Central and West Asia

REGIONAL EXCHANGE ON GOOD PRACTICE OF ENVIRONMENTAL SAFEGUARD MANAGEMENT

WORKSHOP PROCEEDINGS

Lahore, Pakistan, 28–30 July 2015
Issyk-Kul, the Kyrgyz Republic, 4–6 August 2015

ASIAN DEVELOPMENT BANK

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Contents

Foreword

The Asian Development Bank (ADB) has prepared this publication to expand the knowledge base on good practices for environmental safeguard management during project implementation. It is part of ADB's overall commitment to assist its developing member countries to strengthen their environmental safeguard systems and develop capacity to manage environmental and social risks.

Under ADB's Safeguard Policy Statement (2009), executing agencies and/or implementing agencies for ADB projects are to prepare an environmental management plan (EMP) that addresses the potential impacts and risks identified by the environmental assessment. The EMP will include proposed mitigation measures, environmental monitoring and reporting requirements, emergency response procedures, related institutional or organizational arrangements, capacity development and training measures, implementation schedules, cost estimates, and performance indicators. Environmental safeguard management during project implementation refers to the (i) implementation of the EMP, and (ii) supervision and monitoring of the implementation of the EMP.

Environmental safeguard management during project implementation remains a challenge for many of ADB's executing agencies and implementing agencies. ADB has been providing technical assistance to help improve the environmental performance of ADB projects in Central and West Asian countries. Diagnostic studies and environmental audits have identified needed improvements. But more importantly, many environmental safeguard management practices have been proven effective through the efforts of project implementation units that supervise and monitor implementation of the EMPs. To identify, document, and share these good practices, ADB convened the Regional Exchange on Good Practice of Environmental Safeguards Management. Two workshops targeted environmental safeguards staff members of executing and implementing agencies for ADB projects in Afghanistan Armenia, Azerbaijan, Georgia, Kazakhstan, the Kyrgyz Republic, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan.

Over 30 case studies demonstrating good environmental safeguard management practices were prepared and discussed during the two workshops. These practices consist of knowledge on how to successfully implement environmental management plans in infrastructure projects. The workshops focused on the exchange of information among environmental safeguard peers. As such, the regional exchange is a prime example of South–South cooperation on environmental safeguard management. It has helped to foster a community of environmental management practitioners to ensure better compliance with the environmental safeguard requirements for achieving the environmental sustainability of ADB investments.

Sean O'Sullivan
Director General
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Manila, Philippines

Acknowledgments

Central and West Asia Department (CWRD) Senior Environmental Specialist T. T. Phuong Tran provided overall guidance on the conceptualization, production, and finalization of this knowledge product under the regional technical assistance (RETA) 7548, Improving the Implementation of Environmental Safeguards in Central and West Asia. Former Asian Development Bank (ADB) staff, Robert Everitt prepared the draft manuscript, and conceptualized and directed the preparation of the case study supplementary appendix. Isabel Patron assembled and edited the case study appendix.

The original case studies were prepared by staff members of the project implementation units (PIUs) for ADB projects in Central and West Asia, with assistance from the national environmental consultants of RETA 8663, Sustainable Environmental Management of Projects in Central and West Asia. Madina Khalmirzaeva facilitated the workshop in the Kyrgyz Republic and provided a draft report on the Kyrgyz Republic workshop. Hidayat Hasan facilitated the workshop in Pakistan and provided a draft report on the Pakistan workshop.

Kimberly Fullerton edited this knowledge product. Joseph Manglicmot and Josef Ilumin did the publication design. Judy Vermudo supported the coordination of the production processes. These workshop proceedings are available in Russian.

The team would like to thank the RETA 8663 team of national environmental consultants led by Jeffrey Bowyer for their valuable assistance in working with the PIU staff in developing and presenting the case studies at the workshops.

Finally, we would like to thank the management of CWRD and CWOD-PSS for their continued guidance and support to the workshop activity and to the production of this publication.

Abbreviations

ADB	–	Asian Development Bank
CAREC	–	Central Asia Regional Economic Cooperation
EIA	–	environmental impact assessment
EMP	–	environmental management plan
EMR	–	environmental monitoring report
GRM	–	grievance redress mechanism
IEE	–	initial environmental examination
km	–	kilometer
NGO	–	nongovernment organization
PCB	–	polychlorinated biphenyl
PIU	–	project implementation unit
PMO	–	project management office
PMU	–	project management unit
PPE	–	personal protective equipment
SEMP	–	site-specific environmental management plan
UNESCO	–	United Nations Educational, Scientific and Cultural Organization

I. Introduction

A. Background

Environmental safeguard systems in Asia and the Pacific aim to eliminate or reduce the environmental risks associated with development projects such as loss of biodiversity, long-term damage to ecosystems, pollution, climate change, damage to aquatic ecosystems, land degradation, improper use and disposal of chemicals, and depletion of nonrenewable resources. Specific safeguards seek to preserve sensitive natural areas (e.g., wetlands and critical habitats), areas of importance to indigenous peoples, and historical or cultural sites.

Country safeguard systems, covering environmental assessment and management, involuntary resettlement, and indigenous peoples, are critical for ensuring socially inclusive and environmental sustainable growth. A country safeguard system refers to a country's legal and institutional framework, consisting of its national, subnational, or sector-implementing institutions and relevant laws, regulations, rules, and procedures, which seek to avoid, minimize, or mitigate adverse environmental impacts, social costs to third parties, or marginalization of vulnerable groups from development activities. To be effective, country safeguard systems must be integrated into the planning, assessment, management, and monitoring of all development programs and projects.

The environmental assessment and management process has three stages: (i) preparation of environmental assessment reports, which contain an environmental management plan (EMP) to guide implementation of mitigation measures and environmental monitoring programs; (ii) environmental assessment review and approval process; and (iii) environmental management during implementation. The Asian Development Bank (ADB) Safeguard Policy Statement (2009) outlines the preparation and implementation of EMPs, comprising mitigation measures, monitoring programs, cost estimates, and institutional arrangements for implementation. These arrangements include specific responsibilities for undertaking mitigation measures, environmental monitoring programs, consultation activities and grievance redress, and supervision and monitoring of compliance with the EMP. Contractors are usually responsible for implementing mitigation measures, while project implementation units (PIUs) take the lead in consultation activities and grievance redress. Supervision and monitoring of the environmental management plan normally involves environmental personnel of the contractor, with monthly or more frequent reporting; a supervision consultant with quarterly reporting; and PIUs and the executing or implementing agency, which prepare semiannual environmental monitoring reports.

Project files

The Kyrgyz Republic: CAREC 1.3 Bishkek–Naryn–Torugart

Because ADB recognizes the crucial role that the executing and implementing agency plays in successful environmental safeguard management, it has been providing technical assistance to strengthen environmental safeguard capacity. Through the technical assistance project, *Improving the Implementation of Environmental Safeguards in Central and West Asia* (RETA 7548), ADB has completed training on environmental management in all 10 Central and West Asian countries (i.e., Afghanistan, Armenia, Azerbaijan, Georgia, Kazakhstan, the Kyrgyz Republic, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan).[1] In addition, an e-book, *Selected References for Good Practice of Environmental Safeguards Implementation in Central and West Asia,*[2] was prepared and disseminated to executing and implementing agencies. Six firms have been trained in environmental auditing, and four, selected through competitive bidding, have completed audits in all 10 Central and West Asian countries. Assessments of environmental safeguard capacity and capacity development plans have been prepared for Armenia, Azerbaijan, Georgia, the Kyrgyz Republic, Pakistan, and Tajikistan, and country environmental safeguard frameworks have been prepared for Armenia, Azerbaijan, Georgia, Pakistan, and Tajikistan.

B. Assessments of Environmental Safeguard Capacity

Under the technical assistance project, the assessments found gaps in environmental management planning, EMP implementation, and institutional arrangements for supervision and monitoring of EMP implementation. In general, most Central and West Asian countries have weak legal and regulatory safeguard frameworks for environmental management during project implementation. In addition, many sector organizations involved in development work do not have appropriate environmental management systems and institutional arrangements. Some do not have sufficiently well-trained environmental staff.

To help countries improve their environmental management capability, the capacity development plans developed under the technical assistance project include activities to enhance environmental management through development of environmental management systems for key sector agencies, training for executing and implementing agencies on EMP implementation, and training for executing and implementing agencies on supervision and monitoring of EMP implementation. ADB is currently providing assistance to enhance the environmental management capacity of executing and implementing agencies and showcase their performance through another regional technical assistance project, Sustainable Environmental Management of Projects in Central and West Asia.[3]

C. Environment Audits

The environmental audits found numerous instances of noncompliance with environmental management provisions. With respect to staffing, performance is mixed. All PIUs do not have full-time environmental specialists, and contractors do not always hire environmental specialists, especially local contractors. In other

[1] ADB. 2010. *Technical Assistance for Improving the Implementation of Environmental Safeguards in Central and West Asia.* Manila (TA 7548-REG, $800,000, approved 21 June 2010, with a revised completion date of 31 December 2015, and additional funding of $750,000 approved 12 August 2013).

[2] ADB. 2013. *Technical Assistance Consultant's Report: Improving the Implementation of Environmental Safeguards in Central and West Asia.* Manila. http://www.adb.org/projects/documents/selected-references-good-practice-environmental-safeguards-implementation-tacr

[3] ADB. 2014. *Technical Assistance for Sustainable Environmental Management of Projects in Central and West Asia.* Manila (TA 8663-REG, $1.5 million, approved 10 June 2014).

cases, PIUs have hired environmental specialists, and executing or implementing agencies have created separate environmental units.

All ADB loan agreements have the necessary loan covenants with respect to inclusion of EMP requirements in bidding and contract documents. However, environmental requirements (i.e., EMPs) are not always included in bidding documents and resulting contracts. Very few environmental specialists participate in the preparation and evaluation of bidding documents, and usually, the environmental management capability of bidders is not evaluated. Most contracts include EMPs attached as appendixes without specific references to the environmental management requirements in the main body of the contract. Most do not contain financial penalty clauses in the event of consistent noncompliance.

Site-specific or special EMPs (e.g., emergency response plans and waste management plans) as required by the EMP are often not prepared, and the compliance with and quality of these plans need to be improved. In some cases, the requirement to prepare these documents was not included in the environmental impact assessments (EIAs). If they were prepared, the most common areas of noncompliance are improper handling, storage, and disposal of construction waste; and improper handling and storage of fuel, oil, and hazardous materials. Regarding implementation of environmental monitoring programs specified in EMPs, occasionally, the requested baseline and routine monitoring are conducted as specified. In others, the EMP budgets have failed to allocate the necessary funds.

In receiving government permissions (e.g., for water withdrawal, use of borrowed areas, waste disposal, and cutting of trees), contractors have gotten better at obtaining all necessary permissions prior to construction works. For grievance redress, however, performance is mixed. A few projects are maintaining complaint records, and some PIUs and contractors have improved their record keeping. In most cases, however, complaints and their responses are verbal, with no records registered.

Current good practices include the use of checklists by contractors and supervision consultants for site visits; provision of official notes to contractors on noncompliance with special or site-specific environmental management plans (SEMPs); and involvement of local nature protection agencies, national reserves, and communities in environmental monitoring. All projects submit environmental monitoring reports (EMRs), but these are often delayed and not publicly disclosed. Daily and/or monthly monitoring reports are not routinely kept. The quality of reporting needs improvement, particularly with respect to providing environmental quality monitoring data.

The Kyrgyz Republic: CAREC 1.3 Bishkek–Naryn–Torugart

Pakistan: New Khanki Barrage

P. Tran

II. Workshop Objectives and Participation

While the assessment of environmental safeguard capacity identified necessary improvements and the audits identified specific areas of weakness, there are also many instances of good practice associated with ADB projects in Central and West Asia. To identify, document, and share these good practices, ADB convened the Regional Exchange on Good Practice of Environmental Safeguards Management. The workshop in Lahore, Pakistan was targeted at the environmental safeguard staff of executing and implementing agencies for ADB projects in Afghanistan and Pakistan, and the workshop in Issyk-Kul, the Kyrgyz Republic involved the environmental safeguard staff of executing and implementing agencies for ADB projects in Armenia, Azerbaijan, Georgia, Kazakhstan, the Kyrgyz Republic, Tajikistan, and Uzbekistan.

Case studies on good practices were prepared based on the experience of executing and implementing agencies in implementing environmental safeguards for ADB projects. Case studies were selected to cover four sectors (i.e., energy, transport, natural resources and agriculture, and water supply and sanitation) and cross-cutting issues (e.g., institutional arrangements, consultations, grievance redress mechanisms [GRMs], biodiversity and critical habitats, pollution prevention and control, occupational health and safety, and physical cultural resources). These case studies are in the Supplementary Appendix, which is also available at http://www.adb.org/projects/documents/regional-exchange-good-practice-esm-dpta-01

A. Objectives

The objectives of the Regional Exchange on Good Practice of Environmental Safeguards Management were to

i) share practical experience among PIUs in managing environmental safeguard compliance,
ii) share lessons learned from public consultation and dealing with complaints, and
iii) understand countries' legal and regulatory frameworks for environmental management during the project cycle.

B. Participants

ADB convened the Workshop on Regional Exchange on Good Practice of Environmental Safeguards Management at the Karven Four Seasons Resort in Issyk-Kul, the Kyrgyz Republic from 3 to 7 August 2015. Sixty-one participants representing government environmental authorities and executing and implementing agencies for ADB projects in Armenia, Azerbaijan, Georgia, Kazakhstan, the Kyrgyz Republic, Tajikistan, and Uzbekistan attended the workshop (Appendix 1).

ADB also convened the Workshop on Regional Exchange on Good Practice of Environmental Safeguards Management at the Avari Hotel in Lahore, Pakistan from 28 to 30 July 2015. Thirty-two participants attended, representing government environmental authorities, executing and implementing agencies for ADB projects in Afghanistan and Pakistan, as well as construction contractors and supervision consultants (Appendix 2).

C. Structure

In Issyk-Kul, the 3-day workshop consisted of both presentations and site visits (Appendix 3). On the first day, main ADB Safeguard Policy Statement requirements, the role of environmental management in the ADB project cycle, and role of PIUs in environmental management during project implementation were emphasized. The main findings of environmental audits conducted in Armenia, Azerbaijan, Georgia, Kazakhstan, the Kyrgyz Republic, Pakistan, Tajikistan, and Turkmenistan were also presented. Presentations assessed current progress in improving environmental performance, identified remaining issues, and shared good practices. More information on good practices was delivered through the case studies, which also showed lessons learned during project implementation. Parallel sessions were then organized by three sectors: water supply and sanitation, roads, and energy. The cases then discussed institutional strengthening, the role of training, GRM, biodiversity protection, and waste management. Each presentation was followed by a question-and-answer session.

Workshop materials

The Kyrgyz Republic: Issyk-Kul workshop

On the second day, participants were introduced to ADB requirements on public consultation and the GRM. A video recording the presentation by the Office of the Special Project Facilitator, ADB, on the ADB Accountability Mechanism Policy (2012) was shown, and an example of effective implementation of a GRM within an ongoing project in Georgia was demonstrated. Then, regulatory frameworks for environmental safeguards of the Kyrgyz Republic and Georgia were explored. Representatives from environmental ministries in both countries presented existing legislation and regulations, key actors, and environmental impact assessment (EIA) procedures.

In the afternoon, three discussion groups were formed on the GRM, implementation of environmental monitoring, and site management plans. Each group was asked to identify three main issues and recommend actions for different players (e.g., ADB, executing agencies, and PIUs) at different stages of the project cycle. Results were presented in a plenary session, allowing participants to share their experiences by discussing existing problems and learning new approaches.

On the third day, participants visited two project sites. One group comprised representatives of projects in the road and energy (i.e., transmission line) sectors, visiting the Bishkek–Naryn–Torugart Project. The second group comprised representatives of projects in the energy (i.e., power plant and substations) and water supply and sanitation sectors, visiting the Issyk-Kul Sustainable Development Project. Specialists of the PIU and the supervision consultants accompanied the groups during the site visits. The participants were then asked to share experiences and to suggest recommendations for improvements.

Workshop materials

Pakistan:Lahore workshop

The Lahore workshop focused on case studies of good practices that were shared by the various PIUs in attendance (Appendix 4). These case studies covered the GRM, construction and camp management, provision of facilities to workers, improving institutional strength, and forest protection. Each case was followed by a question-and-answer session.

ADB policies and procedures were also discussed, including the ADB Safeguard Policy Statement. Results from audits were used to identify environmental issues during project implementation, and solutions were presented. ADB's requirements for disclosure and a GRM were also discussed, and participants viewed the video on the ADB Accountability Mechanism Policy (2012).

Regulatory frameworks for environmental safeguards of Pakistan and Afghanistan were explored. The challenges and opportunities of environmental policy in Afghanistan were analyzed, backed by a detailed description of the current institutional landscape and existing capacity in the country.

On the third day, participants visited the New Khanki Barrage Project, focusing on the background of the project, challenges and solutions for environmental safeguard management, and arrangements to implement the EMP. It drew attention to issues that were observed during an ADB third-party audit conducted in March 2014, including those at the coffer dam, batching plant, and borrow-pit sites. Participants were invited to form their own judgment on the significance of the issues, how these had been addressed, and whether any additional work is required.

