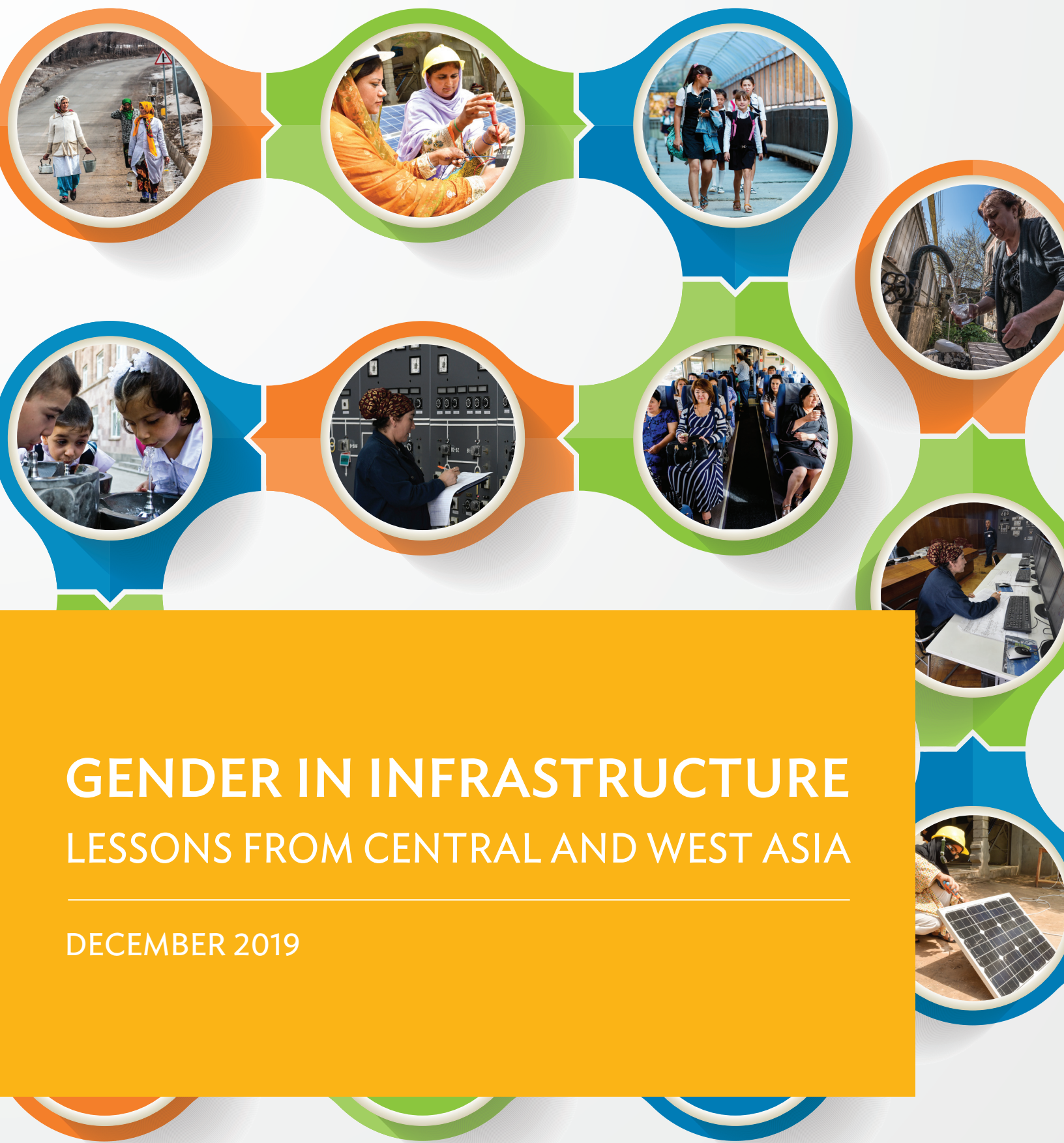




GENDER IN INFRASTRUCTURE

LESSONS FROM CENTRAL AND WEST ASIA

DECEMBER 2019

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Notes:

In this publication, “\$” refers to United States dollars, “PKR” refers to Pakistan rupees, and “SUM” refers to Uzbekistani sum.

ADB recognizes “Kyrgyzstan” as the Kyrgyz Republic.

On the cover: Gender-inclusive infrastructure projects drive economic growth and promote gender equality in Central and West Asia (Agency for Technical Cooperation and Development [ACTED]; ADB Photo Library).

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Introduction: Improving Women's Lives, One Infrastructure at a Time

Since its establishment in 1966, the Asian Development Bank (ADB) has played a significant role in infrastructure development in Asia and the Pacific through investments in transport, energy, water supply and sanitation, and irrigation, which contributed to economic growth of the region. While significant progress has been made, ADB recognizes the need for sustained efforts to address remaining issues of poverty and vulnerability, and improve the quality of lives of millions of people. Moreover, not all infrastructure investments accrue to women's benefits. Because society puts women and men in different roles with different expectations and levels of decision-making, women's ability to reap the benefits of infrastructure development may be less than men's. For example, a project that would build an interstate highway could provide a rural community access to jobs during construction and, when completed, could enable faster travel to cities to facilitate trade, provide access to better education, and open up more job opportunities. While seemingly available to all, these opportunities are enjoyed mainly by men who have less cultural constraints on leaving their homes and traveling, compared with women. And unless women's needs are considered in the project design, the interstate highway could even be detrimental to women, as it could take away their means to sell their produce on the roadside or make it more difficult and dangerous for them to walk their children to school due to increased traffic speeds brought by improved highways. Failure to consider gender-based differences in the design of infrastructure projects may not only exclude women from participating in and benefiting from infrastructure projects but also reinforce their already disadvantaged position in society.

To ensure that projects mainstream gender concerns into design and implementation, ADB has instituted a four-tier gender classification system: (i) category 1, gender equity (GEN), is applied to a project if its outcome directly addresses gender disparities; (ii) category 2, effective gender mainstreaming (EGM), is applied to a project if a majority of its outputs directly improve women's access to social services, economic resources, and infrastructure benefits, or enhance women's rights and decision-making; (iii) category 3, some gender elements (SGE), is applied to a project if less than half of its outputs have some direct gender benefits; and (iv) category 4, no gender elements (NGE), is applied to a project if it has only indirect gender benefits. ADB has set a bank-wide corporate target that 55% of all its investments should meet requirements for gender categories 1 and 2 by 2030.

The infrastructure sector accounts for a large proportion of ADB's Central and West Asia portfolio. These huge infrastructure projects often have little or no community interface, which has been especially challenging. Projects such as building transmission lines over deserts, constructing bypass roads in uninhabited areas, building tunnel roads through mountainous terrain, rehabilitating power stations, or putting up hydropower plants do not easily lend themselves to gender mainstreaming. However, experiences in mainstreaming gender concerns in the projects in Central and West Asia since 2012 have led to a rich collection of good practices that could bring about significant changes in the lives of women.

One important lesson learned from these experiences is that when projects are designed in a gender-responsive manner, they could create positive changes for women, which include reduced drudgery and time spent on housework, improved health outcomes for their families from cleaner fuel, increased income from livelihood opportunities, improved skills from education and training, and enhanced leadership through participation in decision-making bodies. At the same time, government infrastructure sector agencies, especially the executing and implementing agencies of ADB projects

in the region, have started to recognize that incorporating gender concerns into the design and implementation of infrastructure projects makes project benefits more inclusive and enhances the project's development impact. As of 2019, investments in Central and West Asia have reached the 50% mark of projects meeting the requirements for gender categories 1 and 2.

This collection of good practices in mainstreaming gender in infrastructure projects in Central and West Asia aims to highlight the fact that well-designed infrastructure projects can adequately address the needs and constraints of both women and men, so they can equally benefit from the projects. Nine projects in the four infrastructure sectors or subsectors—energy, transport, water supply and sanitation, and irrigation—are featured in short, distinct articles. Each article begins with a brief description of the project and the gender issues, followed by the actions inherent in the project that are designed to address these gender issues. Recommendations and/or lessons learned in gender mainstreaming conclude each article.

Despite the successes in making infrastructure development more gender-inclusive, so much work needs to be done. But with sustained and synergized action, the positive impact on women's lives can be realized, one infrastructure at a time.

Energy

Opening Doors, Widening Choices: The Solar Panel Technician Training for Women in Pakistan

Emer McCarthy

“Before, I used to sit at home doing nothing. Now I have an opportunity to work,” says 18-year-old Maryam, who got a job at a solar company after completing an ADB-supported training on solar energy technology.

Maryam is one of the beneficiaries of Solar Panel Technician Training for Women in Pakistan.

Life-Changing Experience for 18-Year-Old Maryam

Maryam is an 18-year-old young woman living in Multan district. Maryam completed 12th grade, but had to discontinue her studies due to poverty. Maryam says that before the Agency for Technical Cooperation and Development (ACTED) project she had no opportunity to work:

“I was out of school and just stayed home. One day, ACTED came and told us about the solar panel training. It interested me. I talked to my father, but he refused because we were to be taught by male teachers. My father said it is not right for a female to work outside, and especially on roofs and in buildings.”

This upset Maryam, but through the efforts of ACTED, her mother was able to help her get permission and admission to the training. Maryam successfully completed the solar panel training course.

“During this course, I learned about electrical wiring, basic repair, and how to make electric switchboards. I faced many challenges. My biggest grievance was when my brother stopped talking to me for almost two months because he was against this training. After completion of the training, I got a job in the premier solar company as a solar panel assistant.” Maryam now says.

“This contribution has improved my value at home; I earned their respect. I fixed boards in the community and earned money. Before, I used to sit at home doing nothing. Now I have an opportunity to work, and play my part in the betterment of our community.”

Training Female Technicians

“Sustainable Solutions for Women’s Empowerment: Solar Panel Technician Training for Women in Pakistan” is a pilot project that was implemented by the French nongovernment organization (NGO) ACTED. As part of ADB’s Access to Clean Energy Investment Project, this project empowered women through capacity building in solar technology and increased access to renewable energy for everyone in the community. The project was implemented in Multan district, Punjab province, Pakistan.

Multan has a largely rural population with a high dependency on agriculture. Female literacy rates stand at just 52% compared to the national average of 51% and wide variation in the labor force exists between men (64.17%) and women (3.11%).¹

¹ Government of Pakistan, Bureau of Statistics. 2016. *Pakistan Social and Living Standards Measurement Survey (2014–2015)*. Islamabad. http://www.pbs.gov.pk/sites/default/files/pslm/publications/PSLM_2014-15_National-Provincial-District_report.pdf.

Multan faces severe energy shortages. There is a high demand for solar energy but limited skilled solar technicians. ACTED, with support from ADB, addresses this by capacitating women as solar technicians. Opening up a wide range of opportunities for women while meeting the energy demand gap contribute to real socioeconomic change.

