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IDA/R2017-0194/1

June 5, 2017

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<p><b>Closing Date: Thursday, June 22, 2017 at 6 p.m.</b></p>
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FROM: Vice President and Corporate Secretary

**Kyrgyz Republic - Sustainable Rural Water Supply and Sanitation Development Project**

**Project Paper**

Attached is the Project Paper regarding a proposed additional credit and grant to the Kyrgyz Republic for a Sustainable Rural Water Supply and Sanitation Development Project (IDA/R2017-0194), which is being processed on an absence-of-objection basis.

Distribution:

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The World Bank

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Report No: PAD2297

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT PAPER

ON A

PROPOSED ADDITIONAL CREDIT

IN THE AMOUNT OF SDR 14.5 MILLION  
(US\$19.8 MILLION EQUIVALENT)

AND A

PROPOSED ADDITIONAL GRANT

IN THE AMOUNT OF SDR 11.9 MILLION  
(US\$16.2 MILLION EQUIVALENT)

TO THE

KYRGYZ REPUBLIC

FOR A

SUSTAINABLE RURAL WATER SUPPLY AND SANITATION DEVELOPMENT PROJECT

MAY 25, 2017

Water Global Practice  
EUROPE AND CENTRAL ASIA

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## CURRENCY EQUIVALENTS

(Exchange Rate Effective April 30, 2017)

Currency Unit	=	KGS Som
KGS 67.2	=	US\$1.00
US\$0.73	=	SDR 1.00

## FISCAL YEAR

January 1 – December 31

## ABBREVIATIONS AND ACRONYMS

ACM	Asbestos-Contained Materials
ADB	Asian Development Bank
AO	Ayil Okmotu (village administration – Local Self Government Body)
ARIS	<i>Agentstvo Razvitiya I Investirovaniya Soobschtyv Kyrgyzkoi Respubliki</i> (Community Development and Investment Agency)
BOUIP	Bishkek and Osh Urban Infrastructure Project
CAS / CPS	Country Assistance Strategy / Country Partnership Strategy
CBISSP	Community Based Infrastructure Sustainable Services Project
CDWUU	Community Drinking Water Users Union
CLTS	Community Lead Total Sanitation
DFID	Department for International Development (UK)
DDWSWD	Department of Drinking Water Supply and Wastewater Disposal
EA	Environmental Assessment
EBRD	European Bank for Reconstruction and Development
ECAPDev	Eastern Europe and Central Asia Capacity Development
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ERR	Economic Rate of Return
FM	Financial Management
GIS	Geographic Information Systems
GNI	Gross National Income
GoKR	Government of Kyrgyz Republic
GRM	Grievance Redress Mechanism
GRS	Grievance Redress System
ICR	Implementation Completion Report
IDA	International Development Association
IPF	Investment Project Financing
IsDB	Islamic Development Bank
KIHS	Kyrgyz Integrated Household Survey

M&E	Monitoring and Evaluation
MoE	Ministry of Education
MoF	Ministry of Finance
MoH	Ministry of Health
MTR	Mid Term Review
NGO	Non-Government Organization
NSDS	National Sustainable Development Strategy
NPV	Net Present Value
PDO	Project Development Objective
PIU	Project Implementation Unit
PHAST	Participatory Hygiene and Sanitation Transformation
POM	Project Operating Manual
PRAMS	Procurement Risk Assessment and Management System
RBIM	Manual for Household Result-Based Sanitation Incentives
RWSSP	Rural Water Supply and Sanitation Projects (RWSSP1 & 2)
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SAACCS	State Agency for Architecture, Construction and Communal Services
SECO	Swiss State Secretariat for Economic Affairs
SES	Sanitary Epidemiological Surveillance
SRWSSDP	Sustainable Rural Water Supply and Sanitation Development Project
STICBP	Small Towns Infrastructure and Capacity Building Project
TA	Technical Assistance
UDP	Urban Development Project
VHC	Village Health Committee
VIP	Village Investment Projects (VIP I, II, and III)
WASH	Water Supply, Sanitation and Hygiene
WSS	Water Supply and Sanitation

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Task Team Leader:	David Malcolm Lord

**KYRGYZ REPUBLIC  
SUSTAINABLE RURAL WATER SUPPLY AND SANITATION DEVELOPMENT  
PROJECT – ADDITIONAL FINANCING**

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## ADDITIONAL FINANCING DATA SHEET