III. Issyk-Kul Workshop Proceedings

A. Opening Remarks

T. T. Phuong Tran
Senior environmental specialist, ADB

Workshop materials

Opening remarks

T. T. Phuong Tran welcomed the workshop participants to Issyk-Kul. She emphasized the importance and challenges of implementing environmental safeguards during project implementation and that ADB has been providing technical assistance to strengthen the environmental safeguard capacity of executing and implementing agencies in Central and West Asia.

Through one technical assistance project, ADB has completed training on environmental safeguard management in all 10 Central and West Asian countries. She noted that training for trainers was conducted for six consulting companies—environmental auditors, who conducted safeguard training for 300 staff members from 80 executing and implementing agencies and 20 line ministries. In addition, 80 environmental audits were conducted in the 10 Central and West Asia countries. Training materials, including an EMP supervision tool kit and an e-book, *Selected References for Good Practice in Environmental Safeguard Implementation*, were developed, distributed to executing and implementing agencies, and posted on the ADB website.

She stressed that ADB is committed to helping countries develop institutional capacity for country safeguard systems. In fact, diagnostic studies on environmental safeguard capacity were conducted, and capacity development plans were prepared for Armenia, Azerbaijan, Georgia, the Kyrgyz Republic, Pakistan, and Tajikistan. Country safeguard frameworks for mainstreaming the ADB Safeguard Policy Statement (2009) and national legal requirements were prepared for five countries.

Phuong Tran explained that this regional exchange is a practical learning opportunity for PIUs of executing and implementing agencies to better understand national environmental compliance requirements, along with environmental requirements of the Safeguard Policy Statement. She noted the importance of the workshop for PIU environmental staff, especially those who have not benefited from earlier training.

Phuong Tran stressed that the workshop is for sharing good practices and lessons from participants' own experiences. By design, the workshop aims to address a rich variety of issues and provide opportunities to share experiences and knowledge at an operational level, from all sectors and countries in which ADB has investments. She said that participants will go home with a USB containing good practices, innovative solutions, lessons, and new knowledge, which they can apply in their daily work. She urged all participants to take full advantage of this opportunity to learn from each other, share knowledge, and discuss innovative solutions.

B. Welcome Remarks

Nadira Jeenbekova
Department of Government Investments and Technical Assistance, Ministry of Economy and Finance, the Kyrgyz Republic

Nadira Jeenbekova welcomed participants and noted the importance of conducting workshops for environmental safeguard management. She stated that the Government of the Kyrgyz Republic is implementing several investment projects, and many are funded by ADB. These projects are helping develop many sectors of economy and improve living standards.

The government recognizes the importance of ensuring that environmental requirements are met during project design, construction, and operation. Therefore, the Kyrgyz Republic acts based on the country's environmental legislation, but Nadira Jeenbekova recognized that there is space for improved environmental safeguards. She expressed a desire that this workshop will be useful for all participants, as it is a good chance to learn good practices from other countries with similar conditions. She hoped that participants have interesting, fruitful activities during the workshop and enjoy staying in Issyk-Kul.

C. Panel Presentations

1. Briefing on ADB Environmental Safeguards

Madina Khalmirzaeva
Senior environmental engineer of Nazar Business and Technology, ADB consultant

Workshop materials

The Kyrgyz Republic workshop

Madina Khalmirzaeva provided an overview of the ADB Safeguard Policy Statement (2009), its objectives, and its principles. She explained that ADB safeguards seek to avoid adverse impacts of projects on the environment and affected peoples, where possible; minimize, mitigate, and/or compensate for adverse project impacts on the environment and affected peoples when avoidance is not possible; and help borrowers and/or clients strengthen their safeguard systems and develop the capacity to manage environmental and social risks.

She discussed the ADB project cycle and explained the role and responsibilities of executing and implementing agencies in environmental management at each stage. After presenting the Safeguard Policy Statement's key environmental principles and requirements, she discussed environmental management planning and EMP implementation. She

presented the requirements for environmental supervision monitoring, audits, and safeguard monitoring reporting, and explained report contents and frequency depending on category and complexity of the projects.

Workshop materials

The Kyrgyz Republic workshop

Madina Khalmirzaeva described the responsibilities of environmental units and/or environmental specialists during all three project stages: preconstruction, construction, and operation. She emphasized that proper planning for environmental performance begins during the preconstruction phase, and including relevant environmental management requirements and conditions in the bidding documents are a basis for effective project implementation of environmental safeguards. During the construction phase, the environmental units and/or specialists play key roles in training, monitoring, and reporting. The supervision consultant's support is also vital for daily monitoring and training activities.

2. Main Environmental Issues and Solutions during Project Implementation

Madina Khalmirzaeva

Senior environmental engineer of Nazar Business and Technology, ADB consultant

Madina Khalmirzaeva discussed the main findings of the environmental audits conducted in 2013–2014. The findings were compared with ADB environmental safeguard review mission notes to assess progress toward compliance.

It was found that all PIUs had hired environmental specialists, and some executing agencies had created separate environmental units. However, not all PIUs have full-time environmental specialists. Often, only safeguard specialists are responsible for environment, social, gender, occupational health and safety, and other associated duties. In some, only one environmental specialist works for several project management units (PMUs) under one executing agency. Sometimes, contractors do not hire environmental specialists, especially local contractors.

It was found that all ADB loan agreements have the necessary loan covenants. However, environmental requirements (i.e., EMPs) are not always satisfactorily included in bidding documents. Similarly, problems were found in contract documents, including inadequate description of environmental requirements and omission of EMPs. With respect to bid evaluation, very few environmental specialists participated in the preparation and evaluation of bidding documents. The environmental management capability of bidders is also not evaluated.

Current practice is to prepare site-specific EMPs by copying the EMP documents attached to the EIA without taking into consideration site environmental features and changes made at the project detail design stage. In some cases, the SEMP documents are not available at the construction site; in others, PIUs have not reviewed and approved the documents. Substantial efforts are needed to improve both compliance with and quality of the SEMPs developed and submitted by contractors. The audit found the most common areas of noncompliance with SEMPs are improper waste handling, storage, and disposal of construction waste (i.e., hazardous and nonhazardous waste, domestic waste, and sewage); and improper handling and storage of fuel, oil, and hazardous materials.

While almost all EMPs have requirements on conducting baseline monitoring of environment quality and periodic monitoring during construction, there are a few cases where requested baseline and routine monitoring are conducted as specified. In other cases, the EMP budget does not allocate funds for environmental monitoring.

With respect to receiving government permissions (e.g., for water withdrawal, use of borrowed areas, waste disposal, and cutting of trees), contractors have gotten better at obtaining all necessary permissions prior to construction works.

With respect to site inspections and record keeping, current good practices include use of checklists by contractors and supervision consultants for site visits; provision of official notes to contractors on noncompliance with SEMPs; and involvement of local nature protection agencies, national reserves, and communities in environmental monitoring.

PMUs and contractors have improved in keeping complaint logbooks. However, in most cases, complaints or communications are verbal, with no records kept in the logbooks.

All projects have submitted EMRs, but they were often delayed. Their quality needs improvement, particularly in providing environmental quality monitoring data. Supervision consultants should be more involved by providing training, assisting in preparing the reports, and supervising environmental monitoring programs. PIUs also do not commonly publicly disclose the EMRs. Examples of good practices in disclosure include the Infrastructure Services Delivery Improvement Project, Talimarjan Power Project, and Central Asia Regional Economic Cooperation (CAREC) publications on agency websites.

The speaker also highlighted several good practices found during the audits, including well-prepared SEMPs for pipeline construction in highly populated and protected areas, borrow-pit management, asbestos management, and polychlorinated biphenyl (PCB) management. She also highlighted good environmental management practices for excavation and operation of asphalt plants.

D. Good Practice Case Studies

1. Improving Environmental Safeguard Performance through Increased Involvement of the Safeguard Unit in Project Implementation in the Municipal Development Fund

Nino Nadashvili
Environmental safeguard specialist, Municipal Development Fund, Georgia

This case study demonstrated how environmental safeguard implementation was improved by establishing the Environmental and Resettlement Unit within the Municipal Development Fund in Georgia. The unit, with eight staff members, has been involved in environmental and social safeguards throughout the entire project cycle. It mobilized the supervision engineer's environmental expert, hired and trained national environmental experts, established a GRM and record-keeping system in project sites, and reports to the Municipal Development Fund. Its oversight has led to substantial improvement in the environmental performance of the contractor and supervision engineer.

P. Tran

Georgia: Sustainable Urban Transport Investment Program - Anaklia coastal improvement

Nino Nadashvili explained that the ADB environmental review mission for the Anaklia Coastal Improvement Project, fielded before the establishment of the unit, evaluated environmental safeguard implementation as partly compliant. However, the second ADB review mission, 1.5 years later, assessed the project as compliant. She concluded that the establishment of the unit significantly contributed to improvement of environmental performance for ADB projects, as regular monitoring and supervision by all parties, especially environmental staff, has improved environmental performance. She also observed that mobilization and involvement of an international consultant has improved environmental performance.

Nino Nadashvili stressed that maintaining all environmental documentation at the project site contributes to better implementation of environmental requirements. She emphasized that the establishment of a GRM is necessary. In response to questions about involuntary resettlement, Nino Nadashvili replied that resettlement has been implemented in accordance with land acquisition and resettlement plans. She explained that the Environmental and Resettlement Unit currently has 6 ADB-funded projects and nearly 100 small-scale subprojects funded by the World Bank. Most of the projects are category B; only one is category A (i.e. resettlement).

2. Benefits of Environmental Management in Yerevan Construction Projects

Ruzanna Voskanyan
Environmental specialist, Yerevan Municipality Project Implementation Unit, SNCO

This case study examined the environmental management of the Sustainable Urban Development Investment Program in Armenia. A PIU environmental specialist is responsible for the overall environmental management program to ensure full compliance with Armenian law and the ADB Safeguard Policy Statement, oversees the supervision engineer and contractor's implementation of the EMP, reviews reports, and submits the EMR to ADB. The supervision engineer's environmental specialist implements, supervises, and inspects the EMP and SEMP; and prepares periodic monitoring checklists and reports to the PIU environmental specialist. The contractor's environmental specialist ensures day-to-day implementation of the mitigation measures and monitoring activities at the construction sites, generates reports to the supervision engineer's environmental specialist, and implements mitigation and corrective actions as prescribed by the other environmental specialists.

P. Tran

Armenia: Sustainable Urban Development Investment Program - Yerevan urban link road

Ruzanna Voskanyan explained that prior to the program, the Yerevan Municipality Project Implementation Unit had no experience with environmental safeguards. As previous projects in Yerevan did not employ environmental safeguard specialists, most contractors, engineers, and implementing agencies were resistant to and had difficulties adapting to the environmental safeguard requirements. There were difficulties in implementing safeguard measures, corrective actions, and mitigating measures at specific construction sites. Problems were also experienced in community outreach programs.

Ruzanna Voskanyan noted that the implementation of the environmental safeguard program has yielded benefits for all involved. Prior to this program, there was no GRM, and no one was responsible for environmental, community, and safety issues in construction projects. The environmental safeguard program for the Sustainable Urban Development Investment Program has increased community awareness, improved health and safety standards, reduced community grievances, resulted in more efficient implementation, increased responsiveness and accountability, and increased overall oversight.

She recommended that, prior to a project, it is important to ensure that the roles and responsibilities of each environmental specialist are clearly defined and understood by all parties. To minimize the impact on local communities and environment, regular public hearings with communities and nongovernment organizations (NGOs) are important during preconstruction. During construction, ongoing consultations are essential to educate, inform, and address any concerns. She further recommended that all environmental safeguard requirements, EMPs, and reporting requirements be included in all bidding documents and contracts. She emphasized the importance of training programs on environmental management, occupational health and safety, best practices for similar projects, and project management for the entire environmental safeguard team.

3. CAREC Transport Corridor 1 Project 3, Bishkek–Naryn–Torugart

Asilbek Abdygulov
Environmental specialist, Investment Projects Implementation Group, Ministry of Transport and Communications, the Kyrgyz Republic; and Susan Lim, team leader and transport specialist, Transport and Communications Division, Central and West Asia Department, ADB

The CAREC Transport Corridor 1, Project 3, Bishkek–Naryn–Torugart is being implemented within 2 kilometers (km) of an environmentally sensitive area, Chatyr-Kul Lake, in the Kyrgyz Republic. The working season for the project, therefore, only lasts 4–5 months per year because of the climate conditions. Asilbek Abdygulov highlighted three special features of the project's EMP: a two-track monitoring plan for protection of the Chatyr-Kul ecosystem, borrow-pit management, and capacity building for the Karatal-Japyryk State Nature Reserve.

Asilbek Abdygulov stated that the EMP strategy comprises (i) pollutant-source control and monitoring, involving proactive mitigation of potential impacts from road construction and operations; and (ii) receptor protection, which includes upgrading the protected area facilities and management capacity, and restoration of sensitive habitats in the Chatyr-Kul ecosystem. In addition, special borrow-pit management plans have been developed; implementation is being monitored by the PIU.

S. Lim

The Kyrgyz Republic: CAREC 1.3. Bishkek–Naryn–Torugart road

P. Tran

The Kyrgyz Republic: CAREC 1.3: Bishkek-Naryn-Torugart road

Gray marmots, on the International Union for Conservation of Nature Red List of Threatened Species, were found during inspection of potential borrow pits, so 18 gray marmots were caught and safely relocated in coordination with the State Agency on Environmental Protection and Forestry.

Capacity building was necessary to establish an environmental monitoring system in the Karatal-Japyryk State Nature Reserve and Chatyr-Kul Lake. A complete set of environmental monitoring equipment (i.e., for water and air quality) and transport (i.e., cars, trailers, and boats) will be provided, and consultants will conduct onsite, hands-on training to nature reserve staff on monitoring and records management to enable the nature reserve to conduct the monitoring program from the 2016 construction season.

The speaker explained that the two-track EMP remains valid, and a variety of no-regret mitigation measures (i.e., spill prevention, countermeasures, and heavy-metals control) have been incorporated into the road design, providing insurance against loss of biodiversity. He noted that it is extremely difficult to find specialized environmental monitoring equipment in the Kyrgyz Republic, as there are few specialized suppliers and even fewer with experience of tendering it under international procurement rules. He recommended training for the nature reserve staff to enable continuous monitoring activities after project completion. He emphasized that an international environmental specialist is needed to help build the capacity of the local environmental specialists in environmental monitoring and reporting in accordance with ADB requirements.

Susan Lim then described institutional arrangements and the special environmental requirements needed to comply with the ADB Safeguard Policy Statement and relevant national requirements due to the project location being near Chatyr-Kul Lake.

Susan Lim explained how institutional arrangements allowed for effective communication among all project implementers and stakeholders (i.e., the PIU, supervision consultant, external monitoring specialists, contractor, and ADB). She described how the project's different parties have been involved in the different project stages, from project preparation to project implementation. Major environmental management activities, including the revision of the EMP and SEMP, joint revision missions, preparatory EMRs, due diligence reports, and design changes have been required and conducted in consultation with stakeholders. She also discussed the GRM and emphasized the cooperation with local communities and NGOs for effective project implementation. She described cooperation with national environmental agencies, and shared future plans in joint environmental monitoring during project implementation and independent monitoring during project operation.

The participants asked about national procedures for obtaining permission for construction works located close to environmentally sensitive areas. Asilbek Abdygulov explained that per ADB request, a special baseline survey can be conducted to monitor the impacts of construction activities. In response to a question about why SEMPs for borrow pits were approved by ADB, Susan Lim replied that due to the proximity of the borrow pits to environmentally sensitive areas, the PIU decided to submit SEMPs for borrow pits to ADB.

4. Good Practice in Wetland Protection, Borrow-Pit Restoration, and Slope Stabilization

Gia Sopadze

Head, Environmental Protection Unit, Roads Department, Ministry of Regional Development and Infrastructure, Georgia

This case study in Georgia demonstrated how good teamwork and environmental training helped improve environmental management. An EMP as part of the EIA was prepared, as well as institutional arrangements for implementation and a monitoring plan. However, poor environmental management of the project, inadequate reporting, delays, and unsatisfactory quality of mitigation measures were observed during construction. The Roads Department requested that the supervision engineer hire an international environmental specialist

G. Sopadze

Georgia: Road Corridor Investment Program

and two domestic environmental specialists. The international environmental specialist was to undertake field audits and prepare the necessary EMRs for the Roads Department and ADB.

The international environmental specialist conducted onsite environmental management training for the contractor's staff. Spot surveys and assessments of environmental conditions of the project site were also conducted to ascertain compliance with the EMP. Noncompliance issues were noted and brought to the attention of the contractor to implement corrective measures. As necessary, modifications on the work program were recommended to ensure compliance of the contractor.

Gia Sopadze noted that the training and increased supervision led to the resolution of three management issues: protection of wetland areas, restoration of borrow pits, and slope and cut stabilization. The Ispani Mire, which is a Ramsar site, was protected by the realignment of the road. After a study on migratory bird use of the mire, the route was relocated 2 km from the wetlands. Borrow areas were successfully restored, and after extraction of gravel, drainage was improved to ensure preservation of pastures. To ensure effective stabilization of slopes and road cuts, local topsoil was placed on the embankment, and seeds from local species were used for revegetation.