The pilot project aimed to (i) train 50 women in solar energy technology, entrepreneurship, leadership skills, and women's rights; (ii) install five solar panels in community spaces; and (iii) support linkages between trained female technicians, financial services, and livelihood opportunities. More specifically, ACTED's project contributed directly to the outcomes of ADB's Access to Clean Energy Investment program through (i) increasing access to energy at the community level; (ii) providing women with increased opportunities to obtain energy services and benefits; and (iii) fostering sustainability by training women as solar panel technicians and installing solar panels in community spaces.



Women in the Energy Sector. Training women as solar technicians increases their employment opportunity in the energy sector (photo from ACTED).

Project at a Glance

Program Implementation Duration	1 February–17 November 2017
Budget	\$76,675
Program Goal	Contribute to women's economic empowerment through capacity building in solar technology

Identifying and Addressing Gender Issues

The project addressed gender issues in the design and implementation of the project in the following ways:

Conducting community mobilization and engagement. ACTED's team conducted extensive consultations and negotiations with the trainees, their families, and the local community. Continued engagement with both women and men ensured strong community involvement and ownership during and after the training. Solar technology is a nontraditional profession for women in Pakistan and the community had to be encouraged to accept the changing role of women. As a result of intensive community mobilization, gender issues came to the fore. Women's chief concerns were (i) gaps in female labor force participation; (ii) lack of female decision-making power at household and community levels; and (iii) labor burdens that fall largely on women linked to lack of electricity and power shortages. In addition, a response mechanism ensured that the trainees and anyone in target communities could directly contact ACTED in person or by phone to provide feedback, suggestions or register complaints. This contributed to trust and ownership from the community.

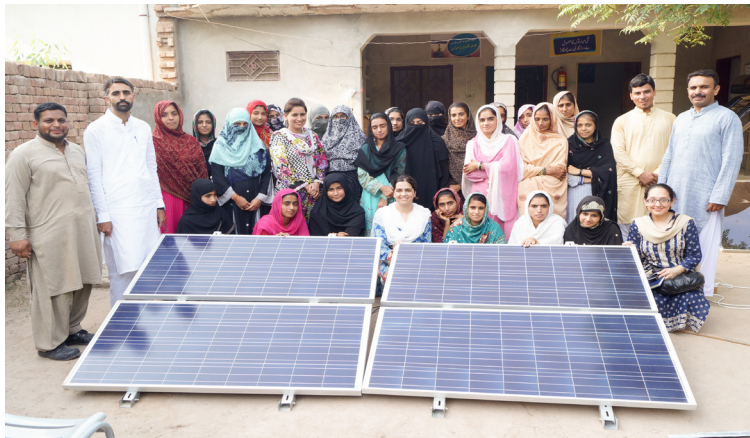
Transparent beneficiary selection. Beneficiary selection was done in accordance with agreed upon criteria that prioritized willingness and vulnerability of trainees and their families. Representative community organizations (COs) cultivated community mobilization and beneficiary selection. Local COs first prepared a list of potential beneficiaries; then, ACTED's team verified each beneficiary through

house-to-house visits to ensure that all beneficiaries met the specified criteria.

Safe location. Ensuring a centrally located training space near trainees' homes and times that were considered acceptable and safe by female trainees and their families was crucial for participation.

Providing holistic training.

Technical training on solar energy technology was supplemented with training on entrepreneurship, leadership skills, and women's rights. Technical training alone is insufficient to contribute to real social and economic change, heightening the need to broaden ACTED's outlook for what could be accomplished.



Capacity Building for Empowerment. Women receive training to enhance their technical, leadership, and entrepreneurial skills (photo from ACTED).

Linking trainees with financing and livelihood opportunities. ACTED facilitated meetings so trainees could engage with financial institutions and potential employers. Since the training was an opportunity not only for women to be supported as energy consumers, but also as service providers, it also supported local employers who lack trained technical staff, especially female staff.

Community-wide benefits. ACTED's mobilization strategy highlighted the community-wide benefits of women being trained as solar technicians. In Multan, it is not possible for a male technician to enter a home when another male is not present. This results in frequent delays for solar installation and repair for employers and customers. The trainees also installed five solar panels in four government schools that are now benefiting over 1,000 community children. The training has also inspired other women in Multan to engage in trainings and employment.

Achievements

Through the project, a unique and nontraditional skill training was opened for women for the first time in Pakistan.

Compared to the target of 50 trainees, a total of 54 were trained, all of whom successfully graduated from the training course and received a tool kit and completion certificate.

Linkages between trainees, employers, and financing institutions were strengthened. Thus far, 18 women have secured regular employment and four women accessed interest-free loans from local microfinance institutions to start their own business.

Initially, convincing the families to send their daughters for this training was met with cynicism and questions like "How can women become solar technicians?" It was a significant achievement that many families finally became interested to send their daughters to undergo such training.

Maryam is one of the successful examples; she is happy and becoming confident as she learned new things and added value to her family. Nazia, a 37-year-old mother of five, also transformed her life through the solar training program. Nazia is now working as a solar panel supervisor in the textile industry, with the first salary at PKR18,000 per month compared to PKR2,000 when she was teaching in a vocational center before taking the training.

“I was very happy when I received my first salary. It’s the highest amount that I ever received against my work. I feel that women can do anything. My husband admires me now,” Nazia proudly says.

Nazia belongs to a community where some of the members still believe that girls’ education is not a priority and early marriages are common. Nazia went to school until the 12th grade. She always wanted to help support her family financially. In order to participate in the training, Nazia tried hard to finally convince her husband, and also motivate her friends and community members to stand with her. She supported and advocated for herself and eight other young women to be admitted to the training.

Nazia now is able to fix ceiling fans for her in-laws and make electric boards. Recognized as the solar panel lady, Nazia also encourages young girls and women to get training on the subject. “This will make a difference in their lives,” says Nazia.

Uzbekistan: Empowering Women, Powering the Future

Mekhri Khudayberdiyeva, Shokhimardon Musaev, and Eleonora Fayzullaeva

“I am proud to be part of such a spectacular project,” said Mukaddas, a mother of three, office manager at Talimarjan Power Plant Project Management Unit.

Talimarjan power plant and its small neighboring village of Nuristan are nestled in the vast steppes of the Kashkadarya region, an area with extremely sultry summers and harsh winters. Since Mukaddas’s joining the plant in 2004, she has witnessed great transformations there, which has been matched by her own professional development. In partnership with the Asian Development Bank, the Talimarjan Power Project (TPP) has added two more huge steam–gas turbines with a capacity of 900 megawatts (MW), unique not only for Central Asia, but also globally. This is just one of the components that the TPP brings.

Strengthened Power Plant

Except for the installation of energy-efficient generating plant, the executing agency of this project, the state joint stock company Uzbekenergo, the sole power sector utility in Uzbekistan, is embracing corporate management restructuring and performance improvement, having set up a community service center and implemented a comprehensive Gender Action Plan (GAP).

The TPP was initially approved in 2010; by its 2018 completion, it will have increased power generation efficiency from 31% to 50%, and the power supply will have increased by 4,700 gigawatt hours (GWh) per year.²

Project at a Glance	
Approval Date	20 April 2010
Proposed Ending Date	31 December 2018
ADB Financing	\$350 million
Three Key Outputs	• Energy-efficient generating plants installed • Uzbekenergo corporate management and performance improved • Community service center is operational
Gender Equity and Mainstreaming	Effective gender mainstreaming • Strengthening capacities and improving working conditions of primary stakeholders (women and powerplant staff) • Improving community environment

² ADB. 2010. *Report and Recommendation of the President to the Board of Directors—Republic of Uzbekistan: Talimarjan Power Project*. Manila.

Since the start of the 21st century, Uzbekistan's economy has experienced an average gross domestic product (GDP) growth rate of 7.25%.³ Though energy has played an important role in its high economic performance, Uzbekistan is undergoing a critical time in terms of sustainability, efficiency, and affordability. According to the International Energy Agency, Uzbekistan uses four times the energy than the global average for each dollar of GDP.⁴

With energy efficiency as their top priority, both the government of Uzbekistan and ADB are taking actions to overcome the dilapidated energy infrastructure, lack of investment, low energy efficiency, and a low technology base.⁵

Furthermore, underlying the picture of low energy efficiency is a deepening gender inequity. First, there are few women in the energy sector, especially in decision-making positions. It has been shown that new jobs from infrastructure disproportionately benefit men due to differences in education, labor, and social roles.⁶

Second, due to power supply gaps, and the shortage of electricity, women must dedicate more time for household work, rather than spending time on income generation, and self-development educational programs.

The TPP is providing the local people in Nishan Rayon (population: 52,300) and the settlement of Nuristan (population: 20,300) with more job opportunities.⁷ The operation of the new turbine will bring about 100 job positions. In addition, Uzbekenergo undertook a gender action plan focusing on building up of the community of Talimarjan employees. To reduce the risk of HIV/AIDS and other communicable diseases caused by the increasing influx of the foreign and local workers, gender-sensitive HIV/AIDS awareness campaigns have been initiated for all construction workers.



The Talimarjan Power Project. ADB supported the Talimarjan Power Project that added 900 MW-capacity steam-gas turbines (photo by Talimarjan Project Team).

Smart Metering Improves Energy Efficiency

Besides the TPP project, ADB is contributing to efficient electricity use in Uzbekistan through the Advanced Electricity Metering (AEM) Project, targeting three areas: Bukhara, Jizzakh, and Samarkand.

As part of ADB's efforts, about 100,000 residences and commercial identities received digital smart meters, which allow more frequent and easy communication between the utility and consumers. Along with the AEM system development, meter-reading personnel and controllers have been trained, and information on electricity services and energy conservation has been disseminated through public information programs.

³ Calculated from the World Bank data, https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=UZ-AL&name_desc=true.

⁴ International Energy Agency. 2009. *World Energy Outlook*. Paris.

⁵ Footnote 2.

⁶ ADB. 2017. *Promoting Good Jobs and Inclusive Growth through Energy Projects in Central and West Asia*. Manila.

⁷ ADB. 2010. *Summary Poverty Reduction and Social Strategy—Talimarjan Power Project*. Manila.

Project at a Glance	
Approval Date	19 September 2011
Proposed Ending Date	31 December 2016
ADB Financing	\$150 million
Three Key Outputs	- Advanced meters installed and associated data communication equipment functional. - Data management system developed and operational. - Customer services for end-users improved.
Gender Equity and Mainstreaming	Effective gender mainstreaming - Strengthening capacities and improving working conditions of primary stakeholders (women meter readers, controllers, etc.) - Improving service for women customers

Uzbekistan has always suffered from high losses in its power transmission and distribution system; as estimated by Uzbekenergo, there is almost 20% of system loss, compared to around 5% in advanced countries. But this is estimated to be even higher due to commercial losses in the range of 25% to 35%.⁸ By properly accounting for every unit of power consumed and spreading the knowledge of appropriate electricity use, the commercial and tariff collection losses will be reduced, and thereby contribute to energy efficiency.

