made of felt

Today's People, Tomorrow's Prosperity: Reviving Growth in Central and West Asia

Central and West Asia: home of the Silk Road and its historic merchant capitals of Bukhara and Samarkand, Herat and Kashgar; of the fertile fields of the Fergana Valley; and of the many cultures of the Caucasus. Nearly 20 years since many of these countries emerged from the collapsing Soviet Union, the Asian Development Bank (ADB) continues to help them rebuild and reform vital services and infrastructure. From microfinance and education projects to telecommunications, from disaster risk reduction to new roads and rails, ADB is working with countries in the region to revive the Silk Road and bring prosperity back to one of the world's cradles of civilization.

About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries substantially reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two-thirds of the world's poor: 1.8 billion people who live on less than \$2 a day, with 903 million struggling on less than \$1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.