The speaker emphasized that international conventions need to be taken into account during environmental planning, and that the detailed site characteristics of protected areas need to be assessed. Borrow-pit restoration plans need to include measures to restore the area after excavation. Finally, to ensure effective stabilization of slopes, local topsoil and seeds need to be used.

E. Water Supply and Sanitation and Urban Development Sector Case Studies

1. Water Supply and Sanitation Sector Project

Lilit Hovhannisyan
Environmental and social impact specialist, Armenian Water and Sewerage Company

P. Tran

Armenia: Water Supply and Sanitation project

The Water Supply and Sanitation Sector Project includes replacement and/or extension of water distribution systems in 18 towns and 92 villages throughout Armenia. Subproject construction works are being implemented by more than 20 companies. An initial environmental examination (IEE) and EMP were required for each subproject. The institutional arrangements for the EMP include a supervision consultant, who prepares the IEEs and EMPs, ensures that necessary environmental clearances and permits are obtained, and supervises implementation of the EMPs and reports on compliance; and contractors, who are responsible for implementing mitigation measures. The contractor's environmental specialist supervises construction sites daily. The contractor also provides monthly reporting to the PMU through photographs and short descriptions. The implementing agency's environmental specialist is responsible for overall oversight to ensure timely and reliable implementation of the works and measures in the EMPs and SEMPs.

Lilit Hovhannisyan described the initial shortcomings of the implementation of environmental management for the project. She indicated that the environmental audit of the project was the turning point toward improved environmental performance. Based on the recommendations of the audit, the PMU requested that all contractors and the supervision consultant hire environmental experts. Further, the PMU conducted training for the contractor's environmental staff on EMP implementation, which was used as a basis for introducing new environmental management requirements such as photographic reports and monthly reports for effective SEMP monitoring to resolve existing environmental issues and to improve safeguard implementation on construction sites. She also explained the notice for correction mechanism, which the PMU uses to force corrective actions by the contractor in cases of noncompliance with SEMP requirements. Under the mechanism, the PMU can assess damages in the amount of 0.1% of the contract amount if the contractor fails to take corrective action.

In addition, the speaker summarized good practices, including (i) three levels of environmental staff (i.e., the contractor, supervision consultant, and PMU); (ii) daily monitoring by contractors; (iii) frequent (i.e.,

weekly) monitoring by the supervision consultant; (iv) the notice for correction for corrective actions; and (v) field monitoring by PMU environmental specialists. She recommended that every contractor have training to support implementation of the EMP and compliance with the ADB Safeguard Policy Statement before starting construction. She explained that providing noncompliance reports after each site visit helps track ongoing activities at multiple construction sites, and annual environmental auditing helps keep contractors alert and encourages high standards in environmental safeguard management. She recommended that the contractor's environmental specialists conduct daily field environmental monitoring and keep daily records, regular monitoring be conducted by the PMU environmental specialists, and the PMU organize exchanges between contractors to share good practices.

2. Good Practice in Preserving Endangered Species of Red List Trees

Ketevan Chomakhidze
Environmental specialist, United Water Supply Company of Georgia

This case study in Georgia demonstrated the conservation of endangered trees. Environmental management of the Urban Services Improvement Investment Program is the responsibility of the Division of Resettlement and Environmental Protection under the United Water Supply Company of Georgia. An environmental specialist was hired to assist and advise on environmental management and compliance with the ADB Safeguard Policy Statement and national legislation, and to oversee the work of the supervision consultant on safeguard compliance.

P. Tran

Georgia: Urban Services Improvement Investment Program in Kutaisi

Ketevan Chomakhidze explained that the SEMP for the Tetramitsa Reservoir identified that the site was a critical habitat as defined by the ADB Safeguard Policy Statement. An additional biodiversity survey of the reservoir site identified two types of trees protected by Georgia legislation and included in the International Union for Conservation of Nature Red List of Threatened Species: zelkova or Caucasian zelkova (native to the Caucasus) and the Imereti oak (native to Georgia). The plan for clearing the reservoir included cutting four zelkova trees. The planned access road for Tetramitsa Reservoir also had 27 trees on the Red List, including walnut, Imereti oak, zelkova, and smooth-leaved elm.

The United Water Supply Company of Georgia convened a meeting to review the reservoir design. As a result, the reservoir boundary was relocated, and only five Imereti oaks had to be removed.

Ketevan Chomakhidze concluded that biodiversity surveys of endangered tree species in environmentally sensitive areas need to be implemented prior to construction, and contractors need to be informed about

sensitive areas and required actions. It is necessary to undertake joint measures to avoid or to minimize cutting rare or Red List trees. Tree cutting needs to be monitored not only by project participants, but by relevant local authorities. To implement compensation measures, an experienced tree-planting company must be hired for planting, nurturing, and monitoring trees.

3. Good Practice in Environmental Management of the Water Supply and Sewerage Project in Jalal-Abad City

Nasiba Akhmatova

Environmental specialist, Emergency Assistance for Recovery and Reconstruction, Project Implementation Unit, Water Supply and Sewerage Project, State Agency for Architecture, Construction and Communal Services, the Kyrgyz Republic

The project aims to improve water supply in Susak District and Jalal-Abad City in the Kyrgyz Republic through the reconstruction of the existing water intake to increase capacity and provide a continuous supply of good-quality drinking water. Nasiba Akhmatova explained that key environmental issues are the potential pollution of water sources due to the absence of sanitary protection zone boundaries; lack of fencing for the zone of strict regime; and unprotected groundwater sources in abstraction areas due to broken wells, cultivation of rice fields, and unrestricted access by unauthorized persons and livestock. To resolve these issues and to establish proper environmental performance on the construction site, the PIU environmental specialist initiated calculations of sanitary protection zones and presented the results at a public consultation in Jalal-Abad City. In addition to the draft project designs for activities on capping, unused wells were included in the SEMP. The speaker stressed the involvement of the implementation agency's environmental specialists at all project stages, from technical design to operation.

P. Tran

The Kyrgyz Republic: Emergency Assistance for Recovery and Reconstruction project in Osh

4. Environment Aspects of Issyk-Kul Sustainable Development Project

Saparbek Omurakunov

Director, Project Management Department; and Nurlan Sultanov, environmental specialist of supervision engineer, DOHWA Engineering

Issyk-Kul, the world's second-largest saline lake, has great biodiversity, supporting rare and endemic species and migratory birds. Issyk-Kul Oblast was designated a Biosphere Reserve by the Government of the Kyrgyz

Republic in 1998 and the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 2001. It is a major tourist attraction, bringing over 1 million visitors annually.

Saparbek Omurakunov explained that the Issyk-Kul Sustainable Development Project is improving the nearby population's health and protecting the environment by creating better infrastructure and urban services including sanitation, sewerage, solid waste discharge, and water supply in the cities of Balykchy, Cholpon-Ata, and Karakol. He highlighted the project's good environmental management practices, including the implementation of SEMPs for rehabilitation works in the national park and for construction works within Karakol, and preparation and implementation of an asbestos management plan. The contractor is using good practices to minimize tree cutting and vegetation removal, conserve and replace topsoil associated with excavation, and avoid contamination of groundwater.

The Kyrgyz Republic: Issyk-Kul Sustainable Development Project

The Kyrgyz Republic: Issyk-Kul Sustainable Development Project

S. Omurakunov

Capacity was developed in the Issyk-Kul/Naryn Territorial Department of Environmental Protection and the Issyk-Kul Biosphere Reserve Directorate through provision of vehicles and field-monitoring equipment. Training in calibration, maintenance, and use of the equipment was provided, as well as on the impacts, mitigation, and monitoring for each construction contract, and their roles and responsibilities as assigned in the SEMP. The project conducted a public awareness campaign and implemented a GRM. It was noted that constant communication with the public has helped organize construction works without interruption and minimize adverse impacts on the community.

F. Road Sector Case Studies

1. CAREC Corridor 2 Investment Program (Mangystau Oblast Section) Associated Facility

Assel Karymbayeva
Chief expert, Project Preparation Department Committee for Roads, Ministry of Investments and Development, Kazakhstan

Assel Karymbayeva explained that under the CAREC Corridor 2 Road Investment Program (Mangystau Oblast Section), ADB is financing two sections of the road: (i) about 200 km between Shetpe and Beineu (under tranche 1); and (ii) 170-kilometer Shetpe–Zhetibay–Aktau, and preparation of the 73-kilometer road section Zhetibay–Zhanaozen (under tranche 2). A 60-kilometer road section connecting two tranche 1 sections is being financed by Kazakhstan. This section has been identified as an associated facility per the ADB Safeguard Policy Statement.

A. Karymbayeva

Kazakhstan: CAREC Corridor 2 Investment Program

The EIA required that a comprehensive biodiversity survey be conducted for the Kyzylsai State Regional Nature Park before construction, but the survey did not take place. As construction works started in 2014, to comply with ADB safeguard requirements, the executing agency engaged KazEcoProject to conduct an environmental audit of the Kyzylsai section. The audit was conducted during September–November 2014, revealing multiple instances of noncompliance including improper waste management, use of personal protective equipment (PPE), air protection, dust suppression, and reinstatement of disturbed lands. Moreover, there was no adequate EMP in place.

Based on the audit, an EMP was prepared, including measures for air protection (i.e., installation of emission-control devices at asphalt plants and restriction of equipment without air emission control and dust suppression); occupational health and safety; water resources (i.e., contracts for proper wastewater disposal); soil protection (i.e., reinstatement of disturbed lands, provision of port-a-potties and containers for solid waste, and timely disposal of waste); and EMP monitoring (i.e., organization of a unit for monitoring EMP implementation). Special measures were developed for protection of the wildlife of Kyzylsai State Regional Nature Park. Good practices include seasonal planning of works to minimize noise during animal migration, construction of special migration routes for wild animals, installation of beam reflectors, and information signs for drivers.

The speaker concluded that for the projects with associated facilities, an EIA and EMP should be prepared for all road sections connected to the project, despite the source of financing. To provide effective implementation of environmental requirements in accordance with national legislation and the ADB

Safeguard Policy Statement, it is necessary to establish appropriate institutional arrangements between all parties of the project and associated facilities. To address issues of biodiversity and critical habitats, natural conditions, wildlife migration routes, and animal behavior must be taken into account during the feasibility study and design and planning of construction works.

2. Good Practice in Biodiversity Protection in Road Projects (CAREC Corridor 2)

Dinora Azimova

Environmental safeguard specialist, Project Management Unit, Republican Road Fund, Uzbekistan

This case study illustrated the response to an unanticipated impact of the CAREC Corridor 2 Road Investment Program 2 in Uzbekistan. During construction of a section of the A-373 highway from Tashkent to the Fergana Valley, a small water canal was destroyed. This canal was the main water source of 42 households in Rezak, a mountain village. Subsequent actions undertaken by the PMU demonstrated teamwork and collaboration with the local community, NGOs, and contractors.

Dinora Azimova noted that, due to the complexity of the problem and urgency of a resolution, two types of mitigation measures were applied. First, a plastic pipeline was laid to provide temporary water supply to the village, and then a new channel was designed and constructed. To compensate the villagers, PMU specialists organized a special campaign that included (i) the purchase and distribution of seeds for drought-tolerant plants to reduce water needs for gardening and horticulture; (ii) organization of an appeal to the National Association of Chefs to develop recipes using local ingredients, based on the new vegetable crops; and (iii) provision of training for healthy diets and techniques for drinking-water purification.

The speaker pointed out the importance of identifying community infrastructure (e.g., small, dried-up, or snow-covered canals) during the design stage. She emphasized the need for consultations with the local community before embarking on works that will damage or destroy community infrastructure. It is also necessary to develop a mechanism for compensation and for determining the responsibilities of the contractor, design engineers, and executing agency.

3. North–South Road Corridor Investment Program, Tranches 1, 2, and 3

Gevorg Afyan

External impact and resettlement coordinator, North–South Road Corridor Investment Program, State Noncommercial Organization, Armenia

This case study demonstrated good practices in conserving physical cultural resources associated with the construction projects of the North–South Road Corridor Investment Program in Armenia. For Tranche 2 construction activities, 11 archaeological sites were impacted although the alignment does not pass through or near any cultural heritage or archaeological sites designated by UNESCO or the Ministry of Culture, except

for the Agarak Historical–Cultural Preserve. However, for Tranche 3 construction activities, 10 archaeological sites, 10 cultural monuments, and 1 natural monument would be impacted.

The first step was to identify archeological, historical, and cultural resources in the right-of-way boundaries during EIA preparation. An archaeological work plan was prepared before commencement of construction activities, which described the sites and principles of archaeological excavations, mitigation measures, estimated volume of work, and timetable and workforce. Qualified archaeological excavation agencies have been contracted by the contractor, and weekly field visits monitor progress. A chance-find procedure was developed, which includes a requirement for training the contractor's technical field staff and machine operators on what to do if they uncover a chance find. Once the site is cleared and certified free of archaeological remains by the Ministry of Culture, construction activity can start.

G. Afyan

Armenia: Agarak Historical-Cultural Preserve – North–South Road Corridor Investment Program

Gevorg Afyan explained that the archaeological excavations led to rerouting of the road at the Agarak Historical–Cultural Preserve. At the Aruch Medieval Caravanatun site, a SEMP was prepared including the installation of the specialized seismic-measuring equipment and sensors to monitor and record noise and vibration impacts. At the Nerkin Sasnashen archaeological site, there was a chance find of an important new archaeological site, a Chalcolithic settlement. This required the development of another archaeological work plan and excavation.

The speaker recommended that three independent archaeological tools be used to conserve physical cultural resources: (i) systematic excavations of the previously identified sites, (ii) chance-find procedures, and (iii) systematic monitoring of the construction excavations and archaeological excavations. These will minimize impacts, allowing full control of the process of preserving historical and cultural values.

4. Spoil Area and Waste Management in the CAREC Corridor 3 (Dushanbe–Uzbekistan Border) Improvement Project

Eraj Mirzoev

Chief engineer and coordinator on environmental issues, Project Implementation Unit for Road Rehabilitation, Ministry of Transport, Tajikistan

This case study demonstrated that spoils created during road rehabilitation and construction works can be effectively managed. The project consists of reconstruction and widening of the CAREC Corridor 3 road

E. Mirzoev

Tajikistan: CAREC Corridor 3 (Dushanbe–Uzbekistan Border) Improvement Project

from Dushanbe to the Uzbekistan border with Tajikistan, and includes modernization of border-crossing infrastructure and facilities at Dusti on the Tajikistan–Uzbekistan border. The main environmental issues faced by the PMU were proper handling of spoils during construction works and the location of stockpile areas. In accordance with the EMP, spoil materials had to be distributed or sold to users in the area for other purposes, such as building platforms or level areas for local village use. Accordingly, the contractor received requests from the local community to create a usable flat area next to a mosque. After receiving a no objection from the PIU, the contractor also created an area that could be used in the future for planting trees. Another effective use of spoils was arresting erosion by filling a gully along the highway near the aluminum plant in Tursunzade District.

The speaker concluded that cooperation among contractors, consultants, and the local population during relevant and on-time consultations can contribute to effective execution of EMPs. He also said that where possible, good practices on spoils management should be applied during road rehabilitation to restore the environment and to mitigate construction impacts.

G. Energy Sector Case Studies

1. Expansion of the Talimarjan Power Plant

Magfrat Muminova
Head, Environmental Protection Service, Uzbekenergo

This case study described the environmental management systems and practices associated with the Talimarjan Power Plant in Uzbekistan. The institutional arrangements include oversight by Uzbekenergo, Environmental Protection Service. The PMU's environmental specialist oversees the supervision consultant's environmental specialist and the contractor's environmental officer. The PMU, in cooperation with the environmental expert of the executing agency, examines the contractor's monthly environmental reports. The PMU works closely with the supervision consultant. Environmental issues raised in the supervision consultant's monthly reports are brought to the attention of the contractor.

Magfrat Muminova explained that there is very good coordination and cooperation. She outlined the good practices in implementing the SEMP. Restoration works have been undertaken for exposed areas. There is a working emission- and dust-control system on the construction site, and construction works are being implemented in full compliance with occupational health and safety requirements. The workers' camp is clean. The GRM is operating, staffed by the PMU's environmental specialist, who also disseminates information.

Magfrat Muminova pointed out the importance of the institutional setup for monitoring of the contractor's environmental performance. In addition, she emphasized that local environmental norms and standards should be included in contract and bidding documents, and that activities and operations of the contractor should be in line with local environmental regulations.

2. Regional Power Transmission Enhancement Project

Zezva Khvelidze

Environmental expert, Georgian State Electrosystem

This case study demonstrated good environmental management of the construction of a new power substation through intensive work of a health, safety, and environmental specialist; the supervision consultant; and contractor. At the beginning of construction, the project had to address many environmental issues: (i) the contractor placed its construction equipment on the construction yard without first removing the topsoil, (ii) construction and hazardous materials were stored on the ground without secondary containment, (iii) removed topsoil was mixed with barren land, (iv) the site for fueling and construction equipment servicing was not properly designated, and (v) there were no toilets.