Women especially benefit from this project given their role as family caregivers. In Uzbekistan, women are the key users of electricity, yet they have little power to make spending decisions. As an ADB survey manifests, there remains a strong gender imbalance within the household: (i) although women in households basically do all the house work, and are more likely to use household appliances, men mainly decide what equipment to buy; (ii) men usually control the family budget; and (iii) men make the key decisions in the household.⁹

The installations of more scientific meters and the public information program are encouraging women to use electricity in a more appropriate way and making them the drivers of change. As of 2011, only 8% of households were aware of energy-saving household appliances; this proportion increased to 30% under the efforts of this project.

In addition to the paradigm change in electricity use, women are economically empowered in the AEM project.

Women in Power

Like Mukaddas working in the TPP, more women can cultivate themselves through participating in the labor market, thanks to the job opportunities provided by the AEM project. This project made sure that 50% of staff working in the 45 district service centers are women. Round-the-clock customer hotlines were created in each region, staffed with women trained to create better service for customers, and the sex-disaggregated database of customers were established.

The AEM project greatly enhanced women's working conditions at Uzbekenergo. Women meter readers, controllers and operators took training courses on career development and specific skills. Sanitary facilities

⁸ ADB. 2011. *Report and Recommendation of the President to the Board of Directors—Republic of Uzbekistan: Advanced Electricity Metering Project*. Manila.

⁹ The survey conducted under the auspices of ADB/URM funded the AEM project, Tashkent, 2011, p. 2 (unpublished). For example, in cities, 77% of cases (house or apartment where the family lives) belong to men; in rural areas, 85% of cases; electricity bills are paid in 67% of the households by one of the men, just because men manage the household budget. Although most women use appliances and electronics in 61% of households, men decide which device to buy and only 29% indicated that the spouses make a joint decision.

were established in every regional data management center and district service center. The gender mainstreaming capacity of Uzbekenergo was strengthened through recruiting national gender specialists, identifying gender focal points, and gender action plan working group meetings, and the establishment of the sex-disaggregated career development databases for Uzbekenergo employees.

In the TPP project, a core group of women leaders, organized and trained to monitor gender elements in the workplace, are the voices of the employees in the consultative processes in the organization. Through networking with the Women's Committee of Rayon, power plant trade unions and other NGOs, this gender focal point is strengthening gender equality. By constructing adequate, separate toilets and shower rooms for men and women, and well-designed rest rooms for workers, the Talimarjan power plant ensured it was also a comfortable "recharging" place for all employees. Gender sensitivity training raised awareness of women's rights and gender issues and provide opportunities for discussion on women's empowerment.

In addition, gender equity was promoted in the hiring process. Women, as with men, can excel in their positions, a fact that is vividly illustrated by Mukaddas's experience. During the dramatic cut of plant personnel, Mukaddas studied day and night, successfully passed the qualification exam, and was upgraded for a new position. In 2014, she strived for the position of office manager in the Project Management Unit. The new work is very challenging and Mukaddas has developed new skills required by international business standards. Currently, she has become a focal point for outreach interventions and the running of office, in turn, relies on her professionalism.

The percentage of female employees and managers in the power plant is on the rise. Among the "energy females," Mukaddas is an example of how personal efforts combined with equal job opportunity make the workplace a source of fulfillment.

Talking about the work at the TPP, Mukaddas happily said, "My children are proud of me."

A Community for All

Besides professional development, Mukaddas is also satisfied with the warm community she is working and living in. The development of the power plant's social and community environment constitutes an integral part of the TPP project.

This story can be dated back to a needs assessment session, during which Mukaddas, as one of the women leaders group, proposed constructing a community center. As a resident of Nuristan, Mukaddas understood that the village was in urgent need of social infrastructure. Having instigated the community center, Mukaddas also helped in identifying its education and training programs, such as English language classes, library, gym hall, sports sections for children, fitness club for women, and vocational classes to start small businesses for women. All these proposals went into the community center business plan,



The Community Complex Center in Nuristan. Once finished, the community center will house retail, recreational, business, and training facilities (photo by Talimarjan Project Team).

and became part of the ADB loan agreement, which made it what is today: The Community Complex Center (CCC) in Nuristan.

The CCC will attract high-skilled workers through its stores, shops, and recreational, business, and training facilities. Alongside the CCC, construction and renovation of a housing complex will make the living conditions of the Talimarjan workers more comfortable. Women's representation in the design and upkeep of the facilities was guaranteed.

At the same time, community-based development programs were prepared in accordance with the local people's needs. Take trainings, for instance: the topics range from vocational training, leadership skills, computer skills, microfinance schemes, and business development to health knowledge like preventive medicine, hygiene awareness, family planning, sexually transmitted disease prevention, and effective energy use. For the unemployed women living in the community, skills training will enable home-based entrepreneurship.

Moreover, the Women's Community Association, which consists of the female spouses and family members of the TPP employees, offers help in terms of child care, taking training courses, and finding a job. The association keeps records on women and their children's suffering from serious illnesses and helps to provide financial assistance from the internal fund of the TPP. The members of the TPP Trade Union¹⁰ stated that female employees enjoy all benefits under the Tariff Agreement, specifically those related to childbearing and maternity, reduced work time during parental leave period as per preference of the women; preference in annual vacation, but not compromising their financial status; and child-rearing leave for either of the parents or any of the family members who look after the child.¹¹

Addressing the lack of qualified female experts, managers, and technicians in the energy sector, the project stressed the collaboration between the energy college in Nuristan and Talimarjan. With the goal of increasing girls' school enrollment and graduation, an allotment of 30% of the scholarship stipend for female applicants was discussed. Uzbekenergo also provides funds to employees' children (both young girls and boys) who wish to obtain a degree in energy or industrial control systems at universities such as Tashkent State Technical University, Turin Polytechnic University in Tashkent, or the Energy Studies Institute of the National University of Singapore. After graduation, Uzbekenergo provides employment for 5 years.¹² This encourages more female students to select the traditionally male-dominated energy engineering majors, and therefore improves the chances for them to enter a professional career in "power."

From 2015 to 2016, 68 Nishan district vocational college graduates, including 21 girls, were employed by the TPP in the positions of electrical fitter, electrician, and adjuster. Changes are gradually happening, with families making choices for the educated brides, and with nontraditional specialties, as the latter have potential of good jobs and decent salaries to contribute to the family budget. During the project implementation period, the percentage of female employees in the TPP increased from 19.5% to 27.7%.

Diana Arlantseva is one of those girls who started their career in Uzbekenergo. After graduating from the Polytechnic University in Tashkent with a bachelor's degree in industrial management, she first worked as a specialist ("discoverer" of the state of fracturing) with the project. Due to the lengthy immersion in the gender-related trainings provided by ADB through the years, and the reflection on her personal experience, Diana successfully took on the new leading role of gender expert of the project.

¹⁰ Field survey under CGAU preparation, September 2017.

¹¹ The Tariff Agreement is a document between (1) JSC "Uzbekenergo" and (2) Central Council of Trade Union of Employees of Fuel and Energy sector, Chemical Industry and Geology of Uzbekistan. This agreement is a binding document which Uzbekenergo must abide by while engaging the employees/staff.

¹² In 2013 and 2014, Uzbekenergo paid 474 contracts with total of SUM2,090,882.54; Uzbekenergo is also a trustee at universities providing sponsorships in the form of buildings, laboratory equipment for alternative energy research, etc., TPP Project GAP progress reports, 2014–2015.

Once a student at the trainings, now the designer of the trainings, Diana is a key player, like Mukaddas, who shaped the picture of the TPP community with diverse and rich activities.

Issues and Lessons Learned

In the case of the TPP, despite the positive results, there is still a lack of ownership among current Uzbekenergo management, resulting in delays in implementation of GAP activities, awareness raising, and gender sensitivity interventions. This is aggravated by the lack of funds currently allocated for gender capacity building and staff reorganization which resulted in decreased number of the TPP field gender specialists. The gender policy discussions and endorsement are pending as the sector is still undergoing structural reforms.

Though the TPP GAP-supported community center is 90% completed, with jobs for at least 30 women (fitness instructors, language teachers, psychologist, sewing and handicraft classes), construction delays remain due to the structural reforms in the sector and consequent funding challenges. There is no progress in purchasing furniture and equipment for training courses, contracting service providers, or identification of target beneficiaries for each planned module (vocational, business skills development, computer literacy, effective energy use, microfinance, leadership).

There is a high staff turnover in the TPP. In 2016, due to the optimization process in Uzbekenergo 270 jobs were cut, mainly the workers of the subsidiary farm and landscaping unit. The male workers were offered an option of farm lands in Yakkabag district to start an agricultural business. Women employees were supported through soft loans in Microcredit bank for poultry growing. Some of the women were employed in UzKommunhizmat landscaping unit.

Ways Forward

If planned well and implemented effectively, energy projects have the potential to uplift lives, including those of women and girls. To maximize the positive outcomes of the TPP project, recommendations include the following:

- Accelerating the discussions and endorsement of the gender policy for the energy sector and carry out a survey on its economic and social influences.
- Carrying out time-use studies to measure any decrease in the burdens on women's time if sufficient electricity allows them the use of labor-saving devices.
- Initiating discussions with the new management of Uzbekenergo on the barriers and bottlenecks in the community center launch and other commitments of the state partner to make the center fully operational.
- Increasing the executing agency's GAP ownership to ensure sufficient budget allocation for capacity development and outreach interventions, inclusive of the information campaigns on the results of regular tests of the steam-gas engine emissions to overcome the concerns about the potential impacts on morbidity of the population.
- Strengthening cooperation with the Women's Committee of Uzbekistan in promotion of gender equity and improving financial literacy of women on small and medium enterprise development.
- Continuing interventions to enhance women's business and market skills and increase their access to finance and credit facilities.

Cultivating Women Leaders in Energy: Case from the Access to Clean Energy Project

Uzma Altaf

Poor access to electricity blights many remote rural parts of the world. In Pakistan, which has abundant energy resources, energy infrastructure is inadequate, and transmission and distribution is inefficient. Under extreme circumstances, rural and remote areas of Pakistan can face up to 12 hours load shedding daily.¹³ Increased access to reliable and affordable energy therefore is critical for economic growth and poverty reduction.

Khyber Pakhtunkhwa (KP) is one of the poorest provinces in Pakistan; an estimated 38% of the population lives below the national poverty line, while 49% of the population in KP and 31% in Punjab experience multidimensional poverty. About 20% of the schools in KP and 10% in Punjab are not connected to the national grid. Health-care facilities are subject to long hours of load shedding, hampering services and endangering refrigeration for lifesaving drugs and vaccines for diseases such as polio.¹⁴ Lack of electricity hinders the economy, the community, and human development.