*Kyrgyz Republic*

*Sustainable Rural Water Supply and Sanitation Development Project – Additional Financing  
(P162840)*

*EUROPE AND CENTRAL ASIA*

Report No.: PAD2297

Basic Information – Original				
Original Project ID:	P154778	Original EA Category:	B - Partial Assessment	
Current Closing Date:	30-Jun-2022			
Basic Information – Additional Financing (AF)				
Project ID:	P162840	Additional Financing Type (from AUS):	Scale Up	
Regional Vice President:	Cyril E Muller	Proposed EA Category:	B – Partial Assessment	
Country Director:	Lilia Burunciuc	Expected Effectiveness Date:	29-Dec-2017	
Senior Global Practice Director:	Guang Zhe Chen	Expected Closing Date:	30-Jun-2025	
Practice Manager/Manager:	Michael Haney	Report No:	PAD2297	
Team Leader(s):	David Malcolm Lord			
Borrower				
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Community Development and Investment Agency (ARIS)	Arstan Muktarov	Executive Director	996312301805	office@aris.kg
Project Financing Data - Original (Sustainable Rural Water Supply and Sanitation Project-P154778) (in USD Million)				

Key Dates									
Project	Ln/Cr/TF	Status	Approval Date	Signing Date		Effectiveness Date	Original Closing Date	Revised Closing Date	
P154778	IDA-59070	Effective	30-Sep-2016	26-Oct-2016		03-Feb-2017	30-Jun-2022	30-Jun-2022	
P154778	IDA-D1380	Effective	30-Sep-2016	26-Oct-2016		03-Feb-2017	30-Jun-2022	30-Jun-2022	
Disbursements									
Project	Ln/Cr/TF	Status	Currency	Original	Revised	Cancelled	Disbursed	Undisbursed	% Disbursed
P154778	IDA-59070	Effective	XDR	9.30	9.30	0.00	0.00	9.30	0.0%
P154778	IDA-D1380	Effective	XDR	7.60	7.60	0.00	0.74	6.90	9.7%
Project Financing Data - Sustainable Rural Water Supply and Sanitation Development Project - Additional Financing (P162840) (in USD Million)									
[ ]	Loan	[ ]	Grant	[X]	IDA Grant				
[X]	Credit	[ ]	Guarantee	[ ]	Other				
Total Project Cost:			43.20		Total Bank Financing:			36.00	
Financing Gap:			0.00						
Financing Source – Additional Financing (AF)								Amount	
BORROWER/RECIPIENT								7.20	
International Development Association (IDA) Credit								19.80	
IDA Grant								16.20	
Total								43.20	
Policy Waivers									
Does the project depart from the CAS in content or in other significant respects?							No		
Explanation									
Does the project require any policy waiver(s)?							No		
Explanation									
Team Composition									
Bank Staff									
Name		Role		Title		Specialization		Unit	
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Ekaterina Romanova	Safeguards Specialist	Social Development Specialist	Social	GSU03	
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Natalya V. Iosipenko	Team Member	Senior Program Assistant		ECCKG	
Shideh Hadian	Team Member	Senior Infrastructure Economist	Economist, WSS	GWA09	
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Jasna Mestnik	Team Member	Finance Officer		WFALN	
Ruxandra Costache	Counsel	Senior Counsel		LEGLE	
Extended Team					
Name		Title	Location		
Locations					
Country	First Administrative Division	Location	Planned	Actual	Comments
Kyrgyz Republic	Osh	Osh Oblast	X	X	
Kyrgyz Republic	Ysyk-Koel	Issyk-Kul’skaya Oblast	X	X	
Kyrgyz Republic	Chuy	Chuyskaya Oblast’	X	X	
Institutional Data					
Original (Sustainable Rural Water Supply and Sanitation Project-P154778)					
Practice Area (Lead) - Water					
Contributing Practice Areas - Poverty and Equity					
Additional Financing Sustainable Rural Water Supply and Sanitation Development Project (P162840)					
Practice Area (Lead) - Water					



<b>Contributing Practice Areas</b>
<b>Consultants (Will be disclosed in the Monthly Operational Summary)</b>
Consultants will be required