Z. Khvelidze

Georgia: Regional Power Transmission Enhancement Project Khorga substation

To improve the situation, the health, safety, and environmental specialist worked closely with the contractor and supervision consultant to implement the SEMP. As a result, the environmental management performance has improved. Topsoil was removed over the entire construction site and stored for later restoration of the site; all containers of hazardous materials and oil products are stored in a special area with a secondary spill-containment system; containers for hazardous and construction wastes were installed, as were separate toilets for men and women; and petroleum-spill kits, first-aid kits, and fire extinguishers are located around

the construction site. Several contracts with organizations have begun for the removal of hazardous waste, nonhazardous waste, construction waste, and domestic waste. Staff members have also been trained in environmental protection, safety, fire safety, and occupational health and safety.

Zezva Khvelidze recommended that tender documents contain requirements on hiring by environmental experts knowledgeable of Georgia's laws. Technical specifications of project documents should include detailed environment protection requirements. Bidding documents should include the environmental requirements (i.e., EMP) and provisions for fines for noncompliance with environment protection norms.

3. Polychlorinated Biphenyl Management in Energy Projects

Emil Artykbaev
Head, Project Implementation Unit, National Electrical Grid of the Kyrgyz Republic

This case study addressed the problem of managing PCBs associated with obsolete power equipment. The Power Sector Improvement Project is to modernize 107 power substations in the Kyrgyz Republic. The main expected environmental impact is related to replacement of electrical equipment and disposal of the resulting waste equipment. Obsolete current and voltage transformers, switches, and waste transformer oil may contain PCBs, ceramics, and ferrous and nonferrous metals. Development of procedures and practices for managing and disposing of waste electrical equipment and oil are a key issue.

E. Artykbaev

The Kyrgyz Republic: Power Sector Improvement Project

The National Electrical Grid of the Kyrgyz Republic, in consultation with State Ecological Expertise, updated the project IEE and EMP to include actions for identification and management of PCB-containing oil and oil-filled equipment, including laboratory testing, actions to mitigate the impact, management and disposal of waste oil and waste equipment, and monitoring and reporting procedures.

Consultations were held with the State Agency for Environmental Protection and Forestry, the body responsible for implementing the Convention on Persistent Organic Pollutants. Environmental NGOs were

also consulted during the preparation of the IEE and EMP. As a result, the IEE and EMP received approval from the State Ecological Expertise. EMP implementation is the responsibility of the National Electrical Grid of the Kyrgyz Republic and local environmental specialists. The company, with the support of the Ministry of Energy and Industry, keeps the public informed on project implementation and the measures that are being taken to ensure environmental safety.

To date, sampling for PCBs in oil-filled equipment to be replaced by the project has been carried out for six oil facilities and two repair shops. The samples were sent to an ISO/IEC 17025: 2005 certified laboratory in Kazakhstan, which was selected from the ADB-approved list. The laboratory results show no PCB content in all samples. Emil Artykbaev stated that the National Electrical Grid of the Kyrgyz Republic has also gained experience in identification of PCB-containing oil and equipment.

He also noted that the process of testing for the presence of PCB-containing oils is time-consuming. Given the time needed to sign the contract with the laboratory, collect oil samples, transport them, and conduct laboratory tests, it must be kept within a strict schedule to avoid delays. Modernization of the power substations cannot be completed until the laboratory results are received. He also pointed out that the National Electrical Grid of the Kyrgyz Republic is working on procurement of express PCB analyzers to conduct rapid analysis of oil in oil-filled equipment to be replaced. This practice will be disseminated for all works on substations covered by the project.

H. Grievance Redress and the ADB Accountability Mechanism

1. ADB Requirements on Public Consultation and Grievance Redress Mechanisms

Madina Khalmirzaeva
Senior environmental engineer, Nazar Business and Technology, ADB consultant

Madina Khalmirzaeva explained the ADB Safeguard Policy Statement requirements for meaningful consultation with affected peoples and other concerned stakeholders. Meaningful consultation is a process that begins early in the project, is carried out on an ongoing basis, and provides timely disclosure of relevant and adequate information accessible to affected peoples. It is undertaken in an atmosphere free of intimidation, is gender inclusive and gender responsive, tailored to the needs of vulnerable groups, and enables the incorporation of all relevant views. At project design, interaction with the local community may help establish a network to learn about the local area and develop more effective project solutions. Ongoing public consultations with the community during project implementation and operation are necessary. It was noted that public participation can be useful in supporting environmental monitoring.

She explained the environmental requirement to establish a GRM to receive and facilitate resolution of affected peoples' concerns and grievances regarding the project's environmental performance. The GRM should be scaled to the risks and adverse impacts of the project and address affected peoples' concerns and complaints promptly, using an understandable and transparent process that is gender responsive, culturally appropriate, and readily accessible to the affected peoples at no cost and without retribution. The mechanism should not impede access to the country's legal system.

2. Accountability Mechanism Policy

Jitu Shah
Head, Office of the Special Project Facilitator, ADB

Jitu Shah participated from ADB headquarters through a video link. He stated that the ADB Accountability Mechanism addresses problems of people affected by ADB-supported projects and ensures compliance with ADB operational policies and procedures. It provides a mechanism by which people can complain to ADB if they feel that they have been adversely affected. The Accountability Mechanism's problem-solving function resolves concerns through informal, flexible, and consensus-based actions. The compliance review function investigates alleged noncompliance with ADB's operational policies that cause, or may cause, harm to people.

Workshop materials

Accountability Mechanism Policy

Jitu Shah explained that common complaints to the Accountability Mechanism include (i) resettlement, compensation, and land acquisition (32.5%); (ii) insufficient information (17.2%); (iii) agriculture, natural resources, and the environment (14.6%); and (iv) inadequate consultation and participation (13.9%). Common complaints regarding environmental safeguards include lack of mitigation plans, nondisclosure of the EIA, violation of local environmental regulations and/or noncompliance with the Safeguard Policy Statement, seepage or leakage of harmful substances, wastewater impact on agricultural fertility, and air pollution and water-quality impacts.

Jitu Shah summarized several lessons. For involuntary resettlement, it is very important to establish a workable GRM, as delays in resolving complaints often lead to complications, while early attention to complaints increases successful resolutions. Consultation and participation are very important, as they improve communication and project implementation, and all complaints are useful because they focus attention on significant issues. Finally, NGOs play a very important role, as they can bridge the gap between affected communities and ADB.

3. Examples of Good Practice in Implementation of a Grievance Redress Mechanism

Ketevan Chamhidze
Environmental specialist, United Water Supply Company of Georgia

This case study demonstrated how the GRM was established within the Urban Services Improvement Investment Project. Ketevan Chamhidze explained that the Administrative Code of Georgia has legal provisions defining the rules and procedures for grievance review and resolution, but the code provides only a generic framework for grievance redress and no other regulations further detailing grievance redress procedures.

For the project, there were no formal structured mechanisms or procedures to help the affected population and stakeholders in the grievance resolution process. Therefore, the United Water Supply Company of Georgia issued a special order that gave clear instructions to every stakeholder on how to act when people are impacted by the project. There are three stages of this GRM mechanism. At the first stage, an affected person can apply at a United Water Supply Company of Georgia local services center in different cities, where an electronic intranet system registers complaints. At the second stage, an affected person can apply to the Grievance Redress Committee at the PIU level. At the third stage, the affected person can apply to the Municipal Court or the ADB Accountability Mechanism.

Public awareness programs were also undertaken where affected persons were fully informed of their rights and procedures for addressing complaints. Comprehensive public awareness activities include door-to-door campaigns, consultative meetings, and media campaigns.

Ketevan Chamhidze made the following recommendations: (i) local services centers associated with construction-phase EMRs should be supported by the implementation agency and delivered by the supervision consultant; (ii) communities should be involved in the design stage of projects to ensure that affected peoples are adequately informed; (iii) public awareness and consultation prior to commencement of the project are essential for proper implementation of the GRM; and (iv) information materials, including leaflets and brochures providing full information about the functioning of the GRM system, should be distributed among affected peoples.

I. Country Regulatory Frameworks

1. Environmental Impact Assessment in the Kyrgyz Republic

Rakiya Kalygulova
Environmental expert, Department of State Environmental Expertise, State Agency on Environment Protection and Forestry, the Kyrgyz Republic

Rakiya Kalygulova described the Kyrgyz Republic's legal and regulatory framework for the EIA. She explained the institutional arrangements, coverage of the environmental assessment (i.e., what type of activities require

an environmental assessment), environmental assessment process, and the role of the community. She also described the environmental expertise process and current collaboration between national environmental agencies and ADB safeguard specialists. She thanked ADB for its efforts and attention paid to implementation of environmental measures during project implementation.

In conclusion, she noted that many aspects of the national environmental safeguard system need improvement. She expressed hope that improvements will be made through joint efforts and information-sharing workshops such as this regional exchange.

2. National Regulatory Framework for Environmental Safeguard Management

Alexander Papunashvili

Head, Analytical Division, Department of Environmental Impact Permits, Ministry of Environment and Natural Resources, Georgia

Alexander Papunashvili described Georgia's legal and regulatory framework for environmental safeguard management. Two departments under the Ministry of Environment and Natural Resources are involved in environmental safeguards: the Department of Environmental Impact Permits is responsible for environmental review and issuance of environmental impacts; and the Department of Environmental Supervision is responsible for supervision, monitoring, and enforcement, including control over compliance with the conditions of an environmental impact permit.

After providing a brief overview of the national environmental legislation, Alexander Papunashvili described the procedure of environmental assessment, pointing out the role of the community. He summarized findings of the assessment of environmental safeguard capacity and capacity development plan, noting the gaps and recommended improvements in the EIA, review, and management process.

The speaker then described Georgia's initiatives to strengthen its framework for environmental safeguards. In 2014, the Ministry of Environment and Natural Resources began to develop new EIA and strategic environmental assessment legislation with the support of a multipartner initiative, Greening Economies in the European Union's Eastern Neighbourhood. The ministry is working on new regulations for categorization of projects, screening procedures, scoping procedures, transboundary EIA procedures, and increased public participation. In conclusion, the speaker noted that the ministry plans to conduct public hearings on the second draft Law on Environmental Impact Permits during 23–24 September 2015 and then submit the draft to Parliament.

J. Open Discussion and Presentations

The presentation sessions were followed by open discussions. Three discussion groups were convened: (i) GRM, (ii) environmental monitoring during the construction phase, and (iii) implementation of SEMPs. Each group was requested to identify three common issues and to propose solutions. At the end of the session, a representative from each group presented results of discussion to the plenary. A summary of group discussions is presented below.

Workshop materials

The Kyrgyz Republic workshop breakout sessions

1. Grievance Redress Mechanism

The GRM group identified three issues: (i) the gap between relevant national legislation and ADB Safeguard Policy Statement, (ii) improper public disclosure of the GRM and misunderstandings by project participants of their responsibilities, and (iii) environmental complaints during and after project implementation. The group recommended that ADB review existing policy with a view to harmonize ADB policy with national policies and legislation. The group pointed out the necessity of ADB providing information on the GRM (e.g., video materials and training) through the ADB website. For governments, it recommended that additional regulations, laws, or guidelines be prepared to improve GRM implementation, and implementation be monitored by government agencies. For PIUs, it was recommended that they strengthen their institutional capacity regarding the GRM and make better use of supervision consultants.

2. Environmental Monitoring during Project Implementation

The main issues for most projects occurred during EMP development, implementation, and monitoring, mostly due to the low priority accorded to environmental safeguards by executing agencies' top management and requirements from ADB. Regarding implementation, main issues tend to be lack of adequate penalties for noncompliance, weak supervision consultants, and lack of ownership by executing agencies.

It was recommended that ADB improve guidelines for penalties, and ensure that penalties for noncompliance are included in contracts. In addition, more frequent ADB review missions can improve implementation of environmental monitoring. Policy reforms to strengthen penalty mechanism implementation and monitoring implementation were proposed for executing agencies. For the PIU level, it was recommended that environmental specialists participate in contract preparation and bid evaluations. In addition, communication between supervision consultants and PIU environmental specialists should be improved. The group stressed the importance of training for the executing agency and contractor staff. Sharing experiences on interproject and intercountry levels is highly desirable.

3. Implementation of Site Environmental Management Plans

Three issues were identified: (i) poor inclusion of EMPs into bidding documents and construction contracts; (ii) low priority of environmental units in institutional hierarchy, and as a consequence, little power to enforce EMP provisions; and (iii) lack of participation of environmental specialists in the bid evaluation process.

It was recommended that ADB provide greater scrutiny of project documents and address environmental issues during review missions. The executing agencies should include penalties or other environmental provisions in contract documents. Governments, through national environmental protection agencies, should be more actively involved in the review and implementation of EMPs. At the PIU level, environmental specialists should be full-time staff members, and have regular environmental management meetings with the PIU head. Also, it is necessary to ensure that environmental specialists participate in the project design stage.

K. Field Site Visits

On the third day of the workshop, participants visited project sites. Participants were divided into two groups according to their project sector. One group included representatives of energy (i.e., power plants and substation), and the water supply and sanitation sectors. The second group comprised the road and energy (i.e., transmission lines) sectors. During the site visits, the groups were accompanied by PMU and supervision consultant specialists from the relevant projects.

Guidelines on site visits provided a briefing on each project, associated environmental issues, challenges and solutions for environmental safeguard management, arrangements for addressing the issues, and implementation of the EMP. At the end of the site visit, the participants were asked to share their experiences and to suggest improvements.

1. Issyk-Kul Sustainable Development Project

The first group visited the Issyk-Kul Sustainable Development Project in Karakol. After visiting all planned sites in the project, participants thanked the project team for organizing the field trip.

Workshop materials

Site visit to Issyk-Kul Sustainable Development Project in Karakol

Participants noted that the project is comprehensive and consists of different types of work in different environments (e.g., a national park and urban areas), requiring several SEMPs. It was noted that separate SEMPs for asbestos disposal and for construction works in densely populated areas were developed. There is a need to prepare a separate SEMP for transport equipment and materials through settlement areas. The group also observed construction works being conducted in a densely populated area of the city, close to the market. Although a number of mitigation measures have been undertaken by the contractor, there is room for improvement. The participants noted the necessity of PPE and dust-control activities.

The project is being implemented by several contractors. There is one international contractor in association with a local subcontractor and five local contractors. Participants noted differences in the implementation of environmental requirements by the international and national contractors. It was suggested the poorer performance by national contractors may be due to lack of capacity.

Another issue was the modality for providing loans to the water supply and sanitation sector. Taking into account the scope of works and complexity of needed interventions in this sector, the participants recommended that the best loan modality is the ADB multitranche financing facility.

2. Bishkek–Naryn–Torugart Road Project

The second group visited the Bishkek–Naryn–Torugart Road Project, which is part of the CAREC Transport Corridor 1 linking the Kyrgyz Republic with the People's Republic of China, the Russian Federation, and other Central Asian countries. During the initial meeting in the project office, the consultant discussed project implementation and challenges, coordination with the Karatal-Japyryk State Nature Reserve, and environmental monitoring system. Visits were also made to the batching plant and stretch of road near Chatyr-Kul Lake.

The project's location significantly affects construction practices and environmental safeguards. First, it is located more than 3,000 meters above sea level, where harsh winter conditions shorten the construction period. The climate and elevation also require special attention to worker safety (e.g., wearing proper clothing and monitoring for altitude sickness).

Second, the road alignment passes near Chatyr-Kul Lake, which is a Ramsar site and part of the Karatal-Japyryk State Nature Reserve. The lake is positioned along a flyway for waterfowl and offers refuge to some globally threatened species. Thus, the EIA process was extensive. It incorporated comments from a group of seven environmental experts from research institutions in the country and called for baseline studies in ornithology, zoology, flora, hydrobiology, soil, entomology, and environmental monitoring. The EMP thus included special measures, including for borrow-pit management and capacity building of the nature reserve.

Workshop materials

Site visit to CAREC 1.3: Bishkek-Naryn-Torugart Road

The baseline study gathered information on the quality of water, air, soil, noise and vibration, flora, and fauna. It also included indicators recommended for further monitoring of environmental impact of the road near Chatyr-Kul Lake. The species and number of birds is closely monitored, as this is a good indicator of impacts from construction activities.

In accordance with the EMP, the project employs a two-track monitoring strategy for pollution source control and ecological receptors protection: (i) pollutant-source control and monitoring, including proactive mitigation of potential impacts from road construction and operations; and (ii) receptor protection, including upgrading the protected area facilities and management capacity, and restoration of sensitive habitats in the Chatyr-Kul ecosystem (this, in effect, an in situ biodiversity offset).

IV. Lahore Workshop Proceedings

A. Opening Remarks

T. T. Phuong Tran

Senior environmental specialist, ADB

T. T. Phuong Tran welcomed the participants, noting the extensive representation of different environmental agencies and PIUs in attendance. She elaborated that the technical assistance project, under which this workshop was organized, is one of many provided by ADB to help strengthen the capacity of executing or implementing agency staff to undertake environmental management and monitoring.

While acknowledging the importance of international standards and guidelines, she spoke of ADB's commitment to help countries develop their own environmental safeguard systems and institutional capacity, and detailed the work that has been done by ADB in this regard.

She described the objectives of the workshop to share practical experience in managing environmental safeguard compliance, share lessons learned from meaningful public consultation and dealing with complaints, and understanding countries' legal and regulatory frameworks.