Connecting People to Energy

The Access to Clean Energy Investment project, the first of its kind financed by ADB in Pakistan, employs a results-based financing modality. It is addressing Pakistan's energy crisis through installing power plants, increased opportunities for women and girls to access energy services and benefits, and enhanced institutional capacity to foster sustainability while promoting public sector energy efficiency. The project will support installing 1,000 micro-hydel in the very remote and off-grid communities, benefiting 1.5 million residents. It will solarize 23,000 schools and supply 2,587 basic health units in KP and Punjab, benefiting 2.6 million students, including 1.2 million girls.

Addressing Women's Issues in the Energy Sector

Women are disproportionately affected by energy deficits. In Pakistan, women are the primary managers of household energy and intermittent supply adds to their time poverty in carrying out their daily chores. After the agriculture sector, women are mostly employed by small and medium enterprises, all of which are severely impacted by power deficits. In times of layoffs, women, being largely semi-skilled or unskilled workers, are the first to lose their job.

In Pakistan, while women's participation in medicine and teaching continues to increase, their participation in engineering and technology remains negligible compared to men's. One study mentions that, "While the Government of Pakistan sets female employment quotas, the energy sector has consistently lagged behind other sectors in female participation at all levels of employment."¹⁵

¹³ K. Ghuman. 2014. Increased loadshedding worries prime minister. Dawn. (updated 29 April 2014). <https://www.dawn.com/news/1102953>.

¹⁴ ADB. 2016. *Report and Recommendation of the President to the Board—Proposed Results-Based Loan and Technical Assistance Grant Islamic Republic of Pakistan: Access to Clean Energy Investment Program*. Manila.

¹⁵ R. Pearl-Martinez. 2014. Women at the Forefront of the Clean Energy Future. *White Paper—Initiative*. Gender Equality for Climate Change Opportunities (GECCO) IUCN-USAID. Washington, DC. p. 44.

Despite all these challenges, investments in infrastructure could positively change women's lives if projects are designed with an awareness of their readiness to be mainstreamed. ADB is committed to and believes in creating more space and opportunities for women to participate across all sectors and projects. Emphasis is placed on engaging women and gender experts at projects' planning stages. This has helped ADB and government agencies to come up with gender-informed interventions that may not only maximize direct benefits for women, but will also prepare them to participate in the next level of development process i.e., breaking stereotypes.

Reliable electricity in schools is expected to increase enrollment and retention of the students while providing them with improved learning environment. Time savings of women and girls will increase their access to economic opportunities. Solarized primary health care facilities will largely benefit women and children in the rural areas. Over 2.7 million women in KP and 48.2 million in Punjab could benefit from improved electricity access at primary health care facilities.¹⁶

Gender Mainstreaming Strategy

Based on the findings of the program's feasibility study, a gender mainstreaming strategy was formulated with a focus on (i) persistent and increasing burden of poverty on women, (ii) lack of access to clean energy, (iii) inequality in economic structures and access to income generating opportunities, (iv) inequality between men and women in decision-making at all levels, and (v) lack of access to public services including schools and health facilities. The approach is to ensure women's participation during all stages of program implementation both as beneficiaries and agents of change.

One of the key outputs of the program is increasing women and girls' access to energy benefits. To achieve gender results, disbursement-linked indicators ensure that women-headed households and girls' schools are prioritized in planning and targeting of beneficiaries. Of the total schools to be solarized, 30% will be girls' schools. Compared to other provinces, KP has the highest number of women-headed households (14%); therefore, women-headed households will be prioritized for new electricity connections during the installation of micro-hydel power stations—of the total households newly connected to electricity, 7% will be women-headed households.¹⁷ Around 500 primary health-care facilities used by women for delivery or antenatal care will be equipped with solar plants. The program will train 3,000 women to equip them in using energy benefits.

Since strengthening of institutional capacities is one of the key areas of the gender strategy, hiring of women staff, particularly at the field, is a prerequisite for having more and effective interaction with women's communities, especially in the case of conservative societies like KP province.

Key Lessons

Consultations with men and women stakeholders during the project's feasibility study are instrumental for designing a gender-inclusive project. In addition, engaging gender experts at the very beginning of the design stage is important to ensure that gender features are well-integrated. Finally, seeking commitment of the government, political representatives, and implementing agencies is crucial to achieve gender results.

¹⁶ ADB. 2016. *Report and Recommendation of the President to the Board: Proposed Results-Based Loan and Technical Assistance Grant Islamic Republic of Pakistan: Access to Clean Energy Investment Program*, Manila.

¹⁷ Government of Pakistan. 2012. *Pakistan Demographic and Health Survey (PDHS)*. Islamabad.

Transport

Tajikistan: Corridors That Link Women to a Bigger World

Eraj Mirzoev and Gulnora Kholova

“Before, it was very difficult to visit our relatives in other provinces. Now, we can visit them even during winter,” says Khokimova Fayzigul of Vose district, Khatlon province.

“The road improvement makes everything easier. I can go to cities, health facilities, and take my children to schools,” she adds.

Khokimova is referring to the road improvements made under the ADB-financed project Central Asia Regional Economic Cooperation (CAREC) Corridors 3 and 5 Enhancement Project. Among other key components, this project rehabilitated and reconstructed approximately 175 kilometers (km) of the Sayron–Karamyk road section of CAREC corridors 3 and 5 and the subnetwork (the Vose–Khovaling road).¹⁸

Project outputs also included enhancement of road safety and maintenance, and local community development, including improving rural feeder roads and public facilities, provision of solar power solutions for villages with winter electricity deficiencies and associated trainings, and training local communities.



Prioritizing Villagers’ Well-Being. Waiting areas along the Vose–Khovaling road provide convenience and protection to villagers (photo by Ilhom Madaminov).

Project at a Glance	
Approval Date	19 September 2013
Proposed Ending Date	31 October 2019
ADB Financing	\$70 million, sovereign, project grant
Three Key Outputs	• Improved road conditions and enhanced road safety on CAREC corridors 3 and 5 and the subnetwork • Extended access to local communities • Institutional strengthening
Sector	Transport
Gender Category	Effective gender mainstreaming

¹⁸ ADB. 2013. *Report and Recommendation of the President to the Board of Directors—Republic of Tajikistan: Central Asia Regional Economic Cooperation Corridors 3 and 5 Enhancement Project*. Manila.

Country Road, Bring Me Opportunities

The Vose–Khovaling–Tavildara road extends the first ADB-assisted road in Tajikistan. It starts at Asian Highway 66 and connects through the Darband–Tavildara–Kalaikhumb road to CAREC corridors 3 and 5. Once a republican (national) road during the Soviet era, inadequate maintenance and flood damage has led to traffic difficulties. By prioritizing the rehabilitation of the Vose–Khovaling road, followed by the Khovaling–Tavildara road, the government and ADB cut travel times and enhances North–South economic ties by providing easier access to southern markets.

This was a boon for the residents of Vose, Khovaling, and Lakhsh districts since the road provides the only opportunity for entry and exit from the area. The sales markets for local agricultural products were expanded, thus making large processing enterprises, such as livestock, a possibility. Further, roadside infrastructure directly creates new jobs for local people.

The residents in the three districts of Vose, Khovaling and Lakhsh—the last two being located in mountainous areas—expressed gratitude that it now takes “much less time, and less money, to go to the district center.”

The rehabilitation project equally emphasizes safety and maintenance. Street lighting and pedestrian crossings installed in each settlement and sidewalks make it safer for community members to go to schools and public places along the main road.

This project also benefits communities living along the roads through better access to a 30 km rural access road and installing solar panels in nearly 60 households in two Khovaling area communities where there are electricity deficiencies.

Make the Road Women-Friendly

The project is consistent with the gender equality policy of both the government and ADB. Beyond infrastructure enhancement, the project has made the environment more women-friendly for both locals and travelers by building roadside rest areas with separate sanitary facilities for women travelers, breastfeeding rooms, and bus stops with women waiting areas equipped with seats for pregnant women and persons with disabilities.



Improving Roadside Infrastructure. Streetlights along the Vose–Khovaling road make night travel safer for villagers (photo by Ilhom Madaminov).



Pedestrian-Friendly Roads. Pedestrian crossings keep school children and community members safe (photo by Bahrom Rajabov).

“Before, it took me about 1 hour to go to the district center. Now, it only takes 15–20 minutes.”

Khadicha Sultonova,
resident of Erkabog village in Lakhsh district,
and head of a local school.

Widening Opportunities for Women

To encourage entrepreneurship, roadside stalls that prioritize women-headed families were set up for seasonal trade in horticultural and other agricultural products. Thanks to increased tourism due to the improved connectivity, more women come out from their houses, bringing their crafts, goods, and services to sell.

With connectivity now enhancing women's opportunities, the project next provided business training, including drafting of proposals. Women also consulted on which access roads should be upgraded, as well as on health, road safety, and related topics.

Knowledge Spreading Along the Road

The project's training agenda, which was so essential to its success, focused from the outset on inclusivity and broadened perspectives. Overall road maintenance and safety audits were performance-based to complement awareness trainings for local communities. Aside from basic traffic rules, training topics also covered newly installed solar energy facilities, related civil law provisions, entrepreneurship, and health issues. This was preceded by roundtable discussions with representatives of local executive authorities and project partners.

Training on combating HIV/AIDS cultivated an awareness of issues more indirectly related to the project. The local people, especially women, required necessary health knowledge, due to the expected rise in cases of HIV/AIDS resulting from increased connectivity and population mobilization due to the transport infrastructure. At least 500 women accounting for 60% of participants, were trained on HIV/AIDS, sexually transmitted diseases, and other health issues.

This project provides a vivid example of how infrastructure projects have great potential to benefit women if gender elements are integrated into the project design. Targeted trainings are also important to enable them to take advantage of economic opportunities opened up by increased connectivity.

Safe Transport for Women: Good Practices from the Peshawar Sustainable Bus Rapid Transit Corridor Project in Pakistan

Leavides G. Domingo-Cabarrubias

In Pakistan, urban populations have swelled as a result of movement of people from rural areas to cities in search of jobs and opportunities.¹⁹ According to Pakistan's Population and Housing Census 2017, the population in major cities of Pakistan has almost doubled in 2017 in comparison to 1998. However, infrastructure, transport, economic opportunities and other facilities in the cities have not improved at the same pace. Peshawar city, the capital of Khyber Pakhtunkhwa province, is also facing the upsurge of urban population which is overburdening the existing inadequate infrastructure and public transport facilities.

Safe and easy access to public transport catalyzes women's economic empowerment. Women's unique travel needs are shaped globally by sociocultural differences, economic status, and their environment.²⁰ Compared to men, women are less mobile and opt to travel by foot or use private vehicles. Safety risks and inappropriate behavior of men were identified as the key reasons for women not opting for public transport. One of the studies conducted by ADB in Karachi, Pakistan, found that 70% of the women have experienced sexual harassment "sometimes" or "many times" while traveling using public transport.²¹

To foster equitable access to transportation facilities, ADB in collaboration with the Government of Khyber Pakhtunkhwa has launched a Peshawar Sustainable Bus Rapid Transit Corridor project, which will benefit the 500,000 people in Peshawar by reducing traffic congestion and air and noise pollution. The project will construct a 26 km bus rapid transit (BRT) corridor and augment the capacity of the city administration in effective management and sustainable BRT operations.