## **I. Introduction**

1. This Project Paper seeks the approval of the Executive Directors to provide additional IDA financing of SDR 26.4 million (US\$36.0 million equivalent), including a Credit in the amount of SDR 14.5 million (US\$19.80 million equivalent) (the Credit) (Credit number IDA 6088-KG) and a Grant in the amount of SDR 11.9 million (US\$16.2 million equivalent) (the Grant) (Grant number IDA D204-KG) to the Kyrgyz Republic Sustainable Rural Water Supply and Sanitation Development Project (P154778).
2. The proposed Additional Financing (AF) responds to the Government of the Kyrgyz Republic's (GoKR) request via letter dated December 1, 2016, to scale up the scope of the original activities, target beneficiaries and the resulting development effectiveness of the original Project.
3. In addition to the proposed Additional Financing, Management has approved the Second Order Restructuring consisting of:
  - A revision of the Results Framework, including targets, as necessary, to capture results of the expanded scope of activities to be financed under the AF; and
  - A three-year extension of the original closing date from June 30, 2022 to June 30, 2025 to ensure sufficient time for the completion of additional activities within the framework of the AF, including a one-year period of post-construction operational assistance in the proposed Project areas.
4. In accordance with Bank Guidelines, since the original Project has been under implementation for less than 12 months, an exception to OP10.00 was obtained from the Regional Vice President's Office on December 17, 2016, prior to proceeding with processing Additional Financing.

## **II. Background and Rationale for Additional Financing**

5. **Country and Sector Context**<sup>1</sup>. With a 2015 GNI per capita of US\$1,170, the Kyrgyz Republic is one the poorest countries in the Europe and Central Asia Region. Roughly 39 percent of its 6.2 million population is living in poverty, with the rate widely varying both by region and between urban and rural areas (where the poverty rate in many areas exceeds 60 percent). Around two-thirds of the population live in an estimated 1,805 rural villages of varying sizes. Many of them are scattered in remote and isolated mountainous areas with low access to basic services.
6. The country faces substantial challenges in addressing poverty alleviation and stimulating development in rural areas. Recent data indicates that rural (41 percent) and urban (29 percent) poverty rates are diverging, with the gap widening to more than 11 percentage points in 2013. Rural populations remain vulnerable, affected by volatile economic growth due to frequent internal and external shocks, including natural disasters, social unrest, fluctuating commodity prices and a deteriorating economic situation in Russia that affects remittances to the Kyrgyz Republic. Furthermore, access to safe drinking water and piped sewerage systems have been identified as key contributors to multidimensional aspects of poverty, which include increased coping costs and

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<sup>1</sup> A detailed description of the Country, Sectoral and Institutional Context is provided in the Project Appraisal Document for the original Project (dated September 9, 2016 "Report No: PAD1743).

productivity losses. In 2008 those deprivations contributed 48 percent to overall non-monetary poverty; this share increased to 84 percent by 2012—providing an indication of the continued infrastructural problems faced by the population.<sup>2</sup>

7. Public expenditure within the sector has been low, which, combined with inadequate tariffs, poor collection rates, and limited metering coverage, has led to declining or stagnating access rates and deteriorating levels of service. The Kyrgyz Integrated Household Survey (KIHS) results in 2012, indicate that not more than 5 percent of the poor rural population had in-house access to piped water; the remaining collect water from standpipes, unprotected wells, springs, streams, or irrigation canals. The survey also showed that rural sanitation conditions have remained very poor, with 96 percent of the rural population in 2012 relying exclusively on outdoor pit latrines. These difficult conditions are aggravated by the often harsh climatic conditions and result in significant hardship for the rural population in general, and for women and children in particular.

8. According to household surveys, even for the poorest households, expenditure on drinking water supply constitutes only 0.35 percent of income.<sup>3</sup> Collection rates are on average below 25 percent, and metering coverage is less than 2 percent in rural areas. Low metering leads to under-reported usage, which further contributes to insufficient payments for water supply and low revenues of the service providers.<sup>4</sup> This situation, coupled with limited human resource capacity, has led to a deterioration in services, which in turn further exacerbates low customer satisfaction and collection rates.

9. Low access rates and deteriorating services have an adverse economic impact, which in both urban and rural areas is estimated to cost the country about US\$116 million per year (or 1.79 percent of GDP, of which half is direct financial losses).<sup>5</sup> These economic costs reflect, in part, the negative impacts of inadequate water services on public health and general quality of life.

10. In recognition of these issues, and under the leadership of the Department of Drinking Water Supply and Wastewater Disposal (DDWSWD), a Sector Development Strategy was prepared and approved by the Government in March 2016 (*Drinking Water Supply, Wastewater Disposal and Sanitation Strategy till 2026*). The Strategy provides guidance for sector development, which under a delegated management framework promotes: (i) a clear separation of function (policy, operation, and regulation), (ii) autonomy, accountability and efficiency in service delivery, (iii) principles of full cost-recovery and financial sustainability, and (iv) environmental sustainability and climate resilience. The Strategy also sets ambitious targets for increasing access to potable water supply system and improved sanitation. In rural areas, the goal is to reach 90 percent coverage for water services and 70 percent coverage for sanitation systems by 2026.