Instead of providing training, she stated the workshop is designed to be an informative sharing experience. Each PIU in attendance is requested and encouraged to share their experiences, documented in the case studies prepared for the workshop. She hoped that participants go home with many good practices, innovative solutions, lessons learned, and new knowledge, which they can apply in their work.

T. T. Phuong Tran concluded by encouraging the participants to take advantage of this opportunity to draw from the experiences of their colleagues and stay connected in the future.

B. Welcome Remarks

Javed Iqbal

Director general, Environmental Protection Department, Punjab Government

Javed Iqbal welcomed the participants to the regional exchange, as it aims to help connect PIUs and increase their capacity to adopt environmental safeguards. He looks forward to several days of productive discussion and learning.

C. ADB Environmental Safeguards and Environmental Audits

1. Briefing on ADB Environmental Safeguards

Hidayat Hasan
Hagler Bailly Pakistan, ADB consultant

Hidayat Hasan explained why environmental safeguards are important to ADB and described ADB's approach to environmental safeguards. He noted that a cornerstone of ADB strategy, the ability to achieve and sustain poverty reduction, depends on economic growth plus a well-managed natural environment. Only growth that is environmentally sustainable can eliminate poverty, as many of the poor depend on natural resources for their livelihoods. In this context, the goal of the ADB Safeguard Policy Statement is to promote the sustainability of project outcomes by protecting the environment and people from projects' adverse impacts.

There are three safeguard areas in the ADB Safeguard Policy Statement: the environment, involuntary resettlement, and indigenous peoples. The speaker discussed each of the 11 environmental safeguard principles: the screening process, environmental assessment, examination of alternatives, environmental management planning, consultation, disclosure, implementation of the EMP, critical habitats, pollution prevention, occupational health and safety, and conservation of physical and cultural resources.

Workshop materials

Pakistan workshop participants

Hidayat Hasan described how environmental safeguards are integrated into the ADB loan approval process. ADB will not finance projects that do not comply with the Safeguard Policy Statement, nor will it finance projects that do not comply with the host country's social and environmental laws and regulations.

2. Main Environmental Issues and Their Solutions during Project Implementation

Hidayat Hasan
Hagler Bailly Pakistan, ADB consultant

Hidayat Hasan talked about common environmental management gaps during project implementation, based on the findings of environmental audits conducted in Pakistan and Afghanistan. He explained that under one technical assistance project, PIU personnel from various countries in the Central and West Asia region were trained on the implementation of environmental safeguards.

Workshop materials

Pakistan workshop plenary session

In Afghanistan and Pakistan, training and environmental audits were conducted by Hagler Bailly Pakistan. In all, four trainings were conducted and attended by 20 PIUs, 4 supervision consultants, and 6 construction contractors from Afghanistan; and 40 PIUs, 2 supervision consultants, and 3 construction contractors from Pakistan. In Afghanistan, 9 environmental audits were conducted, and 20 were conducted in Pakistan. Project sectors included energy, transport, natural resources, agriculture, and municipal services.

SEMPs are missing in all audited IEEs and EIAs in both countries. Three out of 9 projects in Afghanistan and 5 out of the 16 projects in Pakistan show an institutional structure for the environmental management team; however, the structures are inconsistent with ADB environmental safeguard requirements.

In all projects, the EMP is part of the contract as an appendix. However, there is no mention in the main text of the contracts of the three key environmental management components: detailed EMP and SEMP preparation, inspections and controls, and site-specific planning. None of the contracts have a financial penalty clause in the event of consistent noncompliance with the EMP conditions.

Six out of 16 visited projects in Pakistan and 8 out of 9 visited projects in Afghanistan have insufficient staffing. Staffing of the actual environmental team at the construction site is not in compliance with the structure given in the EMP for most of the projects. The reason often given is that the budget was not allocated during

the contracting process. Furthermore, no records of staff training for capacity building were found at any of the visited projects.

Although all audited projects submitted a biannual report to ADB, records of monthly monitoring requirements were not met or not monitored by PIUs in both countries.

Most of the EMPs require several special EMP or SEMPs (e.g., emergency response plans and waste management plans). In Pakistan, only 4 out of 16 visited projects have satisfactorily prepared the plans. In Afghanistan, parts of these plans are available for only the Nangarhar Valley Development Project. Moreover, in most EMPs, the contractor is required to develop several types of environmental documents. In both countries, none of the projects visited have procedures for handling oil and other chemicals (and PCBs and fuel spills were recorded as a common issue).

In both countries, workers were observed at work without or with insufficient PPE and engaged in works with unsafe practices. PPE is generally available, but workers are not using PPE due to a lack of safety awareness. No records are available in any PIU on staff training on occupational health and safety.

Regarding a GRM, in Pakistan, 12 of 16 visited projects were found to be maintaining a complaint register. None of the visited projects in Afghanistan was found to be maintaining a complaint register.

Hidayat Hasan made recommendations for improving environmental performance. The institutional arrangements for the PIU environmental unit and the contractor's environmental team should be in compliance with the ADB Safeguard Policy Statement. The PIU environment unit and contractor environmental team should be established as per the EMP before commencement of the construction work.

In the EMP, the PIU environmental units should be given the responsibility for surprise and scheduled inspections to verify the contents of monthly EMRs provided by the environmental manager of construction contractor. The PIU environmental units should conduct audits during the construction period and maintain audit records. Surprise and scheduled third-party environmental audits by ADB are also an effective tool for ensuring the implementation of environmental safeguards.

Requirements for developing SEMPs should be included in the EIA or IEE, EMP, and bidding documents. The SEMPs should be prepared, made available, and implemented at the construction and camp sites.

Occupational health and safety environment training should be organized as part of an initial training program for new staff, including the contractor's environmental personnel. Refresher courses should be organized frequently. Contractors should also ensure that proper PPE is available, all staff members participate in training, and all staff members are using appropriate PPE. Adequate fire extinguishers and first-aid facilities should be placed at camps, offices, and work areas.

Environmental supervision and monitoring documentation at construction sites, including monthly environmental reports, should be submitted to the PIU environmental unit. Quarterly environmental reports should be also submitted to ADB.

D. Case Studies

The eight cases presented in the workshop illustrated a range of good environmental safeguard management practices. The case studies were prepared and presented by the participating PIUs.

1. Bagh–Hattian Transmission Line: Institutional Strengthening for Environmental Safeguard Management

Mohammad Yasin
Islamabad Electric Supply Company

Mohammad Yasin discussed the institutional strengthening of the Islamabad Electric Supply Company for environmental management during the planning and construction of a 132-kilovolt transmission line that stretches 27.25 km from Bagh to Hattian. The project is being implemented by the company through the Power Distribution Enhancement Investment Program.

The project was expected to have significant impacts on the local environment, most related to right-of-way issues. The transmission line, in a mountainous terrain, was to traverse farmland, forests, and streams. The project was expected to affect 167 households, cut 947 trees, and cause crop damage. In addition, standard impacts to the air quality, hydrology, noise, soil, and vegetation were expected.

At the start of project implementation, the distribution companies did not prepare an EMP; therefore, there were no institutional arrangements for implementation. They also had no environmental compliance or reporting mechanisms. Any issues that arose were dealt with by internal GRMs. To establish and strengthen the institutional arrangements for environmental management, the Islamabad Electric Supply Company established an environmental and social cell and strengthened its role through advocacy by senior management. It then set up a dedicated environment and social safeguard section in the PMU to supervise the contractor's implementation of the EMP. It was properly staffed with assistant managers for social and environment impact, working under a deputy manager. The section also had a dedicated vehicle for field monitoring. On the contractor's end, an environmental and social monitor was responsible for field execution, monitoring, and reporting to the environment and social safeguard section.

The environment and social safeguard section also conducted pre-project orientation for contractors and grid system construction staff. The orientation explained their roles and responsibilities in the implementation of the EMP, key environmental and social aspects of the project, as well as importance of environmental management. Complaint registers were installed at the project sites as well as at the PMU. Through this, they localized the GRM, which led to fewer grievances and local solutions to those that did arise.

These efforts have allowed the project to successfully execute a detailed EMP. This included proper consultation with local elders, which allows the project to address potential land acquisition and right-of-way issues before they arise. There have been no delays due to environmental approvals. There is better understanding and anticipation of environmental aspects by top management and among workers. It has also opened up communication channels regarding environmental and social measures, and standardized monitoring and reporting that helps track and correct noncompliance.

2. Good Practice in Preserving Forests

Nadia Tahir
Project Management Office, Lower Bari Doab Canal Improvement Project, Punjab Irrigation Department

Nadia Tahir demonstrated the benefits of the analysis of alternatives, using a case study on the construction of the Baloki Barrage on the Ravi River. The Baloki Barrage, constructed in 1913, is 65 km southwest of Lahore. It supplies irrigation water to 4.79 million acres through two off-take canals. The Punjab Irrigation Department decided to rehabilitate and upgrade the barrage, including the construction of a new spillway. After a 2005 feasibility study, the land was marked to be acquired. This initial project design included cutting 70 acres of bamboo forest.

N. Tahir

Pakistan: Rehabilitation and upgrading of the Balloki barrage and canal head regulators

Nadia Tahir spoke about the continuous community participation that led the project team to look into alternatives that could save the forested area. It was a team decision and effort to propose an alternate design, which included a redesign of the spillway, and protection of the forest. An EMP was also developed to minimize disturbance to wildlife in the forested area. Mitigation measures were put into place to control noise levels; tree cutting was prohibited. Nadia Tahir spoke of the importance of early community consultations, so that modifications to the project may be incorporated early in the design phase, thus avoiding the need for costly redesigns.

Despite costs, there is a huge community benefit due to the redesign. The bamboo forest is now a protected area and has been named the Rana Hunting Resort. It has hunting facilities, accommodations, and restaurant facilities. It is often the venue of educational trips by local institutions.

3. Deg-Outfall Hydropower Project: Good Practices in Construction Site Management

Zil-e-Huma Faizi
Punjab Power Management Unit, Punjab Energy Department

Zil-e-Huma Faizi described the turnaround in environmental compliance that occurred during the construction of the Deg-Outfall Hydropower Project, a run-of-the-river hydropower project in a bypass arrangement. He noted that originally, the culture of environmental safeguard compliance was missing, which resulted in poor implementation of the SEMP. Heavy dust was generated along the access road during vehicle movement, and there was excessive noise and smoke from generators, vehicles, and other equipment. Solid waste was openly dumped, and the sites were dirty. PPE was not used, and first-aid facilities were absent.

The speaker explained how good practices were implemented to deal with the issues. Proper staffing and institutional arrangements were established. The Social and Environmental Safeguard Unit was established at the Punjab Power Management Unit, an environmental specialist was designated by the supervision consultant, and the Environmental Management Unit was established by the contractor. Extensive joint and surprise site visits are conducted. Environmental safeguard meetings are continuously held onsite. The Punjab Power Management Unit, supervision consultant, and the contractor's environmental teams arrange frequent site visits and meetings to discuss the implementation of corrective action plans, which are prepared periodically.

The initial critical problems were addressed directly. Clean drinking water is provided to workers by installing water filters, and septic tanks were positioned properly at the sites. Two vehicles are dedicated to sprinkling water on areas prone to generating dust. PPE is provided in the morning and collected at the end of the shift. Training is also conducted for workers, and workers who show interest during these sessions are asked to help in the next training session. As a result, workers feel ownership of the health and safety requirements. Last, strict monitoring is enforced to ensure the development of a culture of health, safety, and environmental safeguard compliance.

Z. Faizi

Pakistan: Renewable Energy Development Sector Investment Program – Deg- Outfall Hydel Power Project

4. Good Practice in Camp Site Management

Riaz Shah
National Highway Authority, Pakistan

Riaz Shah spoke about the implementation of Pakistan's first SEMP for a road project by the National Highway Authority during construction of Package I of the Faisalabad–Khanewal Motorway (M4). The motorway provides easy access to residents of Faisalabad, Khanewal, Multan, and Toba Tek Singh districts by easing transport toward Islamabad, Lahore, and Rawalpindi. The motorway is a four-lane, 184-kilometer, full-depth asphalt motorway. Package 1, which consists of 58.2 km, includes several bridges, flyovers, underpasses, and interchanges.

Riaz Shah emphasized that the first step in meeting environmental safeguards was to create an environment cell in the Environment, Afforestation, Land and Social Wing at the National Highway Authority. The EMP was made part of the supervision consultant's work and the construction contract. A SEMP was developed and approved.

He noted that the key to successful EMP implementation is in the teamwork among ADB, the contractor, and National Highway Authority. Regular environmental monitoring occurs at the construction site and contractor camps by an ADB environment specialist and the focal person for the environment from the National Highway Authority. The contractor also submits EMRs. Moreover, the focal persons from National Highway Authority and ADB jointly urge the contractor to implement all mitigation measures mentioned in the SEMP. Compliance was reaffirmed during an environmental audit by an independent consultant hired by ADB, in which no major environmental noncompliance was observed.

While Riaz Shah noted the success of the project, he concluded that some areas need improvement. The EMP is underfunded. The environment specialist's person-months in the contract are less than the construction period, which cause hurdles in effective implementation of the EMP. He suggested that the environment specialist be hired for the full construction period. Moreover, environmental mitigation costs were not included in the bill of quantities, which leaves inadequate money for these measures. Finally, contractor payments are not linked with environmental performance.

5. Good Practice in the Provision of Facilities to Workers

Khalid Mehmood
National Transmission and Despatch Company, Pakistan

Khalid Mehmood talked about the facilities provided to workers during the construction of a 500-kilovolt grid station. ADB funded the design, civil works, and supply of equipment through the Pakistan Power Transmission Enhancement Program, Tranche 2. The major environmental and social issues in the project include soil erosion, air pollution, noise and vibration, improper waste management, and health and safety issues.

Khalid Mehmood described the good environmental management practices, focusing on occupational health and safety. A full-fledged medical dispensary was established at the contractors' camp. Fully furnished, air-conditioned accommodations are provided to workers, and PPE is used. All the construction site towers have first-aid kits, and kitchen and toilet facilities for the workers meet hygienic standards. All types of waste material are segregated. The construction sites are properly fenced.

He explained that involvement of the Environment Cell at a very early stage of project cycle (i.e., planning and site selection) proved very effective in managing and minimizing the environmental and social impacts. He stated that continuous monitoring of project sites is key to achieving the target of proper implementation of EMP provisions.

He recommended that the bid evaluations consider the contractor's previous practices in implementation of EMPs. Specific provisions must be included in contracts to link the payments with implementation of EMP provisions. He also recommended that every contractor have one dedicated environmental specialist on the project.

K. Mehmood

Pakistan: Pakistan Power Transmission Enhancement Program Tranche 2

6. Lar Grid Station: Importance of Raising Awareness to Improve Environmental Safeguard Compliance in Projects

Asif Riaz
Multan Electric Power Company

Asif Riaz emphasized the importance of raising awareness and training to improve environmental safeguard compliance during the construction of the 132-kilovolt Lar Grid Station. The project was executed by the Pakistan Electric Power Company and implemented by the Multan Electric Power Company.

During the project, it was noticed that environmental awareness at all levels was close to zero. To achieve good compliance with environmental assessment principles, the Environment and Social Cell was formed in the PMU. To improve awareness, rigorous environmental awareness sessions were undertaken. These included training for upper management, supervision consultant officers, and contractor staff. Onsite training was also provided to construction staff. Accompanying documents were translated into Urdu and provided to all stakeholders. For the first time, the Public Health Department was consulted while preparing occupational health and safety material. Training materials, such as pamphlets and posters, were prepared in Urdu and placed in prominent positions throughout the project site.

These measures have resulted in excellent compliance at the project site, reduced complaints, and built better relationships with workers and affected households. It improved the image of the Multan Electric Power Company, and project goals were achieved in less time than usual. Moreover, consultation and provision of materials in Urdu harmonized the implementation of environmental safeguards. Asif Riaz concluded on an optimistic note, saying that such lessons could be incorporated into other projects, and continues to improve the image of the Multan Electric Power Company.

A. Riaz

Pakistan: Power Distribution Enhancement Investment Project

He also noted several lessons. It was very important to have all management on board and aware of obligations. This enabled the Environment and Social Cell to comply with all the environmental regulations and laws of Pakistan and environmental safeguard requirements of ADB. Robust support from senior management staff members is required at all stages of the project.

He recommended that capacity building at all levels should be a permanent feature of a project. Provision of adequate resources for EMP implementation and supervision is essential. Funds are needed for a vehicle, proper monitoring equipment, and PPE for the Environment and Social Cell.

Bidding and contract documents are key for contractors. Thus, the EMP, being an integral part of the contract, will enable the supervision consultant and contractor to follow and implement the EMP correctly. Clauses for EMP implementation in bidding documents need greater scrutiny by ADB to make requirements more understandable by contractors and supervision consultants. Contractor responsibility for implementing the environmental and social safeguard requirements should be clearly defined in bidding documents. Penalties for failure to implement safeguards should be specified.

Consultations with the public in advance are helpful in reducing the grievances of the local community while not hindering project execution.