Sustainable Transport for All

Transport issues are correlated and are exacerbated by widespread poverty in Peshawar, where the poverty incidence rate is 40%. There is a huge gap between men and women in accessing economic opportunities; the unemployment rate of men is 10%, while for women it is 90%.²² Women's lower mobility hinders them from finding a good job, approaching public services such as education, health services, and playing a strong role in society.

The project design emphasized identifying gender issues that limit women's use of public transport.

"Restricted mobility has been identified as a main barrier for women in accessing key services. Around 40% of women reported arranging transport as one of the key problems in accessing health care in Pakistan. Compared to men, women in Pakistan are less mobile and when they do travel their trips are much shorter, more likely by foot or private automobiles rather than public vehicles."

ADB. 2016. *Pakistan Country Gender Assessment*. Manila.

¹⁹ Government of Pakistan. 2018. *Pakistan Economic Survey, 2017–2018*. Islamabad. http://www.finance.gov.pk/survey/chapters_18/Economic_Survey_2017_18.pdf.

²⁰ Adeel et al. 2013. *Gender, Mobility and Travel Behavior in Pakistan: Analysis of 2007 Time Use Survey*. Munich, Germany: Munich Personal RePEc Archive. p. 1.

²¹ ADB. 2016. *Pakistan Country Gender Assessment*. Manila.

²² ADB. 2017. *Report and Recommendation of the President to the Board: Proposed Loan and Administration of Loan Islamic Republic of Pakistan: Peshawar Sustainable Bus Rapid Transit Corridor Project*. Manila.

A gender analysis of men's and women's travel patterns showed that only 15% of women use existing public transport due to the high risk of harassment from fellow passengers and discrimination from conductors and drivers. A project preparatory survey found that 90% of women felt unsafe using existing bus services, and 25% of skilled and educated women were unable to work due to unsafe transport services.²³ Moreover, uncomfortable rides and inadequate services to address the needs of women—particularly those who are elderly, single and are accompanied with children—were also reported as some of the major reasons for women not traveling through public buses. Most women travel on foot for 2 km per day on average, or are sometimes forced to choose more expensive private forms of transport.²⁴

With the goal of improving the quality of public transport in Peshawar, the project will bring about the first BRT corridor through universal accessibility, combining with a bicycle line along the corridor, and bicycle sharing platform in Peshawar University.

Safety and Accessibility

Safety features at BRT stations and corridors include: adequate lighting for each station; separate restrooms for men and women; separate ticketing counters and vending machines for women and priority e-ticketing counters for the elderly and persons with disabilities; and CCTV facilities. Approaches to each BRT station include lighted nonmotorized transport lanes, with accessible bike parks, and sidewalks with accessibility ramps. All buses have clearly demarcated sections for women, children, elderly, and persons with disabilities enforced by the bus staff.

A “Safe Travel Program,” included as an integral part of the BRT system, will address the issues of sexual harassment, theft, bullying, and other security issues, including all forms of harassment against women, elderly, children, persons with disabilities, and other vulnerable groups. Mechanisms will be put in place to address all complaints, whether directly experienced or observed by others. Each BRT station and bus will display a flow chart, helplines, and instructions on what to do when experiencing or observing cases of harassment or any safety threat. Each station will also have: (i) visible desks with trained staff, where victims can report; (ii) a system of recording cases; and (iii) direct lines to the nearest police stations.

Opening economic opportunities. Women's employment is a rare phenomenon in the transport sector, particularly in KP. At the time of the project feasibility study, a negligible number of women were employed in the government transport department, and none were transport operators. The project encourages career opportunities for women through introducing gender-inclusive human resources (HR) policies and compliance with anti-sexual harassment laws and policies. All BRT stations and buses are designed to ensure the comfort and needs of women, children, elderly, persons with special needs and other vulnerable groups. Commercial spaces at BRT stations have been allocated for women entrepreneurs.



Enhancing Access to Transport. Women-only buses help increase women's mobility (photo by Noman Manzoor).

²³ ADB. 2017. *Summary Poverty Reduction and Social Strategy: Peshawar Sustainable Bus Rapid Transit Corridor Project*. Manila.

²⁴ ADB. 2017. *Report and Recommendation of the President to the Board: Proposed Loan and Administration of Loan Islamic Republic of Pakistan: Peshawar Sustainable Bus Rapid Transit Corridor Project*. Manila.

Increasing the use of the bus rapid transit system. It is a difficult yet doable process to create a niche for women in a transport system which is heavily dominated by men. It is expected that the project will increase the ridership up to 20% within the first 2 years of its operations.²⁵ Comprehensive public information and awareness-raising campaigns will be conducted to encourage the public, especially women and other vulnerable groups, to use the BRT system.

The sustainability and effectiveness of the gender actions will be monitored through effective data collection and monitoring systems, including conducting satisfaction surveys and studies on the impact of the BRT system on the lives of all Peshawar residents.

The new public transport system will be a breakthrough in the lives of women and girls in Peshawar city that will increase their mobility and access to economic opportunities. Changing the patriarchal mindset, addressing sexual harassment, and providing a safe and secure traveling experience to both men and women commuters will require a long-term communication strategy, including awareness raising and sensitization by media, using social media power, engaging youth, particularly students, and a continuous dialogue with religious leaders and opinion makers. For more sustainable results, strong government commitment and political will is the key to success.

²⁵ ADB. 2017. *Report and Recommendation of the President to the Board: Proposed Loan and Administration of Loan Islamic Republic of Pakistan: Peshawar Sustainable Bus Rapid Transit Corridor Project*. Manila.

Water Supply and Sanitation

Increasing Women's Access to Water and Sanitation in Azerbaijan: The Water Supply and Sanitation Investment Program

Leavides G. Domingo-Cabarrubias

"I'm so thankful that we now have continuous supply of clean water in our homes. Previously, we had to get water from street taps, then we had to boil the water before we can drink it," says Nouruzuva Momine of Nackchivan City during the focus group discussion with women beneficiaries in October 2017. She shares that it was particularly terrible during winter season because the taps were frozen. "Now, we no longer have to go out to fetch water. Every time we open the tap there is continuous water supply," she adds.

Tamara, an employee of Goychay Su-Kanal (provincial water utility), narrated their rigorous tasks before they were connected with water pipes at home. She says, "We used to get our water from the river. During rainy season, it became silty and dirty. Even for those who had access to pumps, the water quality was a problem. It was turbid. For our drinking purposes, we had to set the water and let the dirt settle, then collect the water on top. Then we boiled the water. Now, we don't have problems. We can drink from the tap."



Improved Access to Water. Piped water network provide continuous supply of clean water to homes (photo by Leavides Cabarrubias).

Continuous supply of clean water is being made possible through the Water Supply and Sanitation Investment Program. The project is a multitranche financing facility approved by the Asian Development Bank in 2009 to support the efforts of Azerbaijan to address its outdated and poorly maintained water supply and sanitation (WSS) system.

Key challenges besetting the WSS system included: poor management, outdated and dilapidated physical infrastructure, and severe financial constraints. Water supply was intermittent, of limited quantity, and of poor quality, with high levels of silt. Other sources of water, such as private vendors, were expensive and/or unreliable. In secondary and small towns, despite an 83% piped network coverage rate, the majority of residents did not have access to safe drinking water.²⁶

The sewage system was also in bad condition. Pipes were broken or clogged with silt, and wastewater was discharged into the nearest waterways. During heavy rains, raw sewage flooded streets and even house compounds. Water treatment facilities, especially in secondary and small towns, were either absent or not

²⁶ ADB. 2009. *Report and Recommendation of the President to the Board of Directors—Republic of Azerbaijan: Water Supply and Sanitation Investment Program*. Manila.

fully operational. Poor sanitation, leaking sewers, and stagnant sewage posed serious threats to peoples' health and well-being.²⁷

The project objective was to improve water supplies and wastewater disposal in the towns of Goychay, Nakhchivan, Agdash, Aghjabedi, Balaken, and Beylagan, along with peri-urban areas surrounding Baku, and other developing urban centers. It aimed to strengthen institutional capacities for the repair and management of the water and wastewater systems. The project upgraded water and wastewater services that benefited residents of secondary towns within Azerbaijan and the Nakhchivan Autonomous Republic. The project outputs include: (i) physical expansion of the WSS system; (ii) greater institutional efficiencies and management; and (iii) better planning, monitoring, evaluation, reporting, and treatment of priority themes. Approved in 2009, the project has been implemented in tranches, with the third tranche currently being implemented in Aghjabedi and Nakhchivan.



Clean Water Supply Lessens Women's Workload. Azizova Kamila, a beneficiary from Beylagan, shares that housework is considerably lightened by having clean water supply at home (photo by Leavides Cabarrubias).

The project sought to provide an estimated 500,000 persons with safe, affordable, and consistent supply of piped water aside from reliable services for wastewater collection and treatment.

Mainstreaming Gender in Project Design

Poor WSS services disproportionately affects women, as they are the main collectors and users of water in households without individual connections. Recognizing this, the project put a premium on involving women in consultation and outreach activities to determine their issues, needs, and preferences in relation to WSS.

Social assessment/surveys were conducted at the commencement of the project for each of the project towns and consultations were conducted throughout implementation. Surveys in Goychay and

Agdash were completed by the end of 2010; interviews were conducted with 100 women from Beylagan and 100 women from Aghjabedi in September 2011, followed by surveys of more than 200 respondents for each town. A large majority of the respondents conveyed their main concern about the cleanliness, color, and taste of the water. They had to boil, filter, or use sterilization tablets and other treatments before they could drink. They spent a maximum of 50 manats for boiling; 10 manats for filtration, and 30 manats for other treatments. Most respondents also complained about the adequacy of the water, which was not enough for gardening and other purposes, and they had to collect from outside sources. The farthest distance was 5 km, with

"I'm so thankful that we now have continuous supply of clean water in our homes. Previously, we had to get water from street taps, then we had to boil the water before we can drink it," says Nouruzuva Momine of Nakhchivan City, Azerbaijan, during the focus group discussion with women beneficiaries in Nakhchivan in October 2017. She shares that it was particularly terrible during winter season because the taps were frozen.

"Now, we no longer have to go out to fetch water. Every time we open the tap there is continuous water supply," she adds.

²⁷ Footnote 26.

some even having to go about 10–12 times and spend about 6–10 hours a day during dry weather. Typically, women were in charge of this task.