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<sup>2</sup> The Kyrgyz Republic: Poverty Profile for 2013, published by the Bank in May, 2015.

<sup>3</sup> State program for development of water supply and wastewater disposal in settlements of the Kyrgyz Republic for the period of 2014-2024, GoKR, 2014.

<sup>4</sup> The Kyrgyz Republic: Insights on household access to water supply and sanitation.

<sup>5</sup> Central Asia Water Series – Volume 2: Economic Impact Assessment of Inadequate Water Supply and Sanitation Services in Central Asia, World Bank, June 2016 (unpublished analytical report).

11. **Overview of Original Project.**<sup>6</sup> The Sustainable Rural Water Supply and Sanitation Development Project was prepared within this broader rural development context. This US\$28.0 million project (of which US\$23.5 million is financed by IDA) was approved by the World Bank's Board of Executive Directors on September 30, 2016. The associated legal documents were signed on October 26, 2016 and ratified by the National Parliament on December 21, 2016. The Project was declared effective on February 3, 2017 and has a closing date of June 30, 2022.

12. The Project Development Objectives (PDO) are to assist the Kyrgyz Republic: (i) to improve access and quality of water supply and sanitation services in the Participating Rural Communities; and (ii) to strengthen the capacity of the Recipient's institutions in the water supply and sanitation sector. The PDO will be achieved by implementing infrastructure and institutional support activities under four components: (i) Water Supply Investments; (ii) Sanitation Development; (iii) Institutional Strengthening; and (iv) Project Management. The Project aims to assist the Government to develop, implement and institutionalize sustainable models for improved rural water supply and sanitation services. In addition to financing infrastructure development, the project activities involve strengthening institutions and the regulatory environment at the national level and establishing systems to support local operations, including capacity building of local government entities and service providers.

13. The Project contributes towards Sustainable Development Goal No.6, which calls for universal and equitable access to safe and affordable drinking water, sanitation and hygiene for all by 2030. It is also fully aligned with the World Bank's Country Partnership Strategy for the Kyrgyz Republic 2014-2017, which supports the development of Public Administration and Service Delivery as one of the main pillars of engagement. The project contributes to the World Bank's Twin Goals<sup>7</sup> and has a clear poverty focus, including specific design elements to target and extend benefits to the poorest and most vulnerable households.

14. The original project has started well, is in full compliance with legal covenants, and is rated *Satisfactory* across all project performance ratings. Implementation arrangements are in place and advanced procurement activities for the civil works are progressing, which will enable planned year-one activities to be implemented. At the time of preparing this Paper the project had disbursed US\$1.02 million (4.3 percent of the total amount). No changes to the original objectives, design, or scope have been introduced since Board approval.

15. **Rationale for the Proposed AF.** The original project was designed to fit within a limited IDA17 allocation available at the time of preparation (US\$23.5 million equivalent). However, considering significant sector investment needs, a programmatic framework was developed to allow activities to be readily scaled up and replicated if additional financing were to become available.

16. The proposed AF will build upon the original project activities to further support implementation of the Government's Sector Development Strategy<sup>8</sup>, the achievement of which will

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<sup>6</sup> For the detailed description refer to the Project Appraisal Document for the original Project (dated September 9, 2016 "Report No: PAD1743).

<sup>7</sup> Twin Goals of ending extreme poverty and promoting shared prosperity.

<sup>8</sup> Titled: *Water Supply and Sanitation Development Strategy until 2026*, approved by Government Decree #155 of March 28, 2016

require infrastructure investment in excess of US\$600 million. To facilitate the investment process and support the drive towards sustainable service delivery, a new national rural water program has been created—the “Ala-Too Bulagy”<sup>9</sup> program. The original project and AF will form the backbone of this program, creating conditions through which other donors / IFIs may readily participate. Under this approach, the Islamic Development Bank (IsDB) is providing financing to the program of up to US\$20.0 million which, in addition to substantial Government contributions and the proposed AF, will increase the total commitments under the program to around US\$95.0 million.