7. Implementation of Health and Safety Practices

Said Nabi

Manager, Occupational Health and Safety, Pakhtunkhwa Hydel Development Organization

Said Nabi discussed the main environmental issues and mitigation measures, especially those regarding operational health and safety, implemented in the construction of a 17-megawatt, run-of-the-river hydropower project in Lower Kohistan. The executing agency is the Pakhtunkhwa Energy Development Organization, the supervision consultant is RHPP Consultants, and the contractor is Descon Integrated Projects. Major environmental issues include land acquisition, loss of trees, and resettlement of households. Other issues are water, air, and noise pollution; erosion hazards; construction camps; and social issues.

The implementation of health and safety practices, particularly the use of PPE, is challenging in Pakistan, and the widespread project site makes implementing occupational health and safety measures difficult. However, environmental provisions were incorporated into the contracts of the contractors. Before construction, a SEMP, health and safety plan, risk assessment plan, and security plan were prepared. Regular health and safety training is provided. Field inspections and audits by both the management consultants and Pakhtunkhwa Energy Development Organization are conducted, resulting in a high level of environmental compliance in the project.

S. Nabi

Pakistan: Renewable Energy Development Sector Investment Program – Ranolia Hydropower Project

8. Good Practice in Implementation of a Grievance Redress Mechanism

Pervaiz Arif
Project Management Office, Barrages, Punjab Irrigation Department

Pervaiz Arif spoke about the implementation of a GRM during the construction of the New Khanki Barrage Project. Khanki Headworks, the oldest headworks in Pakistan, is located about 52 km downstream of Marala Barrage. It is the second diversion structure on the Chenab River after entering Pakistan. The Lower Chenab Canal offtakes from the Khanki Headworks irrigate about 1,440,000 hectares of fertile land in eight districts of Punjab. The project mainly comprises the construction of a new barrage at a distance of 900 feet downstream of the existing headworks. It is financed by the Punjab Irrigated Agriculture Investment Program, Tranche 2. The implementing agency is the Punjab Irrigation Department.

A GRM was put into place to address the extensive social impacts of the program, which included (i) loss of land, shelter, and livelihoods; (ii) reduced wages of locals due to in-migration; and (iii) temporary lowering of groundwater levels. The GRM has a formal three-tier mechanism. The first tier enables an immediate response at the local level of the program through the Grievance Redressal Cell. The cell, led by the project management office (PMO) head, includes members from the Punjab Irrigation Department, supervision consultants, local administration, and local communities. The second tier enables resolution of complaints and issues of entitlements that are not resolved at the level of the Grievance Redressal Cell and those that require a formal review by the executing agency or PMO. Representatives of these agencies form the Grievance Redressal Committee 1. The third tier is at the level of the provincial government. This level is designated as Grievance Redress Committee 2. Complaints enter the system through a community complaints management register, which is housed in the project information center at the barrage site. The Grievance Redressal Cell and committees must work under a timeline to address complaints. The Grievance Redressal Cell has 7 days, the Grievance Redressal Committee 1 has 30 days, and the Grievance Redress Committee 2 has 60 days to address any complaints brought to them.

Pervaiz Arif elaborated on two specific instances where the GRM timely and successfully handled complaints. During project construction, dewatering was undertaken in the barrage area. In December 2013, a complaint was registered by the community and the Mechanical Staff Colony residents to the Grievance Redressal Cell, who brought it to the notice of the contractor's site representative. Downstream of the construction site, the water table had dropped from 50 feet to 120 feet, and water hand pumps up to 65 feet depth could no longer draw water. Initially, the contractor took the position that the falling water table was not a result of the barrage construction activities.

P. Arif

Pakistan: Punjab Irrigated Agriculture Investment Project – New Khanki Barrage

The project holds monthly environmental progress review meetings to review and discuss current environmental and social issues, which are attended by representatives of the PMO, supervision consultants, and the contractor. As such, the issue of the falling water table was discussed, and the contractor's site manager was persuaded. He accepted that the problem was being caused by the intense dewatering at the project site, so it was agreed that the contractor would install new water hand pumps for all eight affected households at the contractor's cost. In June 2014, boring was started for the new water hand pumps. The quantity and quality of water at the depth of 150 feet was found to be adequate. The affected households were consulted, and the hand pumps now are operating satisfactorily.

The second instance was regarding the sacred grave of Pathan Baba, which would have been inundated by construction. Grievance Redressal Cell members consulted with religious leaders and community members about acceptable methods of grave relocation, successfully transferring the grave to a new location.

Environmental and social staff members conduct regular inspections and reviews to ensure compliance. A full-time senior sociologist and health safety and environmental inspector are posted by the supervision consultants to the site. Their job is to supervise and guide the contractor in carrying out their operations in an environmentally sound manner and in accordance with SEMPs.

Pervaiz Arif recommended that resettlement issues be dealt with before actual construction starts to avoid unnecessary delays in implementation. Instrumental monitoring must be undertaken regularly to address complaints about ambient air quality. A teamwork approach should be adopted for enforcement of social safeguards and environmental protection measures. An emergency response plan is needed for emergency situations (e.g., the timely evacuation of workers and staff from construction camps that was needed during the September 2014 flood).

He also recommended that community consultation be carried out to avoid social problems that may arise due to construction. The senior sociologist must be present at the site during mobilization of the contractor and construction of the contractor facilities. Special precautions and care should be taken to protect cultural or religious sites. Water for construction should not be drawn from private groundwater sources or community wells without a social framework agreement. Access and approach roads must be constructed before excavation work starts, and excavation from the borrow area for coffer dams must not be started without prior approval.

E. Public Consultation, Grievance Redress Mechanism, and ADB Accountability Mechanism

1. ADB Requirements on Public Consultation and Grievance Redress Mechanisms

Hidayat Hasan
Hagler Bailly Pakistan, ADB consultant

Hidayat Hasan discussed ADB requirements on public consultation, disclosure, and GRMs. Consultation and participation begin early in project development, are carried out on an ongoing basis, provide timely disclosure of information, are undertaken in an atmosphere free of intimidation or coercion, are gender- and vulnerable groups-inclusive, and enable the incorporation of all relevant views of stakeholders into decision making. Disclosure requirements include that relevant information (whether positive or negative) about social and environmental safeguards should be made available in a timely manner, an accessible place, and a form and language understandable to affected peoples and other stakeholders. Accordingly, ADB posts draft EIAs for at least 120 days.

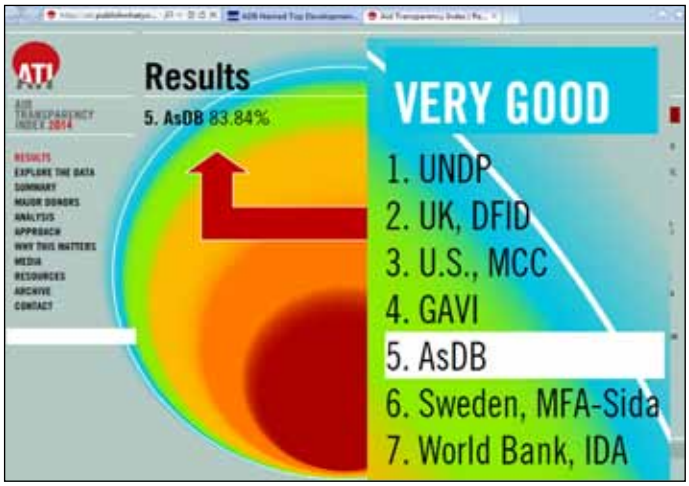
The speaker then discussed the ADB guidelines for GRMs. GRMs should be established to receive and facilitate resolution of affected peoples' concerns, complaints, and grievances about project environmental performance. They should be scaled to the risks and adverse impacts of the project. GRMs should use an understandable and transparent process that is gender responsive, culturally appropriate, readily accessible, free of cost, and without retribution. Furthermore, GRMs should not impede access to a country's judicial or administrative remedies. Last, affected peoples should be appropriately informed about the mechanism.

2. Accountability Mechanism Policy

Jitu Shah
Head, Office of the Special Project Facilitator, ADB

Jitu Shah participated from ADB headquarters in Manila through a video link. He stated that the ADB Accountability Mechanism addresses problems of people affected by ADB-supported projects and ensures compliance with operational policies and procedures. It provides a mechanism by which people can complain to ADB if they feel that they have been adversely affected by an ADB project. The Accountability Mechanism's problem solving resolves concerns through informal, flexible, and consensus-based actions. The compliance review function investigates alleged violations of ADB operational policies and procedures that cause, or may cause, harm to people in project areas.

He explained that common complaints to the Accountability Mechanism include (i) resettlement, compensation, and land acquisition (32.5%); (ii) insufficient information (17.2%); (iii) agriculture, natural resources, and the environment (14.6%); and (iv) inadequate consultation and participation (13.9%). Common complaints regarding environmental safeguards include lack of mitigation plans, nondisclosure of EIAs, violation of local environmental regulations and noncompliance with the Safeguard Policy Statement, seepage or leakage of harmful substances, wastewater impact on agricultural fertility, and air and water quality impacts.



J. Shah

International rating of ADB's Transparency

The speaker then summarized several lessons. For involuntary resettlement, it is very important to establish a workable GRM, as delays in resolving complaints often lead to complications, while early attention to complaints increases successful resolutions. Consultation and participation are very important, as they improve communication and project implementation. All complaints are useful, because they focus attention on significant issues. Finally, NGOs play very important roles, as they can serve to bridge the gap between affected communities and ADB.

3. Challenges and Opportunities for the ADB Environment Policy in the Local Context: Afghanistan

Najibullah Yamin
Environmental consultant, Afghanistan Resident Mission, ADB

Najibullah Yamin examined the current state of environmental safeguards in Afghanistan. There are many issues, including security, lack of monitoring, lack of awareness, lack of capacity, and few environmental officers. This has resulted in poor and irregular reporting. No environmental complaints have been recorded at the Afghanistan Resident Mission. Many PMOs do not have environment positions; those PMOs that do are often unable to fill the positions. Almost all environmental positions with contractors are unfilled.

Najibullah Yamin described the institutional environment in Afghanistan and the process of obtaining an EIA certificate. He went on to compare the Safeguard Policy Statement with the National Environmental Protection Agency's EIA regulations. He highlighted many gaps such as implementation of GRMs and EMPs. While these factors result in delays and poor implementation of EMPs, he concluded that there were many opportunities for improvement.

F. Regulatory Frameworks for Environmental Safeguard Management

1. Afghanistan

Abdul Wali Modaqiq
Deputy director general, National Environmental Protection Agency, Afghanistan

Abdul Wali Modaqiq outlined the legal framework that governs environmental management in Afghanistan. The Environmental Law of 2007 is an umbrella law, which many sector laws incorporate. Afghanistan is also a party to 14 multilateral environmental agreements that govern environmental issues (e.g., climate, waste, and biodiversity). There is currently an interim EIA regulation, and a new comprehensive environmental and social impact regulation is expected to make procedures more effective, efficient, and transparent.

He said that public participation is mandatory, but the security situation is a challenge. He described the focus on identification and declaration of protected areas for the protection and conservation of natural resources and biodiversity. In discussing human resources, he said that persons from government ministries and universities are involved in an EIA board of experts, which was created to make the evaluation system more transparent. Capacity building of the National Environmental Protection Agency and the board is a constant exercise. He also pointed out a high dependency on international experts for conducting social assessment and EIAs.

Abdul Wali Modaqiq concluded that Afghanistan now has the institutional setup and is developing the regulatory framework to ensure implementation of environmental and social safeguards. Afghanistan desires to learn from the experiences of its neighbors, and assigns a high priority to regional cooperation to address environmental problems.

2. Pakistan: Post-Devolution Scenario

Hidayat Hasan
Consultant, Hagler Bailly Pakistan

Hidayat Hasan introduced Pakistan's national and provincial environmental protection laws. He discussed when an EIA or IEE is required. The Pakistan Environmental Protection Act of 1997 stipulates that an EIA must contain a collection of data; prediction of qualitative and quantitative impacts; comparison of alternatives; evaluation of preventive, mitigation, and compensatory measures; formulation of EMPs and training plans; monitoring arrangements; and recommendations.

He outlined the review and approval process of an EIA. The EIA is submitted to the relevant agency for initial scrutiny. If approved, it is forwarded for a public hearing. After the hearing, it is sent to a committee of experts, and a site visit is conducted by the relevant agency. After this stage, the EIA is approved, approved with conditions, or rejected. Last, guidelines stipulate that the request for obtaining a written confirmation of compliance must be accompanied by an EMP indicating the measures and procedures proposed to manage or mitigate the environmental impacts for the life of the project, including provisions for monitoring, reporting, and auditing.

3. Environmental Training of Civil Servants in Pakistan

Babar Naseem Khan
Consultant, ADB

ADB assists countries in strengthening their safeguard systems and developing their capacity to address environmental and social issues in development projects. The Pakistan Environmental Training of Civil Servants in Pakistan, funded under a technical assistance project, was undertaken from March 2014 to October 2015. The focal point is the Ministry of Climate Change, and the delivery institution is the National School of Public Policy.

The purpose of this activity is improvement of EIA implementation systems by the National Impact Assessment Program, and the capacity of environmental protection agencies in implementing the Pakistan Environmental Protection Act of 1997. Currently, officials are not adequately sensitized to the role and requirements of national environmental law. The training is structured by seniority and focuses on operational, strategic, and policy challenges.

The speaker emphasized that the awareness and capacity of civil service officials to incorporate environmental safeguards, and to promote environmental sustainability into the development planning process, will be enhanced as a result of this project.

G. Group Discussions

Participants were invited to share their experiences to improve project environmental management. Three discussion groups were formed: (i) construction site management, (ii) social issues and GRM, and (iii) environmental and social monitoring. Groups were advised to pick three major issues within their topic and present practical suggestions for ADB, governments, and their proponents.

Workshop materials

Pakistan workshop: Group discussion

1. Construction Site Management

The major issues that this group presented were lack of training packages for workers, lack of safeguard cells at the PMO level, and a lack of implementation of site restoration plans. The group provided detailed recommendations for each issue.

2. Social Issues and Grievance Redress Mechanism

The major issues that this group identified were a mechanism for compensation, lack of awareness of procedures, and redress of complaints. Solutions included establishing standard operating procedures; amendments to laws to include GRMs for the government; and improvements in capacity building, training, and monitoring.

3. Environmental and Social Monitoring

The group listed 18 parameters that should be monitored during construction such as noise, water, light pollution, damage to vegetation, and site runoff. For each parameter, they suggested how monitoring can be improved.

H. Closing Remarks

T. T. Phuong Tran
Senior environment specialist, ADB

T. T. Phuong Tran noted the impressive and active participation, professional interest, and contribution of the workshop participants. She found the workshop to be very useful, in particular when it discussed and clarified that

i) a safeguard unit or environment specialist is necessary for safeguard management setup;
ii) the safeguard responsibility should be made clear in bidding documents and contracts;
iii) the design or alignment of the project must be changed and the EIA or IEE updated as needed;
iv) project staff and high levels of management need safeguard awareness;
v) meaningful public consultations as well as the establishment and functioning of GRM are needed; and
vi) national regulations are required related to review, appraisal, monitoring, and reporting.

She noted that participants made the following suggestions:

i) improve the quality of safeguard documents, and engage environmental specialists in the preparation of bid documents and design review and preparation of bills of quantities;
ii) conduct more frequent review missions, and use photographic records and supervision checklists;
iii) provide training and obtain support from the top management levels, pay due attention to noncompliance notices, and ensure sufficient budget for safeguard works;

iv) provide regular training to contractors and labors;
v) improve coordination with national and local environmental authorities; and
vi) provide assistance to Afghanistan in building long-term capacity of environmental safeguard management for civil servants, based on gap analysis, diagnostic studies, and experience from similar technical assistance for Pakistan.

T. T. Phuong Tran asked the participants to use the assistance of ADB national environmental safeguard specialists (Safia Shafiq in Pakistan and Najibullah Yamin in Afghanistan). She asked participants to let ADB know of issues or their need for advice. She encouraged the use of the knowledge products and to continue learning from ADB staff, consultants, and each other.

I. Field Visit: New Khanki Barrage Project

The New Khanki Barrage Construction Project comprises the construction of a new barrage at a distance of 900 feet from the existing headworks. ADB is providing financing under the Punjab Irrigated Agriculture Investment Program, Project 2.

A site visit guidance package provided the background of the project, challenges, and solutions for environmental safeguard management; and arrangements that were made to implement the EMP. It drew attention to issues that were observed during an ADB third-party audit conducted in March 2014. These included observations at the coffer dam, batching plant, and borrow pit. Participants were invited to form their own judgment on the significance of the issues, how these had been addressed, and whether any additional work was required. The participants were given an overview of the site by the PIU and briefed on the good practices in environmental safeguard management.

Environmental progress review meetings are carried out by the PMO on a monthly basis, where pending and current issues are discussed and mitigation measures are suggested. These meetings are helpful in providing an opportunity for open discussion and facilitating future actions on various desired issues and activities by all the stakeholders.

Workshop materials

Pakistan: Site visit to New Khanki barrage

To satisfy ADB environmental safeguard requirements, a SEMP, health safety and environment plan, site-specific traffic management plan, and solid waste management plan were prepared, utilizing a teamwork approach and after thorough review by the supervision consultants.