In Nackchivan, project consultations were done for every village, with average participants at about 20, out of which about eight were women (40%). According to Ibrahim Mammadov, project management unit director, the issues that women frequently raised were: (i) quality of water that the project can provide, specifically, whether they will no longer need to use softening chemicals, since previously the water had an effect of hardening fabric; (ii) if the water is potable and they will no longer need to boil it for drinking; and (iii) installing water meters inside the house so they will no longer need to have additional expenses to have it connected inside their houses. These were all addressed by the project.

Results Thus Far

More than 20,000 households, including more than 5,000 women-headed households, have been connected with 24-hour potable water networks in Agdash, Goychay, and Beylagan. Project staff from Agdash and Goychay who were interviewed affirmed that 100% of the households in the respective towns were provided with water connection. More than 22,000 sanitation connections have also been constructed. In Nackchivan, 100% of the households have been connected with piped water and sanitation facilities. In Aghjabedi, about 1,900 households, including 376 women-headed households, have been connected with water supply networks, and 446 households connected to sanitation systems.

Women beneficiaries who were interviewed in October 2017 expressed relief that they no longer have to contend with the varied tasks related to the collection, purification, and use of water, and the disposal of wastes. The most common remark was: “We are very pleased to have a constant flow of water. Every time we open the tap, there’s clean water.”

Nazenin Guliyeva, beneficiary from Nackchivan City, remarked: “We no longer have to boil water for drinking. Now, we drink from the taps, because the water is clean.”

Gulnare, a beneficiary from Goychay, said that even if they had previous access to piped water, the quality of the water was not good. The distribution system was through steel pipe, and there was corrosion and the water was sometimes contaminated. The system was also unreliable. “We still had to boil water before drinking. But now, the pipe is plastic, it’s cleaner.”

The beneficiaries also shared that it is now easier to do the housework. Gulnare, for instance, shared:

“Previously, water availability was scheduled, about 2 or 3 hours a day, and we were always worried that it will be cut. We had to schedule doing our laundry. All the housework, cleaning, washing, we had to do it within those 2 hours. Now, we can wash clothes anytime we want. Everything is much easier.”

Sevinj Tagbiyeva, FGD participant from Nackchivan, also remarked that after the houses were connected with water pipes, people bought washing machines. “Since water is now continuous and it’s of good quality, people can use washing machine. Before, the quality of water hardened fabric, we had to use chemicals to soften our laundry. This would destroy washing machines.”

Better Gender Design for Better Water Resources Management: The Georgia Urban Services Improvement Investment Program

Mariam Kharazishvili and Ketevan Chkheidze

With a high unemployment rate and poverty incidence, as well as fluctuating GDP growth rate in the past decade, Georgia is now in need of high-quality investment in physical infrastructure, which constitutes an integral part of deepening structural reform, to boost its economy and productivity.²⁸

Water supply and sanitation (WSS) is one of the key sections of the infrastructure strategy employed by the Ministry of Regional Development and Infrastructure, whose WSS sector development plan has a 2020 goal of providing reliable and safe WSS services to all urban residents. To support this vision, the Georgia Urban Services Improvement Investment program aims to improve WSS services in 12 secondary towns where poverty is concentrated, as shown by the 2009 UNICEF survey on Social Welfare Monitoring.

Project at a Glance	
Approval Date	12 April 2011
Proposed Ending Date	30 September 2019
ADB Financing	\$500 million
Three Key Outputs	• Water supply and sanitation services infrastructure improved • Infrastructure effectiveness strengthened • Investment program support provided
Sector	Urban and Water
Gender Equity and Mainstreaming	Effective gender mainstreaming • Improving career opportunities in the implementing agency • Addressing the need of women as household managers and water collectors • Developing an information, education, and communication campaign

Commenced in 2011, the program aims to (i) improve infrastructure by rehabilitating, reconstructing, and expanding WSS services; (ii) improve the key WSS service provider, the United Water Supply Company of Georgia (UWSCG), via the services of an internationally reputed water operator acting as a management contractor, and developing the capacity of sector regulators to regulate tariffs, services standards, environmental protection, and drinking water quality while operationalizing geospatial WSS utility management systems; and (iii) support investment program implementation.²⁹ Infrastructure investments to rehabilitate, improve, and expand WSS facilities in 12 secondary towns will benefit approximately 350,000 residents, or 38% of urban residents in the region served by UWSCG.

²⁸ ADB Data Library. *Georgia: By the Numbers*. <https://data.adb.org/dashboard/georgia-numbers> (accessed 8 November 2018).

²⁹ ADB. 2011. *Report and Recommendations of the President to the Board of Directors—Proposed Multitranchise Financing Facility Georgia: Urban Services Improvement Investment Program*. Manila.

UWSCG, which is one of the three main WSS service providers in Georgia, is the implementation agency of this program.³⁰ Established on 14 January 2010, it is a state-owned limited liability company, with 100% of shares owned by the state, and the Ministry of Regional Development and Infrastructure of Georgia is its partner. In order to conduct its national (except Tbilisi and Adjara region) business activities, the company encompasses a head office, nine regional offices, and 50 service centers.

Women and Water

“Now I don’t have to wake early to do the dishes, I can wash any time I want,” says Tamara Makhviladze, a housewife living in Kutaisi, Georgia. Tamara is just one of the women who had problems with water use, as they have to march far to fetch water, making early rising imperative.³¹ As many households in Georgia are women-headed, difficulties accessing clean water exacerbates their time poverty.

Fortunately for women like Tamara, circumstances have improved. As of 2018, out of 333 meter readers at UWSCG, 164 (49%) are women.³²

Since the launch of the program, 100% of households, including those that are women-headed, will have access to 24-hour potable water supply. While improvement of the WSS services has been already completed in a few towns, as locals report, improving women’s access to water means that now they have more time, including for income generation, skills building, and leisure, and their health and time-use is improved.

WSS is also a male-dominated industry, as women are considered not to be able to do the engineering work equally to men, let alone be successful leaders.

This program, however, was designed to address these water sector gender issues in a twofold approach, first by improving employment opportunities for women, and second by adopting gender-sensitive outreach to the program beneficiaries.

Connecting Women to Job Markets

Improving UWSCG employment opportunities for women is one of the key elements of the gender action plan (GAP) in this program. The GAP sets targets for employment of women in key managerial positions, as well as in service centers/regional branches.

During the project design phase, consultations with potential women beneficiaries were held with local communities, and with women who are usually very active in Georgian public life. Following this, in 2013, a gender consultant was hired under the auspices of the GAP who conducted a basic situation analysis as well as support and expertise to UWSCG.

According to the assessment, by 2013, the water company had 2,502 employees. Out of those, 1,914 were men and 588 were women (23.5%). In the head office, women constituted 15% of top management, while in the regions, not one of the managerial positions was held by a woman. The assessment was followed by two consultation meetings with major stakeholders where further actions were discussed. UWSCG started to introduce and integrate databases for the HR department, which would provide information for an annual staff gender analysis, and improve management support for gender balance and staff

³⁰ WSS services are now provided by three service utilities: (i) Georgia Water and Power Company, which serves Tbilisi and Rustavi (31.8% of country’s population); (ii) Batumi Water Company and Adjara local self-governments, which serve the Adjara Autonomous Region (8.6% of country’s population); and (iii) UWSCG, which serves the rest of the country (58.5% of country’s population). Georgia National Energy and Water Regulatory Commission is responsible for economic regulation.

³¹ ADB. 2018. *ADB Water Assistance Works: Just Ask Georgian Housewife Tamara Makhviladze*. (Video, 19 April.) <https://www.adb.org/news/videos/adb-water-assistance-works-just-ask-georgian-housewife-tamara-makhviladze>.

³² Data from UWSCG.

development. To attract more women employees, the HR department revised job application documents and announcements to underline that UWSCG is an equal opportunity employer and facilitates women's career development.

In 2017, the company, with the assistance of the HR department, assessed its employees' development of in the frame of gender issues in 2013–2017. Although the general sex ratio of employees has not changed much, vivid progress is being made in appointing women to leading positions. As mentioned, in 2013 only 15% of managerial positions were held by women, while in 2017 the percentage has increased to 25%. As for the regions, in 2013, there was no woman appointed on managerial position, while in 2017, 11 females are in charge of different divisions.

As for July 2018, there is the following distribution of male to female employees at the UWSCG. The water utility company employs overall 2,734 persons, out of which there are 625 (29.6%) women and 2,109 men. In the key management of UWSCG, there is one woman out of three deputy directors, and out of 18 departments at the head office, five are managed by women (28% women as heads of departments in the main office). Women's employment in service centers varies from 10% to 30% from town to town.

The company also cooperates with higher institutions, which will better cultivate students, especially female students, to grow as qualified WSS experts and leaders. On 17 May 2017, the company signed a Memorandum with Georgian Technical University. Within the framework of the Memorandum, students will learn theoretical courses at the university, while taking practical trainings at the company. Certificates will be issued and the company will provide an employment opportunity for successful students. The Memorandum also considers the equal distribution of the quota between male and female students.

In addition, UWSCG has adopted sex-disaggregated database of its beneficiaries. The aim of this is to target beneficiaries effectively. Additional guidance and training is provided in analyzing the behavior of the customers and reporting.

Advocacy and Outreach

The other key gender approach of the program is to improve the outreach of the UWSCG to communities. In doing this, it is necessary to address women as household managers and water collectors. Due to a general lack of knowledge of water- and sanitation-related issues such as health, household expenses, customer rights, and environmental issues, the investment program developed an information, education and communication (IEC) campaign in all appropriate languages, particularly for women as household managers on the above issues.

The most crucial development with regard to women's empowerment has been the IEC campaign in the targeted towns. Outreach has been conducted in Mestia and Marneuli, with an apex NGO Women's Information Center. The activities included community meetings, door-to-door distribution of brochures, meeting with local authorities, and workshops for women's groups and for students at schools. The workshops covered mainly the following issues: (i) effective water use, (ii) sanitation and hygiene, (iii) customer rights, (iv) women's and gender equality issues, (v) creation and airing of videos, and (vi) youth engagement, etc. At a later stage, outreach campaigns took place in Anaklia and Kutaisi. Furthermore, two workshops on the environment and gender issues were held in Kutaisi and Chiatura in partnership with the Caucasus Environmental NGO Network. The activities included development and printing of information/awareness brochures on women's role in environment issues and workshops for local groups, including local youth and women. In 2018, three additional outreach campaigns were held in Zugdidi, Anaklia, and Kutaisi, which brought in local women as well as employees of the UWSCG as the best transmitters of information on hygiene, sanitation, and customer rights.

During the IEC activities, women are not only engaged as information disseminators, but also trained and instructed in providing feedback on effectiveness of IEC campaigns. Trained women have formed water

committees in Mestia and Marneuli, serving as a feedback instrument of effectiveness of IEC campaign. Staff of service centers were involved in awareness-raising workshops on hygiene and sanitation; in addition, project management units and gender focal points in the unit have workshops on gender mainstreaming and ADB requirements.