17. The proposed AF will be implemented within this context and used to scale up development effectiveness by expanding the coverage of the program to reach new beneficiaries and by reinforcing the sector institutional development and reform process necessary to achieve sustainability of the rural water sector.

18. **Project Design.** The AF will be implemented through the same model designed under the original project components. The activities under each component are to be applied as a package of interventions, which target both local institutional and infrastructure issues and the creation of an enabling environment at the national level to support sustainable water service delivery in rural areas.

19. The original project includes 38 participating rural villages in Osh, Chui and Issyk-Kul Oblasts. The AF will continue to focus on rural villages in need within the same Oblasts, enabling a concentrated level of effort for increased efficiency and impact. Through the AF, the combined<sup>10</sup> project interventions will be increased to 91 villages<sup>11</sup>, directly benefiting some 208,000 people<sup>12</sup>. A summary of activities to be financed under each component is provided in Section 3, and a detailed description is provided in Annex 2.

20. **Project Costs and Financing.** The total cost of the project, including the proposed AF, is US\$71.20 million, to be financed through US\$32.7 million in IDA Credits, US\$26.8 million in IDA Grants, and US\$11.70 million in Government contributions. The allocation of the original and additional financing by components is presented in the table below.

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<sup>9</sup> “Ala-Too Bulagy”, means the (water) source of Ala-Too, where Ala-too is a sacred mountain range within Kyrgyzstan, which is a symbol of motherland for the Kyrgyz people.

<sup>10</sup> Original, plus AF.

<sup>11</sup> The original project has 38 participating rural villages in Osh, Chui and Issyk-Kul Oblasts. Around 53 new village to be included under the AF.

<sup>12</sup> Around 108,000 additional project beneficiaries to be included under the AF. The original project will benefit around 100,000 people.

Project Components	Original		Additional Financing		Total		
	IDA Financing	Government Contribution Financing	IDA Financing	Government Contribution Financing	IDA Financing	Government Contribution Financing	TOTAL
<b>Component 1: Water Supply Investments</b>	16.6	4.5	23.1	6.9	39.7	11.4	<b>51.1</b>
<b>Component 2: Sanitation Development</b>	3.0	0.0	3.8	0.3	6.8	0.3	<b>7.1</b>
<b>Component 3: Institutional Strengthening</b>	2.5	0.0	7.0	0.0	9.5	0.0	<b>9.5</b>
<b>Component 4: Project Management</b>	1.4	0.0	2.1	0.0	3.5	0.0	<b>3.5</b>
<b>Total</b>	<b>23.5</b>	<b>4.5</b>	<b>36</b>	<b>7.2</b>	<b>59.5</b>	<b>11.7</b>	<b>71.2</b>

### III. Proposed Changes

#### Summary of Proposed Changes

The proposed AF will be used to scale up water supply and sanitation investments and service delivery models to new project areas (53 new villages) within Osh, Chui and Issyk-Kul Oblasts and to further enhance support for the implementation of the Government's sector strategy for the rural water sector. The Project will take full advantage of opportunities to reduce extreme poverty by working in rural areas and extending piped water services to predominantly low-income households. This will be supported by specific activities, including developing and mainstreaming citizen engagement and gender-inclusive policies and procedures.

The AF follows the same Component structure as the original project. A summary of key activities to be financed under each component of the AF is provided below.

**Component 1: Water Supply Investments (US\$30.0 million).** This component will address the need for rehabilitation of existing and/or construction of new water supply systems in the target areas, benefitting around 108,000 people in 53 new villages within Osh, Chui and Issyk-Kul Oblasts (see Annex 2). The component will finance goods, works and services (including engineering design and construction supervision) and will include civil and electrical/mechanical installations for water supply production (boreholes, well-fields, intakes, etc., as well as disinfection, and pumping as required), and transmission and distribution (networks, storage, meters, etc.) to households in the project areas. Costs associated with implementation of resettlement activities (as per RPF procedures) will be financed under Component 1 through the Central Government's contribution to the Project. Component 1 of the AF also includes an allocation for contingencies, to address potential unanticipated technical challenges that would hinder the achievement of water supply objectives in the project areas.