Several measures are used to control onsite air pollution during construction. Special care is taken to manage domestic waste pollution from the workers' camp and effluent generated at the batch plant. Drinking water sources in the area are tested every quarter by a third party to ensure that they are free from contamination.

Excellent facilities are provided to the workers, including air-conditioned accommodations. The workers' camp houses a superstore, laundry, hairdresser, and juice shop. Fire extinguishers are also located across the site.

Strict measures have been followed during the various construction phases. For example, at the steel yard, workers wear PPE, and a hard barricade and proper drainage system were installed. At the batching plant, fire extinguishers and warning signs were installed to ensure safety. To protect the soil surface, drains and an impervious floor for the generator were put into place. Flammable materials are stored in a designated, labeled, and roofed storage area.

Environmental monitoring of the project site has been implemented at various levels. Frequent instrumental monitoring, undertaken by the contractor and supervision engineer, is supplemented by third-party monitoring. EMP compliance monitoring checklists are used by the contractor and supervision engineer. EMP compliance monitoring occurs daily by the supervision engineer, and overall compliance is checked monthly by the engineer's environmental specialist. Inspection and monitoring of overall environmental and social compliance are done occasionally by the PMO's Environment and Social Unit.

Training is considered a very important component of the EMP. The contractor prepared a training plan, and the supervision engineer approved it. Training topics include defensive driving, emergency drills, work at heights, HIV/AIDS, snake bites, road safety, and traffic management. Training is provided to both workers and managers. Moreover, training sessions regarding the EMP, health safety and environment, and traffic management plan have been provided.

V. Results and Lessons

The fruitful exchange of ideas and sharing of information between environmental practitioners from nine countries covered a range of environmental management issues and practices. Case studies, prepared by PIU staff, highlighted good practices for environmental management during project implementation. These good practices are highly consistent with ADB Safeguard Policy Statement environmental safeguard principles that address environmental management planning, EMP implementation, and supervision and monitoring of EMP implementation.

A. Environmental Management Planning (Safeguard Policy Statement Principle 4)

> *Avoid, and where avoidance is not possible, minimize, mitigate, and/or offset adverse impacts and enhance positive impacts by means of environmental planning and management. Prepare an EMP that includes the proposed mitigation measures, environmental monitoring and reporting requirements, related institutional or organizational arrangements, capacity development and training measures, implementation schedule, cost estimates, and performance indicators. Key considerations for EMP preparation include mitigation of potential adverse impacts to the level of no significant harm to third parties, and the polluter-pays principle.*

Institutional arrangements for environmental management. Most case studies highlighted the need for the project management system to have appropriate institutional arrangements for environmental management. At a minimum, three levels of environmental management are needed. The contractor needs environmental staff to ensure that all mitigation measures are adequately implemented in a timely manner. The supervision consultant needs environmental staff to monitor the contractor's EMP implementation. The PIU needs an environmental specialist to oversee the overall implementation of the project's environmental management and to liaise with the supervision consultant and the contractor's environmental staff. In some cases, a permanent environmental and social unit has been established in the executing agency for this purpose. For example, the Municipal Development Fund in Georgia improved environmental safeguard performance through establishment of the Safeguards Unit and increased involvement of the unit in project implementation. In other cases, environmental staff in the PIU supervise environmental management.

The Bagh–Hattian transmission line in Pakistan provided a good example of institutional strengthening for environmental safeguard management. The Islamabad Electric Supply Company established the Environmental and Social Cell and strengthened its role through advocacy by senior management. It then set up a dedicated environment and social safeguard section in the PMU to supervise implementation of the EMP by the contractor, properly staffed with assistant managers for social and environment impact, working under a deputy manager who has a dedicated vehicle for field monitoring. The contractor nominated an environment and social monitor, who is responsible for field execution, monitoring, and reporting to the environment and social safeguard section. It also conducted a pre-project orientation of contractors and grid system construction staff regarding their roles and responsibilities in EMP implementation, key environmental and social aspects of the project, as well as the importance of environmental management.

Inclusion of environmental management plan provisions in contracts and bidding documents. Many case studies recommended inclusion of EMPs in contracts and bidding documents to avoid confusion and conflict over responsibilities for EMP implementation. Adequate funding must also be provided for environmental management by careful budgeting for EMP costs, and by including all costs in the bill of quantities attached to contracts. Many case studies recommended that environment specialists be involved in the preparation of bidding documents and evaluation of contractor's bids. Lessons from the Pakistan Power Transmission Enhancement Program included the importance of considering the prospective contractor's previous environmental performance during bid evaluation.

Proper funding of environmental management plans. Environmental management for the Faisalabad–Khanewal Motorway (M4) under the National Trade Corridor Investment Program in Pakistan employed good practices. The EMP was part of the supervision and construction contract, and a SEMP was developed. The stakeholders also work as a team, and there is regular environmental monitoring of the construction site and contractor camps by an ADB environment specialist and the focal person for environment from the National Highways Authority, who jointly urge the contractor to implement all mitigation measures mentioned in the SEMP. The contractor submits EMRs, and compliance was reaffirmed during a recent independent environmental audit, which found no major environmental noncompliance.

However, the EMP has been underfunded. The environmental specialist's contracted level of effort was less than the construction period, causing ineffective implementation of the EMP. Moreover, environmental mitigation costs were not included in the bill of quantities, leaving few funds for these measures. Contractor payments were also not linked with environmental performance. It is recommended that the full costs of environmental management of the project be detailed in the EMP and carried forward into contracts and bills of quantities.

B. Public Consultation, Disclosure, and Grievance Redress (Safeguard Policy Statement Principles 5 and 6)

Carry out meaningful consultation with affected people and facilitate their informed participation. Ensure women's participation in consultation. Involve stakeholders, including affected people and concerned NGOs, early in the project preparation process and ensure that their views and concerns are made known to and understood by decision makers and taken into account. Continue consultations with stakeholders throughout project implementation as necessary to address issues related to environmental assessment. Establish a GRM to receive and facilitate resolution of the affected people's concerns and grievances regarding the project's environmental performance.

Disclose a draft environmental assessment (including the EMP) in a timely manner, before project appraisal, in an accessible place and in a form and language(s) understandable to affected people and other stakeholders. Disclose the final environmental assessment, and its updates, if any, to affected people and other stakeholders.

Public consultation. Many case studies emphasized the importance of ongoing public consultation during preconstruction and construction. Regular public hearings with communities and NGOs are important in the preconstruction stage. During construction, ongoing public consultations are essential to educate, inform, and address any concerns that may arise. The Issyk-Kul Sustainable Development Project in the Kyrgyz Republic illustrated how a public awareness campaign and constant communication with the public help organize construction work without interruption and minimize adverse impacts on community.

Environmental awareness raising and training. The case study on the Lar Grid Station in Pakistan illustrated the importance of raising awareness to improve environmental safeguard compliance. At the beginning of the project, there was almost no awareness of environmental safeguards among all stakeholders. To remedy the lack of awareness, an environmental awareness program was undertaken, including training of the Multan Electric Power Company senior management, supervision consultant, and contractor staff. Onsite training was also provided to construction workers. For the first time, the Public Health Department was consulted while preparing the occupational health and safety materials. Relevant environmental documents were translated into Urdu and provided to all stakeholders. Information materials (i.e., pamphlets and posters) were prepared in Urdu, made available, and placed in prominent positions throughout the project site. These measures have resulted in excellent compliance at the project site, reduced complaints, and built better relationships with workers and affected households.

P. Tran

The Kyrgyz Republic: Public consultation on a road project

Grievance redress mechanism. Many case studies demonstrated the importance of proper implementation of a GRM. For example, the Urban Services Improvement Investment Project in Georgia required a special order, which created a three-tier GRM. At the first stage, an affected person can apply at a local services center, located in cities throughout Georgia; at the second stage, he or she can apply to the Grievance Redress Committee at the PIU level; and at the third stage, the affected person can apply to the Municipal Court or ADB Accountability Mechanism.

The New Khanki Barrage Project uses a similar three-tier mechanism. The first tier enables immediate response at the local project level through the Grievance Redressal Cell. The second tier enables resolution of complaints and issues of entitlements that are not resolved at the Grievance Redressal Cell, which requires a formal review by the executing agency through the Grievance Redressal Committee 1. The third tier is at the level of the provincial government, which reviews any issues that arise in the adequacy of the entitlements and eligibility aspects, known as the Grievance Redress Committee 2. If the grievance cannot be solved by the aforementioned GRM, then affected persons have recourse to the court at all times and at any stage.

Meaningful, continuous public consultation is important to ensure that grievances are amicably resolved at the local level. However, regular public consultation has facilitated the resolution of several environmental and social issues.

ADB Accountability Mechanism. The ADB Accountability Mechanism addresses problems of people affected by ADB-supported projects and ensures compliance with operational policies and procedures. It provides a mechanism by which people can complain to ADB if they feel that they have been adversely affected by an ADB project. The accountability mechanism's problem-solving function resolves concerns through informal, flexible, and consensus-based actions. The compliance review function investigates alleged violations of ADB operational policies and procedures that cause, or may cause, harm to people in project areas.

C. Implementation of the Environmental Management Plan (Safeguard Policy Statement Principle 7)

Implement the EMP and monitor its effectiveness. Document monitoring results, including the development and implementation of corrective actions, and disclose monitoring reports.

Cooperation among and training of environmental management staff. While the right institutional structure and staffing are necessary, alone they are insufficient. The case studies revealed the importance of good teamwork and cooperation among the PIU, supervision consultant, and contractor's environmental specialists. For example, environmental management involved in the Talimarjan Power Plant in Uzbekistan is successful because of the coordination and cooperation among all project participants. Many case studies also emphasized the importance of environmental management training for the PIU, supervision consultant, and contractor's environmental specialists. Good practices regarding wetland protection, borrow-pit restoration, and slope stabilization for the Road Corridor Investment Program in Georgia noted the important role of an international environmental specialist in conducting seminars at the site for more efficient, effective implementation of environmental management measures.

P. Tran

Pakistan: Training of environmental staff

Starting environmental management programs. Well-designed implementation arrangements are not always effective in the beginning. The case study on the benefits of environmental management in Yerevan construction projects outlined many issues that the Sustainable Urban Development Investment Program faced during implementation. Because of a lack of environmental safeguard specialists in prior construction projects in Yerevan, most contractors, engineers, and implementing agencies were resistant to adapting environmental safeguards. There were also many difficulties in implementing safeguard measures, corrective actions, and mitigating factors at specific construction sites. In addition, difficulties were experienced in community outreach programs.

The Regional Power Transmission Enhancement Project in Georgia illustrated that despite a well-designed EMP, problems arose at the beginning of construction. The project had to address several environmental issues through cooperation and good environmental housekeeping practices.

The Deg-Outfall Hydropower Project illustrated the turnaround in environmental compliance during construction. At the beginning of the project, a culture of environmental safeguard compliance was lacking, resulting in poor implementation of the SEMP. To address the problems, the first step was to put in place proper staffing, and institutional arrangements were made for the Punjab Power Management Unit, supervision consultant, and contractor teams. Frequent joint and surprise site monitoring visits are conducted, and environmental teams have frequent site visits and meetings to discuss the implementation of the corrective action plans, which are prepared periodically. Occupational health and safety training is also conducted for construction workers, and those who show interest are asked to help in the next session. As a result, workers have ownership of the health and safety requirements.

Frequent supervision by environmental specialists. Active, frequent supervision by PIU environmental management specialists is necessary for successful environmental safeguard management. Most case studies highlighted the importance of direct involvement of the PIU in supervision of EMPs. In some cases, for executing agencies with many projects, good practice includes creating an environmental and social unit to provide guidance and oversight to environmental specialists in the PIUs.

Preparation and disclosure of environmental monitoring reports. The case studies revealed good practices for preparation of EMRs. The Armenia Water Supply and Sanitation Sector Project requires contractor photographic reports and supervision consultant monthly reports, which are effective in monitoring compliance with the SEMP. Some case studies found checklists useful for tracking compliance. Environmental audits found that the EMRs are being prepared and submitted to ADB, but their quality and timeliness can be improved. While the case studies failed to discuss disclosure, the audits found that most executing agencies are not disclosing EMRs.

D. Good Practice in Implementation of Specific Mitigation Measures

The case studies provided a rich set of good practices in implementing mitigation measures.

Borrow-pit management. The case study demonstrated good practice in borrow-site restoration and slope stabilization for the environmental management of the Road Corridor Investment Program in Georgia. After extraction of gravel, drainage improvements were made, ensuring preservation of the pastures on the site. To ensure effective stabilization of the slope and road cuts, local topsoil and seeds were used. The Bishkek–Naryn–Torugart case also illustrated how a borrow-pit action plan protected critical habitats in the Karatal-Japyryk State Nature Reserve. It identified the requirements for a dedicated borrow-pit monitoring and response team for borrow-pit operations inside the reserve, which is also responsible for daily monitoring of each operating borrow pit and responding to any environmental incidents.

A. Abdygulov and P. Tran

The Kyrgyz Republic: CAREC 1.3 Borrow-pit management

1. Critical Habitats (Safeguard Policy Statement Principle 8)

Do not implement project activities in areas of critical habitats, unless (i) there are no measurable adverse impacts on the critical habitat that could impair its ability to function, (ii) there is no reduction in the population of any recognized endangered or critically endangered species, and (iii) any lesser impacts are mitigated. If a project is located within a legally protected area, implement additional programs to promote and enhance the conservation aims of the protected area. In an area of natural habitats, there must be no significant conversion or degradation, unless (i) alternatives are not available, (ii) the overall benefits from the project substantially outweigh the environmental costs, and (iii) any conversion or degradation is appropriately mitigated. Use a precautionary approach to the use, development, and management of renewable natural resources.

The Bishkek–Naryn–Torugart road in the Kyrgyz Republic demonstrated good practice in the protection of an environmentally sensitive area, Chatyr-Kul Lake. Environmental management there has a two-track plan: (i) pollutant-source control and monitoring, which includes proactive mitigation of potential impacts from road construction and operations; and (ii) receptor protection, which includes upgrading the protected area facilities and management capacity, and restoration of sensitive habitats in the Chatyr-Kul ecosystem.

A. Karymbayeva

Kazakhstan: Kyzylsai National Park, Kazakhstan – CAREC Corridor 2 Investment Program

Similarly, the Issyk-Kul Sustainable Development Project provides capacity building for management and protection of the Issyk-Kul Biosphere Reserve. The project developed the capacity of Issyk-Kul/ Naryn Territorial Department of Environmental Protection and the Issyk-Kul Biosphere Reserve Directorate through provision of vehicles and field-monitoring equipment. Training in calibration, maintenance, and use of all equipment was provided, as well as refresher training in noise and water-quality monitoring. The Kazakhstan CAREC Corridor 2 Investment Program (Mangystau Oblast Section) case illustrated protection of wildlife in Kyzylsai State Regional Nature Park, including seasonal planning of works to minimize noise during animal migration, construction of special migration routes for animals, installation of beam reflectors, and information signs for drivers.

P. Tran

The Kyrgyz Republic: Issyk-Kul lake, a biosphere reserve

The case study of preserving endangered species of Red Book trees demonstrated the approach taken for endangered tree species as part of the environmental management of the Urban Services Improvement Investment Program. The Tetramitsa Reservoir was identified as a critical habitat, and a biodiversity survey identified two protected types of trees, and thus most were saved.

The case study on the Lower Bari Doab Canal Project in Pakistan demonstrated good practices in preserving forest areas. The original design required a large area of a bamboo forest to be destroyed, but as a result of ongoing consultations with stakeholders, it was decided that the forest would be conserved by changing the design of the spillway.

2. Apply Pollution Prevention and Control Technologies (Safeguard Policy Statement Principle 9)

Apply pollution prevention and control technologies and practices consistent with international good practices as reflected in internationally recognized standards such as the World Bank Group's Environmental, Health and Safety Guidelines. Adopt cleaner production processes and good energy-efficiency practices. Avoid pollution, or, when avoidance is not possible, minimize or control the intensity or load of pollutant emissions and discharges, including direct and indirect greenhouse gas emissions, waste generation, and release of hazardous materials from their production, transport, handling, and storage. Avoid the use of hazardous materials subject to international bans or phaseouts. Purchase, use, and manage pesticides based on integrated pest management approaches, and reduce reliance on synthetic chemical pesticides.

Some case studies provided examples of good pollution prevention and control practices. The Regional Power Transmission Enhancement Project in Georgia ensured that all containers of hazardous materials and oil products are stored in a special area with a secondary spill containment system. In addition, containers for hazardous and construction waste were installed on the construction site. Petroleum-spill kits, first-aid kits, and fire extinguishers were placed on the construction site. Several contracts with organizations were begun for the removal of hazardous waste, nonhazardous waste, construction waste, and domestic waste. The Issyk-Kul Sustainable Development Project also prepared and implemented an asbestos management plan.

M. Muminova

Uzbekistan: Expansion of Talimarjan Power Plant

Some energy projects addressed the problem of PCBs associated with obsolete power equipment. A plan with mitigation measures in managing waste equipment and oil was key, so EMPs were revised to include actions for identification and management of PCB-containing oil and oil-filled equipment. Among the actions taken were laboratory tests, creation of an action plan to mitigate the impact, management of waste oil and waste equipment, and establishment of a monitoring and reporting procedure.