Addressing feedback and complaints is crucial for the improvement of services. The UWSCG has a 24/7 call center; however, the incoming calls have not been processed in terms of gender; thus, in the near future, the company plans to change the method accordingly and process the incoming calls on a gender basis. This will enable analyzing the differences between the female and male complaints and to take further, more effective steps.

Challenges and Ways to Overcome Them

One of the outputs of the Urban Services Improvement Investment program is increasing institutional effectiveness of the UWSCG which has targets for gender as well. Therefore, in the GAP, one of the linked activities is to increase women's representation in customer care and service centers (target 30%) and allow more women to have access to employment in the water sector. This remains a challenge as still there is a gender bias in water- and engineering-related careers. ADB is advising the company to adopt of a more gender-sensitive HR strategy, which will include a plan for women's effective career development in the company.

Lessons Learned and Recommendations

The implementation of gender aspects of the program shows that there are a few issues for future consideration:

- Engagement of a gender consultant is important at every stage of GAP implementation to help UWSCG achieve equality targets. At the same time, support from within the company and close coordination with all its units is crucial. In this regard, identifying a gender focal point in the executing authority, in addition to the gender consultant, brings more effective coordination and implementation of the GAP.
- A joint educational project with Georgian Technical University (as already mentioned) will take place and, hopefully, attract more women in the sector.
- The company plans to reform how hotline complaints are received in order to analyze the calls from customers and apply the results for its effective approach toward the beneficiaries. UWSCG's Annual Report on customer profiles should be informed by gender analysis of the sex-disaggregated customer data base.
- The HR component of the GAP needs constant attention in order for the targets to be reached by the completion of the Multitranchise Financing Facility, in particular, to achieve increase in the female employment in the managerial position. The Urban Services Improvement Investment program will be completed by 2019; therefore, women's empowerment and job-creating processes have not come to an end. No tranches have been closed yet and when the project ends and the completion report is submitted, there will be a clearer image about the project's impact on local women and their daily lives.
- Outreach to women beneficiaries needs to be rolled out in every town targeted under the Urban Services Improvement Investment program. The company already has practice with and material for the outreach campaign and either can outsource it to an NGO or a company or implement this activity with its own capacities.
- Engagement and guidance of the ADB gender specialist has been crucial in supporting implementation and achievements under the GAP. The executing authority should receive continuous guidance for further implementation and reporting.

Making Urban Services Work for Women: The Issyk-Kul Sustainable Development Project in the Kyrgyz Republic

Leavides G. Domingo-Cabarrubias

The Issyk-Kul Lake

“If you have never been to the Issyk-Kul lake, then you cannot say that you have been to Kyrgyzstan.” This is a very common saying in this landlocked, yet beautiful country.

As a mountainous country rich in natural resources such as hydropower, the Kyrgyz Republic thrives on its agriculture and tourism. Lake Issyk-Kul, located at the Issyk-Kul Oblast, being the world’s second largest saline lake, annually attracts approximately 1 million tourists, accounting for 70% of the total volume of 1.4 million, significantly contributing to economic growth.

Besides acting as an economic driver, the lake is also a Ramsar Site of biodiversity, and a United Nations Educational, Scientific and Cultural Organization (UNESCO) designated biosphere reserve. The lake’s double identity of being economically and naturally valuable has challenged local people: how can they manage the growing pressure on infrastructure, the local natural environment, and people’s health from tourism? Given that the basic urban services, such as water supply and sanitation, have long been poorly maintained, this region is in urgent need of infrastructure rehabilitation and institutional strengthening to increase its capacity to absorb the oversupply of tourism.

Greener Lake, Healthier Life

The Issyk-Kul Sustainable Development Project addresses the aforementioned problems. As the first phase of a long-term ADB initiative, this project targets three cities: Balykchy, Cholpon-Ata, and Karakol, with the aim of (i) improving urban infrastructure, including solid waste management, water supply, sewerage and sanitation, and community upgrading; and (ii) enhancing service delivery through better enterprise resource management. This project aligns with the spirit of the Kyrgyz Republic’s development strategy 2009–2011, which stressed environmental sustainability and the need to protect Lake Issyk-Kul.

Project at a Glance	
Approval Date	30 September 2009
Proposed Ending Date	31 December 2017
ADB Financing	\$30 million
Three Key Outputs	• Urban basic services comprising sewerage and sanitation, solid waste management, and water supply improved • Infrastructure effectiveness strengthened • Investment program support provided
Sector	Urban and Water
Gender Equity and Mainstreaming	Effective gender mainstreaming • Women’s access to clean water improved • Female staff in related enterprise improved • Gender awareness and development trainings provided

Gender Issues in This Area

Women play an important role in this project, since, on the one hand, they are the most vulnerable group in this area, and, on the other hand, they can be the key drivers of change if fully empowered.

Women-headed households tend to be more likely to fall into poverty. It is estimated that 20% of the families headed by females live in poverty, 2% higher than that of the male-headed households. The total number of waterborne illness-related sick days is also much higher for women, which is 151 (women) compared to 73 (men). As the ones responsible for collecting household water, and disposing of household garbage, women are always confronted with the lack of water due to restricted supply schedules. Furthermore, women have little decision power, as they only take up 10% of the representation positions at the water supply and sanitation services.³³

In the past, women in Kelechek district, Karakol, had to walk 550–700 meters to the water collection point a number of times a day. Now in Juzenova's settlement, 56 households have had new water connections installed in their plots. Several now have inside toilets because water supply had become directly available in their plots. Additionally, the water from all the project sites have met the safe standards test.

"I am one of 56 households in this area, the new water connection has saved me between 2–2.5 hours a day," says Juzenova. "Before the project new water supply directly connected by pipes into my yard, I used to walk 550 meters to collect water, 3–4 times a day. This used to take between 20–25 minutes per trip. If I had laundry to do I would make several more trips. Life was hard raising several children. I have physically collected water for 20 years," added Juzenova.

Juzenova co-owns the house with her husband. Since the direct water supply was installed in her yard, the value of her land and house has improved considerably. She is waiting for her husband and son, who are working in the Russian Federation as migrant labor, to return so that they can install the water supply and toilet inside, which will make things easier in winter.

As the result of the Tazalyk's increased efficiency, solid waste rubbish is collected once every week, for over 1 year now.³⁴ Some women already have connections inside their houses.

Let Women's Voices be Heard

Juzenova is one of the female residents who enjoyed the huge changes that the project brought to the lives of women living in these three cities. Water meters were installed in all 265 poor households, 95 of which are women-headed households.

Two female pensioners shared their views about their Tazalyk.

Maslova Nadejda has been a customer for 15 years. She lives in an apartment and gets 6,000 soum pension per month. She recalled that 4 years ago there were frequent interruptions to water supply. "Sometimes one whole day was spent on repairs, resulting in no water being available for the day." However, Maslova says, "for the last 2 years there has been uninterrupted water supply, and when repairs are required the problem is addressed within a few hours. The Tazalyk is also now collecting solid waste on a regular basis and there is greater efficiency in the quality of services."

³³ ADB. 2009. *Report and Recommendations of the President to the Board of Directors—Proposed Loan and Asian Development Fund Grant Kyrgyz Republic: Issyk-Kul Sustainable Development Project*. Manila.

³⁴ The municipal enterprise "Tazalyk" cleans the city territory, maintains city roads, and conducts external improvements, as well as collection and removal of solid waste.

Jamilya Beyombaava says 3–4 years ago there were piles of rubbish left outside her apartment block, causing illness and stench. Now as a result of the project's support to improve the Tazalyk's efficiency, rubbish is collected 3 times a week. "Now there is also regular and efficient collection of solid waste rubbish. There are no more piles of stinking rubbish collecting outside our apartment building."

Women also have access to more comfortable public services, with toilets rehabilitated in 21 schools and 1 kindergarten, and 6,166 girls at reproductive age in Balykchy, Karakol, and Cholpon-Ata schools provided with improved sanitary facilities in rehabilitated and newly constructed toilet facilities.

In addition to infrastructure upgrade, gender was also mainstreamed into this project through multiple measures designed in the gender action plan (GAP), with trainings and information, and education and communication (IEC) being two of them.

Trainings have been conducted for women at various levels, including 52 female staff members of Vodokanal and Tazalyk mayors' offices. In addition, 280 teachers were trained on hygiene and reproductive health, with further training for 2,995 students in project schools, three trainings were held for workers of Vodokanal and Tazalyk enterprises, and two trainings were held for construction workers on HIV/AIDS and sexually transmitted diseases, including preventive measures. Moreover, 23 gender awareness and development trainings were conducted, with three additional gender awareness and development trainings for community facilitators and health advocates.

This project ensures women's participation and representation at the decision-making level in all project-related activities. Gender balance was guaranteed in the process of all consultations. Along the process of community social mapping, gender-disaggregated data were also collected and analyzed.

Experience shows that water and sanitation services are more effective and more sustainable if women take an active part in the planning and operation/implementation of facilities and programs. In addition to addressing technical and practical issues, women play an important role in educating their families and communities about sanitation and hygiene practices. Engagement of women increases the management transparency, improves financial management, and empowers women. Overall, the enhancement of women's capacity and ensuring of their access to water and sanitation, improves the health status of the whole population.

Recommendations

The GAP is an internal effective tool in the development and implementation of gender-sensitive development projects; however, there is still a need to pay special emphasis to supporting the achievement of the gender equality in the development process. It is important to do the following:

- Increase the capacity of the implementing agencies to understand and fully accept the GAP's strategies and recommendations and not consider it as separate.
- Consult with women and men during planning through gender-sensitive participatory tools for involving women and men in the field.
- Conduct multi-stakeholder consultations involving women and women's organizations to clearly define the role and influence of women in water policy.
- Build capacity in the field of social and gender analysis and identify strategies to address the difficulties associated with women's participation.
- Include gender approaches in key country documents in the water and sanitation sector and address women's rights, governance, and water issues, as gender issues.

Irrigation

Mainstreaming Gender in Tajikistan's Irrigation Infrastructure: The Water Resources Management in Pyanj River Basin Project

Tagoimurod Gulov and Gulnora Kholova

Tajikistan's Pyanj River basin, the largest in the country, supports intensive agriculture production and therefore is a major contributor to its country's GDP. However, this area is at the same time impoverished and suffers from food insecurity and the effects of climate change. Located in the south part of Tajikistan, the Pyanj River basin is also geographically crucial as food disasters can affect the boundary areas of both Tajikistan and Afghanistan.