**Component 2: Sanitation Development (US\$4.1 million).** This component will finance goods, works,

services, training, and results-based incentive grants to provide support for improved sanitation within the 53 new villages and will further support implementation of the Government's strategy for improved sanitation in rural areas. Activities under this component are organized under three sub-components as follows:

- Sub-component 2.1: Rehabilitation of Sanitation Facilities (US\$2.0 million). This component will finance retrofitting of existing sanitary facilities in selected schools and other eligible public buildings (for example health clinics) within the 53 new villages. Standard designs will be prepared in consultation with the Ministry of Education and applied (and adapted as required) where possible to selected public schools and kindergartens within project areas. The project investments will cover 53 schools, servicing around 18,000 students in the AF project areas. This subcomponent also includes the sanitation and hygiene promotion and educational program in schools. The sanitation facilities will complement the water supply investments and, together with the hygiene education and promotion program, will contribute to improved development outcomes (including public health).
- Sub-component 2.2: Enabling Environment, Capacity Development and Communications (US\$1.0 million). This sub-component will support the development and implementation of a communications strategy to promote improved water, sanitation and hygiene (WASH) practices in the 53 new villages included under the AF, including specific information, education and communication (IEC) materials related to a range of WASH-related behaviors. The sanitation and hygiene promotion programs will be introduced through the school system, within the communities, and through public campaigns to support improved knowledge, attitudes, and practices within the project areas, and will include relevant capacity development measures for effective implementation. The technical assistance will also include support for capacity development of local contractors and masons, as well as capacity building for Ayil Okmotus (AOs) and WASH committees to be established under their authority in the communication, planning, documentation and monitoring of the sanitation development component (including results-based incentives for households). Assistance for regulatory modifications to support enabling conditions at the local and central levels is also included, as well as equipment for rayon labs of SES for water quality testing and monitoring in the AF project areas.
- Sub-component 2.3: Results-Based Incentives for Household Sanitation Development (US\$1.1 million). This sub-component will pilot the introduction of results-based incentive grants for households to upgrade their household sanitation facilities to a hygienic level. This incentives scheme will be implemented as a pilot and follow an adaptive learning approach. Implementation will start in 1-2 sub-projects and an evaluation will be carried out to inform and adjust procedures for wider scale-up to other original and AF project areas. The incentives are expected to benefit 3,500-4,500 households, covering around 10% of the total project population. Through activities under sub-component 2.2, effective demand for upgrading of household facilities will be created and households are expected to self-invest in improving their sanitation situation. To address affordability constraints and behavioral barriers, results-based incentive grants will be offered to households, covering a part of the cost incurred by each household, and paid once independent verification of the upgraded facility has taken place. A Manual for Results-Based Household Sanitation Incentives will be developed, detailing roles and responsibilities of AOs, WASH committees, households and ARIS.

**Component 3: Institutional Strengthening (US\$7.0 million).** Component 3 will finance goods, services and training to strengthen sector institutional capacity at the national and local levels. Activities under this component are further organized under three separate sub-components as follows:

- Sub-component 3.1: National Level (US\$0.7 million). National-level institutional strengthening activities under the AF will ensure continuity of support for the extended period of the program (an additional 3 years), building upon and complementing activities financed under the original project. As such, the definition of these activities will remain flexible to assist the Government to respond to emerging needs, fill analytical and knowledge gaps, and provide additional technical assistance for implementation of the sector reforms.
- Sub-component 3.2: Local Level (US\$2.5 million). Support for local authorities (AOs) and CDWUUs responsible for water service delivery, will be provided through financing under sub-component 3.2. This will involve expanding the package of capacity building interventions, already designed under the original project, to the 53 new villages included under the AF. This package will include amongst others, training and follow-up support on tariff setting, billing and collection systems, operations and maintenance (for example, disinfection), water quality testing, customer relations, complaints mechanisms, human resources, and commercial management. The sub-component will also finance start-up equipment and toolkits for CDWUUs (including computer equipment, spare connection materials, meters, testing equipment, and tools) to assist with the transition to operations (post construction).
- Sub-component 3.3: Sector Professional and Vocational Development Program (US\$3.8 million). This sub-component is a new activity introduced through the AF, designed in response to the need for developing and creating a pipeline of professional staff and skilled workers in the water sector – including engineering consultants, financial specialists, utility managers, contractors, water operators and technicians. Specifically, the sub-component will finance the execution of an institutional capacity and training needs assessment and the development and implementation of a certificate-oriented, long-term capacity development program. The Professional and Vocational Development Program will support knowledge, competency and skills development targeted to the following groups: (i) policy makers within relevant government agencies; (ii) service authorities (municipalities and AOs) and providers (vodokanals and CDWUUs), (iii) private and public sector professionals (water and wastewater engineers, design consultants, contractors, and engineers in state investment and design agencies at national and regional level); and (iv) post-graduate students. The program will be implemented through ARIS, under technical coordination of the ARIS Training Institute, and in close collaboration with several partners, including international centers of excellence, national academic institutes, vocational schools and other potential training hubs.