3. Occupational Health and Safety (Safeguard Policy Statement Principle 10)

Provide workers with safe and healthy working conditions, and prevent accidents, injuries, and disease. Establish preventive and emergency preparedness and response measures to avoid, and where avoidance is not possible, to minimize adverse impacts and risks to the health and safety of local communities.

Many case studies demonstrated good occupational health and safety practices. The Regional Power Transmission Enhancement Project in Georgia trained staff in environmental protection, safety, fire safety, and occupational health and safety. The Issyk-Kul Sustainable Development Project's asbestos management plan includes special handling procedures and PPE for workers.

S. Nabi

Pakistan: Renewable Energy Development Sector Investment Program – Ranolia Hydropower Project

Environmental management in the Pakistan Power Transmission Enhancement Program demonstrated good practices in facilities for workers. A full-fledged medical dispensary was established at the contractors' camp; fully furnished, air-conditioned accommodations are provided; and PPE is used. All construction sites have first-aid kits. Kitchens and toilets meet all hygienic standards, all types of waste material are separated, and construction sites are properly fenced.

The Ranolia small hydro project in Lower Kohistan in Pakistan funded by the Renewable Energy Development Sector Investment Program also demonstrated good practices in occupational health and safety. The implementation of health and safety practices, particularly the use of PPE, is a challenging issue in Pakistan. The project site is also widespread, which makes implementing occupational health and safety practices even more difficult. Environmental and occupational health and safety provisions were incorporated into the civil works contracts. Before construction, a SEMP, health and safety plan, risk assessment plan, and a security plan were developed, and regular health and safety training is provided. Field inspections and audits by both the supervision consultants and implementing agency are also conducted.

4. Conservation of Physical Cultural Resources (Safeguard Policy Statement Principle 11)

Conserve physical and cultural resources, and avoid destroying or damaging them by using field-based surveys that employ qualified and experienced experts during environmental assessment. Provide for the use of the "chance-find procedure."

Good practice in conserving physical and cultural resources associated was demonstrated by the North–South Road Corridor Investment Program in Armenia. Three independent archaeological tools were used to conserve such resources: (i) systematic excavations of the previously identified sites, (ii) a chance-find procedure, and (iii) systematic monitoring of the construction excavations and archaeological excavations. This minimizes impacts, allowing full control of the process of preserving historical and cultural value.

G. Afyan

Armenia: Aruch Medieval Caravanatun – North–South Road Corridor Investment Program

The New Khanki Barrage Project in Pakistan used a GRM to address the culturally and religiously sensitive issue of the grave of Pathan Baba. Through the GRM consultation mechanism, Grievance Redress Committee members consulted with religious leaders and community members about acceptable methods of grave relocation.

E. ADB Review Missions and Environmental Audits

Many case studies noted the importance of ADB safeguard review missions for catalyzing corrective actions to address poor implementation of EMPs. Some cases recommended more active and frequent ADB review missions. Workshop participants pointed out the importance of environmental audits conducted by ADB, as many PIUs' environmental performance improved after an ADB audit.

Environmental audits have been instrumental in the turnaround of environmental management practices in projects. In fact, an environmental audit was the turning point toward improved environmental performance of the Armenian Water Supply and Sanitation Sector Project. Based on the recommendations of the audit, the PMU requested that all contractors and the supervision engineer hire environmental experts. The PMU then conducted training for contractors' environmental staff on EMP implementation to introduce new environmental management requirements.

An environmental audit of the Kyzylsai section for the CAREC Corridor 2 Investment Program (Mangystau Oblast Section) revealed multiple violations in waste management, PPE, air protection, dust suppression, and reinstatement of disturbed lands. There was also no adequate EMP in place. Based on the audit, an EMP was prepared, including measures for air protection, occupational health and safety, water resources, soil protection, and EMP monitoring. Special measures were developed for protection of the wildlife in Kyzylsai State Regional Nature Park.

F. Knowledge Sharing through Regional Exchanges

This regional exchange, a prime example of south–south cooperation on environmental management, achieved its objectives of sharing practical experience in managing environmental safeguard compliance, examining lessons in fostering meaningful public consultation and addressing environmental grievances, and increasing understanding of countries' legal and regulatory frameworks for environmental safeguard management. Many participants offered their appreciation to ADB for convening the workshop, as it provided an opportunity to learn from each other, share knowledge, discuss common issues and challenges, examine innovative solutions, and draw on the experience of colleagues. Wali Modaqiq from Afghanistan summarized the value of the regional exchange best when stating, "Afghanistan desires to learn from the experience of its neighboring countries and regional partners, and assigns a high priority to regional cooperation to address regional environmental problems."

The case studies and presentations in these workshops are a body of knowledge that covers environmental management of projects in key sectors. This knowledge demonstrated how to successfully manage a range of cross-cutting environmental issues. The regional exchange played a catalytic role in nurturing a community of practice among PIUs, ADB, and consultants. The workshop provided many networking and knowledge opportunities. In the future, it is expected that there will be more frequent knowledge-sharing events held at the subregional or country level. These events will focus on practical learning and operational knowledge

gained through field visits. Such events will help foster a community of environmental management practitioners whose duty and mission are to ensure that environmental safeguards are properly implemented at the project level to guarantee environmental sustainability.

N. Nikuradze

Georgia: Annual country safeguard review mission

P. Tran

Uzbekistan: ADB review mission

A. Taylor

The Kyrgyz Republic: ADB review mission

APPENDIX 1

List of Participants: Issyk-Kul, the Kyrgyz Republic

3–7 August 2015

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56	Felix Tsoy	Translator	
57	Aigul Dzhaichieva	Translator	

ADB = Asian Development Bank.

APPENDIX 2

List of Participants: Lahore, Pakistan

27–31 July 2015

Name	Position	Organization	E-Mail
Afghanistan			
Abdul Wali Modaqiq	Deputy director, General Policy and International Affairs	National Environmental Protection Agency	wali.modaqiq@gmail.com wali.modaqiq@nepa.gov.af
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Table continued

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Table continued

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ADB = Asian Development Bank, NES = national environment safeguard consultant, RETA = regional technical assistance.

APPENDIX 3

Agenda: Issyk-Kul, the Kyrgyz Republic

3–7 August 2015

Day 1 (4 August 2015)

Schedule	Session	Speaker
8:30 a.m.	Registration	
9 a.m.	Welcome to the participants and opening remarks	T. T. Phuong Tran, ADB; and Nadira Jeenbekova, Ministry of Economy and Finance, the Kyrgyz Republic
9:15 a.m.	Introduction of participants by country	
9:30 a.m.	Announcements	Madina Khalmirzaeva, Nazar Business and Technology
9:30 a.m.	Briefing on ADB environmental safeguards	Madina Khalmirzaeva, Nazar Business and Technology
10:10 a.m.	Coffee break	
10:30 a.m.	Main environmental issues and solutions during project implementation	Madina Khalmirzaeva, Nazar Business and Technology
11:30 a.m.	Sustainable Urban Transport Investment Program—Improving environmental safeguard performance through increased involvement of the safeguard unit in project implementation of the Municipal Development Fund	Nino Nadashvili, Municipal Development Fund, Georgia
11:50 a.m.	Question and answer	
Noon	Lunch	
1 p.m.	Sustainable Urban Development Investment Program—Benefits of environmental management in Yerevan construction projects	Ruzanna Voskanyan, SNCO
1:20 p.m.	Question and answer	
1:30 p.m.	CAREC Transport Corridor 1 Project 3: Bishkek–Naryn–Torugart Road	Asylbek Abdygulov, Ministry of Transport and Communications, the Kyrgyz Republic; and Susan Lim, ADB
2:10 p.m.	Question and answer	
2:20 p.m.	Good practice in wetland protection borrow-pit restoration, and slope stabilization	Gia Sopadze, Roads Department, Georgia
2:40 p.m.	Question and answer	
2:50 p.m.	Coffee break	
Session 1: Water supply and sanitation sector		
3:10 p.m.	Water Supply and Sanitation Project	Lilit Hovhannisyan, Armenian Water and Sewerage Company
3:25 p.m.	Question and answer	
3:35 p.m.	Good practice in preserving endangered species of Red List trees	Ketevan Chamhidze, United Water Supply Company, Georgia
3:50 p.m.	Question and answer	

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Table continued

Schedule	Session	Speaker
4 p.m.	Good practice in environmental management of the Water Supply and Sewerage Project in Jalal-Abad City	Nasiba Akhmatova, State Agency for Architecture, Construction and Communal Services, the Kyrgyz Republic
4:15 p.m.	Question and answer	
4:25 p.m.	Environment aspects of the Issyk-Kul Sustainable Development Project	Saparbek Omurakunov and Nurlan Sultanov, DOHWA Engineering
4:40 p.m.	Question and answer	
Session 2: Road sector		
3:10 p.m.	CAREC 2 Investment Program (Mangystau Oblast Section) Associated Facility	Assel Karymbayeva, Ministry of Investments and Development, Kazakhstan
3:25 p.m.	Question and answer	
3:35 p.m.	North–South Road Corridor Investment Program, Tranches 1, 2, and 3	Gevorg Afyan, external impact and resettlement coordinator, North-South Road Corridor Investment Program, SNCO
3:50 p.m.	Question and answer	
4 p.m.	Good practice in biodiversity protection in road projects (CAREC Corridor 2)	Dinora Azimova, Republican Road Fund, Uzbekistan
4:15 p.m.	Question and answer	
4:25 p.m.	CAREC Corridor 3 Improvement Project	Eraj Mirzoev, Ministry of Transport, Tajikistan
4:40 p.m.	Question and answer	
Session 3: Energy sector		
3:10 p.m.	Expansion of the Talimarjan Power Plant	Magfrat Muminova, Uzbekenergo
3:25 p.m.	Question and answer	
3:35 p.m.	Regional Power Transmission Enhancement Project	Zezva Khvedelidze, Georgian State Electrosystem
3:50 p.m.	Question and answer	
4 p.m.	Polychlorinated biphenyl management in energy projects	Emil Artykbaev, National Electrical Grid of the Kyrgyz Republic
4:15 p.m.	Question and answer	

ADB = Asian Development Bank, CAREC = Central Asia Regional Economic Cooperation.

Day 2 (5 August 2015)

Schedule	Session	Speaker
8:30 a.m.	ADB requirements on public consultation and grievance redress mechanisms	Madina Khalmirzaeva, Nazar Business and Technology; and Jitu Shah, ADB (via video)
8:50 a.m.	Examples of good practice in implementation of grievance redress mechanism	Ketevan Chamhidze, United Water Supply Company of Georgia
9:20 a.m.	Question and answer	
9:30 a.m.	Environment impact assessment in the Kyrgyz Republic	Rakiya Kalygulova, Department of State Environmental Expertise, State Agency on Environmental Protection and Forestry, the Kyrgyz Republic
9:50 a.m.	Question and answer	
10:05 a.m.	National regulatory framework for environmental safeguard management	Alexander Papunashvili, Department of Environmental Impacts Permits, Ministry of Environment and Natural Resources, Georgia
10:25 a.m.	Question and answer	
10:35 a.m.	Coffee break	
10:55 a.m.	Open discussion and experience-sharing discussion in groups	
Noon	Lunch	
1 p.m.	Continue open discussion and experience-sharing discussion in groups	
2 p.m.	Presentation of discussion findings from each group	
2:50 p.m.	Closing remarks	
3 p.m.	Coffee break	
3:15 p.m.	Introduction to site visits and guidance package	Madina Khalmirzaeva, Nazar Business and Technology
3:30 p.m.	Road and energy sectors group depart to Naryn	

Day 3 (6 August 2015)

Schedule	Session	Speaker
Group 1		
8.30 a.m.	Travel from Naryn to BNT-3 construction site	
10.30 a.m.	Introductory meeting with contractor, consultant, and Karatal-Japyryk State Nature Reserve representatives Visit labor camp and asphalt-batching plant	
11:30 a.m.	Visit of borrow pits at 530 kilometers and 528 kilometers of project	
1 p.m.	Lunch	
2 p.m.	Discussion and feedback	
3 p.m.	Travel to Bishkek	
Group 2		
8:30 a.m.	Departure from hotel and arrival at Karakol	
10:30 a.m.	Hi-Tech Stroi pre-sedimentation tank and pipeline site (contract no. 3.14/2). Impuls-Osh (Area 1) 7-kilometer sewer rehabilitation (contract no. 3.13/1).	
1 p.m.	Lunch	
2 p.m.	Construction of new pump station	
3:30 p.m.	Discussion and feedback	
5 p.m.	Travel to hotel (Cholpon Ota)	

APPENDIX 4

Agenda: Lahore, Pakistan

28–30 July 2015

Day 1 (28 July 2015)

Schedule	Session	Speaker
9 a.m.	Arrival of participants and registration	
9:30 a.m.	Introduction to the workshop	T. T. Phuong Tran, ADB
9:50 a.m.	Opening remarks and welcome to the participants	Javed Iqbal, Environment Protection Department, Government of Punjab
10:20 a.m.	Tea break	
10:50 a.m.	ADB environmental safeguards	Hidayat Hasan, Hagler Bailly Pakistan
11 a.m.	Main environmental issues and their solutions during project implementation	Hidayat Hasan, Hagler Bailly Pakistan
11:15 a.m.	Question and answer	
11:25 a.m.	Introduction to case studies	Hidayat Hasan, Hagler Bailly Pakistan
11:30 a.m.	Case Study 1: Bagh–Hattian Transmission Line—Institutional strengthening for environmental safeguard management	Mohammad Yasin, Islamabad Electric Supply Company
11:50 a.m.	Question and answer	
Noon	Case Study 2: Good practices in preserving forests	Nadia Tahir, Punjab Irrigation Department
12:20 p.m.	Question and answer	
12:30 p.m.	Case Study 3: Deg-Outfall Hydropower Project—Good practices in construction site management	Zil-e-Huma Faizi, Punjab Energy Department
12:50 p.m.	Question and answer	
1 p.m.	Lunch	
2 p.m.	Case Study 4: Good practice in camp site management	Riaz Shah, National Highway Authority, Pakistan
2:20 p.m.	Question and answer	
2:30 p.m.	Case Study 5: Good practice in provision of facilities to workers	Khalid Mehmood, National Transmission and Despatch Company, Pakistan
2:50 p.m.	Question and answer	
3 p.m.	Case Study 6: Lar Grid Station—Importance of raising awareness to improve environmental safeguard compliance in projects	Asif Riaz, Multan Electric Power Company
3:20 p.m.	Question and answer	
3:30 p.m.	Tea break	
4 p.m.	Case Study 7: Implementation of health and safety practices	Said Nabi, Pakhtunkhwa Hydel Development Organization
4:20 p.m.	Question and answer	
4:30 p.m.	ADB requirements on public consultation and grievance redress mechanism	Hidayat Hasan, Hagler Bailly Pakistan; and Jitu Shah, ADB (via video)
5 p.m.	Case Study 8: Good practices in implementation of a grievance redress mechanism	Pervaiz Arif, Punjab Irrigation Department
5:20 p.m.	Question and answer	

Day 2 (29 July 2015)

Schedule	Session	Speaker
9 a.m.	Challenges and opportunities for the ADB Environment Policy in the local context: Afghanistan	Najibullah Yamin, Afghanistan Resident Mission, ADB
9:20 a.m.	Question and answer	
9:30 a.m.	Regulatory frameworks for environmental safeguard management in Afghanistan	Abdul Wali Modaqiq, National Environmental Protection Agency, Afghanistan
9:50 a.m.	Question and answer	
10 a.m.	Pakistan: Post-devolution scenario	Hidayat Hasan, Hagler Bailly Pakistan
10:20 a.m.	Question and answer	
10:30 a.m.	Tea break	
11 a.m.	Environmental training of civil servants in Pakistan	Babar Naseem Khan, consultant, ADB
11:30 a.m.	Question and answer	
11:50 a.m.	Lunch	
1:30 p.m.	Selection of discussion groups	
1:45 p.m.	Group discussions: Construction site management, social issues and grievance redress mechanism, environmental and social monitoring	
3:30 p.m.	Tea break	
4 p.m.	Presentations by groups	
5 p.m.	Introduction to the site visit and guidance package	
5:15 p.m.	Closing remarks	

Day 3 (30 July 2015)

Schedule	Activity	Speaker
8:30 a.m.	Assemble at Avari Hotel	
8:30 a.m.	Travel to Khanki	
10:30 a.m.	Overview and safety briefing	
11 a.m.	Visit to the project site	
1 p.m.	Lunch	
2:30 p.m.	Discussions and workshop feedback	
3:30 p.m.	Return to Lahore	

Regional Exchange on Good Practice of Environmental Safeguard Management

Environmentally sustainable and inclusive growth is critically dependent upon environmental safeguards to prevent, reduce, or compensate for environmental impacts caused development projects. While sound environmental management planning during project preparation is necessary, it is not sufficient. This knowledge product shows that good practice in environmental safeguard management during project implementation is necessary to ensure successful implementation of environmental management plans. Good environmental safeguard practices, drawn from 32 case studies documenting environmental management of Asian Development Bank–funded projects in Central and West Asia, were shared during two regional workshops that promoted South–South cooperation between environmental specialists working in the executing and implementing agencies.

About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to the majority of the world's poor. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

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

ADB

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