"Tajikistan is vulnerable to food insecurity due to its limited productive irrigated land, underdeveloped agriculture, as well as poor rural–urban connectivity and limited community resilience to climate-induced shocks," said Ryutaro Takaku, Senior Water Resource Specialist from the ADB's Central and West Asia Department.³⁵ The country's mountainous terrain comprises 93% of its total land area, which limits its productive agricultural land. Notwithstanding this, the population is predominantly rural and largely dependent on agriculture, with farmers accounting for 75% of total employment.³⁶

Poor irrigation has constrained agricultural productivity. While the country has abundant water, management is poor, and much of the infrastructure for both drinking water and irrigation is over 50 years old, resulting in leakage and system failure.³⁷ Furthermore, a high dependency on glacier-fed rivers makes Tajikistan vulnerable to climate change. Tajikistan's over 14,000 glaciers cover about 8% of the country's territory. Melting glaciers could lead to a severe decline in the water supply, with potential adverse impacts on agriculture, energy production, and household consumption.³⁸

The government is prioritizing water resource management (WRM) and agricultural production. To this end, the Ministry of Energy and Water Resources has replaced the Ministry of Land Reclamation and Water Resources, thereby strengthening its WRM role; the recently established Agency of Land Reclamation and Irrigation has also taken on WRM; and river basin management plans and water governance institutes have been established.³⁹ These reforms, and the government's irrigation targets, require increased investments.

The government asked ADB to support the Pyanj River basin's WRM infrastructure. This endeavor is fully aligned with ADB's goal of helping Tajikistan manage water resources to boost food production and climate change adaptation capabilities, as highlighted in the Country Partnership Strategy with Tajikistan, 2016–2020.⁴⁰

³⁵ ADB. 2016. *ADB to Improve Water Resource Management in Pyanj River Basin*. News from Country Offices (4 October). <https://www.adb.org/news/adb-improve-water-resource-management-pyanj-river-basin>.

³⁶ N. Mukhamedova and K. Wegerich. 2014. *Land Reforms and Feminization of Agricultural Labor in Sughd Province, Tajikistan*. Colombo, Sri Lanka: International Water Management Institute.

³⁷ United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP), Poverty-Environment Initiative Phase II (PEI). 2016. *Tajikistan Water Public Environmental Expenditure Review*. Dushanbe.

³⁸ Footnote 37.

³⁹ ADB. 2013. *Report and Recommendation of the President to the Board of Directors: Proposed Administration of Grant to the Republic of Tajikistan for Building Climate Resilience in the Pyanj River Basin Project*. Manila.

⁴⁰ ADB. 2016. *Country Partnership Strategy: Tajikistan 2016–2020*. Manila.

The Water Resources Management in the Pyanj River Basin Project

The Water Resources Management in the Pyanj River Basin (PRB) Project was approved in 2016, with a goal of increasing agricultural production, food security, water supply, and water use efficiency in the Pyanj River basin.⁴¹

Project at a Glance	
Approval Date	28 September 2016
Proposed Ending Date	30 June 2022
ADB Financing	\$25 million
Three Key Outputs	• Water in PRB better managed • Modernized and climate-proofed Chubek Irrigation System WRM infrastructure fully operational • Farm management capacity and water use skill improved
Sector	Agriculture, Irrigation
Gender Equity and Mainstreaming	Effective gender mainstreaming • Ensuring women's participation • Providing women with employment in the project works • Training of women as water users

The project outputs are the following:

- (i) Better management of PRB water resources. This includes improving WRM in the Tajikistan portion, and effective joint regional management of the PRB;
- (ii) Modernization and climate-proofing of the Chubek Irrigation System, the largest in the PRB, and ensuring that its WRM infrastructure is fully operational; and
- (iii) Improvement of farm management capacity and water use skills.

Because the PRB covers the majority of Khatlon province, which has the largest population and agriculture production, and includes the most food-insecure zone among the country's irrigated area, the project is expected to have a significant impact on the country's economy.⁴²

Gender in Agriculture and Water Resource Management

The project was expected to have a significant impact on women, as they not only comprise a large proportion of the agricultural labor force, but are also the main users and managers of water at home. According to ADB's estimates, women account for 53% of the economically active population in agriculture, and this does not include unpaid women who are working alongside their husbands.⁴³

Land reforms and widespread out-migration of male Tajik workers are among the key factors for the large share of female labor force in agriculture. The number of migrant workers increases per year, and, as of August 2015, about 1 million Tajik workers have left for the Russian Federation.⁴⁴ These workers are mostly

⁴¹ ADB. 2016. *Report and Recommendation of the President to the Board of Directors—Proposed Loan, Grant, and Administration of Grant and Technical Assistance Grant Republic of Tajikistan: Water Resources Management in Pyanj River Basin Project*. Manila.

⁴² World Bank. 2013. *Tajikistan—Reinvigorating Growth in the Khatlon Oblast*. Washington, DC.

⁴³ ADB. 2016. *Sector Assessment (Summary): Agriculture and Natural Resources*. *Country Partnership Strategy: Tajikistan 2016–2020*. Manila.

⁴⁴ ADB. 2016. *Tajikistan: Promoting Export Diversification and Growth—Country Diagnostic Study*. Manila.



Strengthening Water Management through Women's Leadership Development. Women participate in consultations and leadership training to enhance their involvement in decision-making processes in water management (photo from Project Implementation Unit).

males working in the construction sector. Consequently, women are left behind to do the agricultural work in addition to their household work. However, despite being heads of households, women still have limited participation in decision-making activities, lack access to and control over productive resources, and have low technical and specialized knowledge. For instance, their tasks are mostly limited to field labor, such as weeding, sowing, transplanting, and harvesting which do not require decision-making. In contrast, the selection of seeds, fertilizers, and plant protection materials is controlled by men.⁴⁵

Women also have limited participation in local WRM, despite their crucial role in household water management. They are usually responsible for collecting and providing drinking water at home and managing its day-to-day use. Most rural households spend less than 30 minutes per round trip to collect drinking water. When transporting containers manually, women and girls typically must make four or five trips a day and travel several kilometers.⁴⁶ Women are the primary users of water for cooking, washing clothes, cleaning, bathing children, and making coal or dung briquettes for fuel. Consequently, they are also in charge of storage and treatment of water, which is usually done by boiling.⁴⁷ Thus, women are particularly affected by poor water infrastructure.

Despite these vital roles, women are not yet active participants in water user associations (WUAs). Agricultural restructuring has necessitated a water management system, leading to the 2006 Law on Water Users Associations. WUAs regulate use, collect fees, and mitigate resource conflicts. Despite large numbers of rural men working abroad, they are still overwhelmingly dominant in WUAs, while women's participation is very low, their direct interest in improving water provision notwithstanding.⁴⁸

Mainstreaming Gender in the Project Design

The project's designers considered the relevant gender issues in the sector and its potential to improve the lives of local women since significant benefits to women have been noted in similar projects in the

⁴⁵ Final Feasibility Report for ADB TA 8647-TAJ: Water Resources Management in Pyanj River Basin (footnote 11).

⁴⁶ ADB. 2016. *Tajikistan Country Gender Assessment*. Manila.

⁴⁷ Footnote 46.

⁴⁸ ADB. 2016. TA 8647-TAJ: *Water Resources Management in Pyanj River Basin—Final Feasibility Report* (Appendix 14—Poverty, Social and Gender Assessment. Manila.

past. The 2016 Tajikistan Country Gender Assessment, for example, revealed that, improved water supply lessened women's workload. Other benefits that women mentioned include "lessening their workloads, having more time for their children and leisure, improving household cleaning and family hygiene, and increasing their home-based agriculture capacity."⁴⁹ Another study cited multiple examples shared by women about the effects of improved water supply on their families, such as easier maintenance of cleanliness in the house, improved health situation of children, easier children care, savings for potable water previously paid to vendors, expansion of their gardens and cattle care, home-based preservation of fruits and vegetables, and home-based processing of dairy products.⁵⁰

The gender component of the project was designed to: (i) improve women's lives through better access to water; and (ii) empower women through increased involvement in decision-making activities. To this end, a Gender Action Plan (GAP) was developed which included activities, performance targets, and indicators aimed at addressing the specific roles and needs of women relevant to water use and water resource management. For instance the projects ensured that women are consulted during its selection and design. The project was also envisaged to improve women's participation in decision-making processes by increasing their representation in WUAs, river basin organizations and councils; and ensure that women farmers are not left out in the development of demonstration farms, production of high-quality seeds, and other training programs.

Among the key gender actions are targets for (i) women's membership and leadership positions in WUAs; (ii) women's participation in capacity-building trainings; and (iii) women's representation in study tours and in demonstration plots showcasing improved agricultural practices. The project was expected to provide an opportunity for the local people to earn civil works income, and the GAP included a target for women's employment, as well as consultations on ways to facilitate their engagement in all project-related work. The project also ensured the integration of women's issues in the Pyanj River Basin Management Plan (PRBM), including a provision on women's participation in the Pyanj River basin council (PRBC) and Pyanj River basin organization (PRBO). In connection with this, the GAP targeted the PRBCs' and PRBOs' gender sensitivity, and then ensured that the results inform the succeeding PRBOs and PRBCs.

An additional financing was processed in 2017 to expand the scope of the project, through supporting the country's forecasting entity, the State Agency for Hydrometeorology (Hydromet). Specifically, the objective was to upgrade Hydromet to enable it to produce timely and accurate forecasting, especially of extreme weather events, particularly in the PRB.

A climate change and disaster response GAP was again prepared that touched on the key issues in women's leadership and access to resources: (i) targets for women's representation in leadership positions (including chief, deputy chief, head of units) through a reorganized Hydromet; (ii) adequate gender-appropriate facilities in campus



Improved Access to Water Leads to Economic Opportunities.

Women participate in entrepreneurial training to enhance their benefits from the project (photo from Project Implementation Unit).

⁴⁹ Footnote 46.

⁵⁰ L. Krylova and N. Safarova. 2013. *Gender Assessment: SDC Rural Drinking Water Program in Tajikistan*. Dushanbe: Swiss Agency for Development and Cooperation (SDC).

buildings for female staff (such as sanitary changing rooms, breastfeeding rooms, refreshment areas); (iii) targets for participation of qualified female staff in capacity building for leadership skills, supervision, financial, and commercial management, and business development; and (iv) clear career path opportunities and track profiles provided for every staff member. Furthermore, the conduct of disaster risk management courses will include gender-specific themes.

The project introduces meaningful actions to empower women and improve their lives. These actions were formulated after a thorough poverty, social, and gender analysis that carefully assessed the key issues particular to women and vulnerable groups relevant to agriculture, water resource management, and climate change in Tajikistan. This includes an assessment of the roles, needs, capacities, and constraints of affected people and groups, particularly women. Hereafter, what is crucial is to ensure that these actions are effectively implemented, and that the benefits will be truly inclusive and sustainable.

Gender in Infrastructure

Lessons from Central and West Asia

Infrastructure projects may reinforce gender inequality if women's needs are not recognized in project design. The Asian Development Bank actively promotes gender mainstreaming in its infrastructure projects in Central and West Asia. This publication features successful efforts in the energy, transport, water supply and sanitation, and irrigation subsectors in Azerbaijan, Georgia, the Kyrgyz Republic, Pakistan, Tajikistan, and Uzbekistan. The project results illustrate how gender inclusion contributes to meeting the needs of all beneficiaries and creating opportunities for regional economic growth.

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