**Component 4: Project Management (US\$2.1million).** This component will finance the project management costs associated with the scaled-up activities related to; staffing, consultancies, training, equipment costs, the M&E program, baseline and impact surveys, safeguards specialists, and financial management, including financial audits, including the three additional years of project implementation. It will also finance ARIS's Grievance Redressal Mechanism and beneficiary surveys to monitor citizen feedback and engagement.

Change in Implementing Agency	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> X ]
Change in Project's Development Objectives	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> X ]
Change in Results Framework	Yes [ <input checked="" type="checkbox"/> X ] No [ <input type="checkbox"/> ]
Change in Safeguard Policies Triggered	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> X ]
Change of EA category	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> X ]



Other Changes to Safeguards	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]					
Change in Legal Covenants	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]					
Change in Loan Closing Date(s)	Yes [ <input checked="" type="checkbox"/> ] No [ <input type="checkbox"/> ]					
Cancellations Proposed	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]					
Change in Disbursement Arrangements	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]					
Reallocation between Disbursement Categories	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]					
Change in Disbursement Estimates	Yes [ <input checked="" type="checkbox"/> ] No [ <input type="checkbox"/> ]					
Change to Components and Cost	Yes [ <input checked="" type="checkbox"/> ] No [ <input type="checkbox"/> ]					
Change in Institutional Arrangements	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]					
Change in Financial Management	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]					
Change in Procurement	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]					
Change in Implementation Schedule	Yes [ <input checked="" type="checkbox"/> ] No [ <input type="checkbox"/> ]					
Other Change(s)	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]					
<b>Development Objective/Results</b>						
<b>Project's Development Objectives</b>						
<p>Original PDO</p> <p>The project development objectives (PDO) are to assist the Kyrgyz Republic: (i) to improve access and quality of water supply and sanitation services in the Participating Rural Communities; and (ii) to strengthen capacity of the Recipient's institutions in the water supply and sanitation sector.</p>						
<b>Change in Results Framework</b>						
<p>Explanation:</p> <p>PDO and Intermediate Results (IR) indicators have been updated to reflect new or changed activities introduced under the AF. Target values for both PDO and IR indicators have been updated to reflect the increase in scale.</p>						
<b>Compliance</b>						
<b>Covenants - Additional Financing (Sustainable Rural Water Supply and Sanitation Development Project - P162840)</b>						
<b>Source of Funds</b>	<b>Finance Agreement Reference</b>	<b>Description of Covenants</b>	<b>Date Due</b>	<b>Recurrent</b>	<b>Frequency</b>	<b>Action</b>
				<input type="checkbox"/>		
<b>Conditions</b>						

Source Of Fund	Name	Type
IDA	Subsidiary Agreement	Effectiveness
Description of Condition		
The Recipient has executed the Subsidiary Agreement on behalf of the Recipient and the Project Implementing Entity, in form and substance satisfactory to the Association.		
Source Of Fund	Name	Type
IDA	Project Operations Manual	Effectiveness
Description of Condition		
The Project Implementing Entity has updated and adopted the Project Operational Manual, pursuant to provisions set forth in paragraph 1 of Section I.D of Schedule 2 to the Financing Agreement, in form and substance acceptable to the Association.		
Source Of Fund	Name	Type
IDA	Manual for Household Result-Based Sanitation Incentives	Disbursement
Description of Condition		
The Project Implementing Entity has prepared and adopted the Manual for Household Results Based Sanitation Incentives, in form and substance acceptable to the Association, as condition for Disbursement of Eligible Expenditures under Category 3 of the Financing Agreement.		
Risk		
Risk Category		Rating (H, S, M, L)
1. Political and Governance		Substantial
2. Macroeconomic		Substantial
3. Sector Strategies and Policies		Substantial
4. Technical Design of Project or Program		Moderate
5. Institutional Capacity for Implementation and Sustainability		Substantial
6. Fiduciary		Substantial
7. Environment and Social		Low
8. Stakeholders		Moderate
9. Other		Substantial
OVERALL		Substantial
Finance		
Loan Closing Date - Additional Financing (Sustainable Rural Water Supply and Sanitation Development Project – P162840)		
Source of Funds	Proposed Additional Financing Loan Closing Date	
IDA recommitted as a Credit and Grant	30-Jun-2025	
Loan Closing Date(s) - Original (Sustainable Rural Water Supply and Sanitation Project - P154778)		

Explanation: The AF includes an extension of the original project closing date by three years, from June 30, 2022 to June 30, 2025, to ensure an adequate period of implementation of additional activities, including a one-year period of post-construction operational assistance in the project areas.										
Ln/Cr/TF	Status	Original Closing Date		Current Closing Date		Proposed Closing Date		Previous Closing Date(s)		
IDA-59070	Effective	30-Jun-2022		30-Jun-2022		30-Jun-2025				
IDA-D1380	Effective	30-Jun-2022		30-Jun-2022		30-Jun-2025				
Change in Disbursement Estimates (including all sources of Financing)										
Explanation: The disbursement estimates have been revised to reflect expenditures envisaged under each activity during the lifetime of the project until the proposed closing date of June 30, 2025.										
Expected Disbursements (including all Sources of Financing - Original and AF Projects) (in USD Million)										
Fiscal Year	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26
Annual	1.2	2.3	6.7	8.5	9.0	9.5	9.5	7.0	5.8	
Cumulative	1.2	3.5	10.2	18.7	27.7	37.2	46.7	53.7	59.5	
Allocations - Additional Financing (Sustainable Rural Water Supply and Sanitation Development Project – P162840)										
Source of Fund	Currency	Category of Expenditure			Allocation		Disbursement %(Type Total)			
					Proposed		Proposed			
IDA	USD	Works under Components 1 and 2			20.00		73.5			
IDA	USD	Goods, consulting services, training and incremental operating costs under Components 1, 2, 3 and 4			15.0		100			
IDA	USD	Sub-grants under Component 2			1.0		100			
		Total:			36.0					
Components										
Change to Components and Cost										
Explanation: The allocation of the additional funds by components is proposed as follows (including counterpart funds).										
Current Component Name		Proposed Component Name			Current Cost (US\$M)		Proposed Cost (US\$M)		Action	

Water Supply Investments	Water Supply Investments	21.10	51.10	Revised
Sanitation Development	Sanitation Development	3.00	7.10	Revised
Institutional Strengthening	Institutional Strengthening	2.50	9.50	Revised
Project Management	Project Management	1.40	3.50	Revised
	<b>Total:</b>	28.00	71.20	
Other Change(s)				
Implementing Agency Name	Type	Action		
Community Development and Investment Agency (ARIS)	Implementing Agency	No Change		
Ministry of Finance	Implementing Agency	No Change		
Change in Implementation Schedule				
Explanation:				
The implementation schedule has been revised to reflect scaled-up activities under the AF and extension of the project's closing date until June 30, 2025. (Refer to Annex 2 for detailed implementation plan)				
Appraisal Summary				
Economic and Financial Analysis				
Explanation:				
The economic benefits from the project are generated by improved quality of water supply services to households and improved sanitation services in schools and other public buildings. Improving these services are expected to enhance welfare by reducing coping costs (for example, time saved from water collection and reduced need for in-house drinking water treatment). In addition, improving the quality of water supply, sanitation services, and hygiene practices—through the WASH educational program—is also expected to produce welfare benefits through improved health.				
The project’s economic analysis uses project costs, beneficiary information collected during project preparation, and benefits observed in similar projects to estimate costs and benefits. The analysis incorporates: (i) the cost of all project components, including estimated operations and maintenance costs and project implementation costs; and (ii) all measurable benefits, including decreases in the time spent collecting water, welfare gains at household level associated with reduced need for in-house treatment (for example, boiling of water), and reduced incidence of water-related diseases such as infectious hepatitis and diarrhea as a result of improved access to quality water and decline in the reliance on standing water sources.				
The base estimated ERR is 15.7 percent, with an NPV of US\$59.3 million, assuming a social discount rate of 5 percent. Cost-benefit projections are for a total period of 25 years, including seven years of project implementation, during which benefits come on-stream as sub-projects are completed. A sensitivity analysis was conducted, analyzing a reduction of 20, 30 and 40 percent of expected benefits, an increase in investment				

costs by 10, 20 and 30 percent, an increase in operating costs by 20, 50, and 100 percent, and an increase in the project implementation period by 1 and 2 years. In all cases, the ERR remains well above 5 percent, indicating that the economic returns to the project are robust. Annex 4 provides additional information.

## Technical Analysis

### Explanation:

The Bank has reviewed and confirmed that the proposed investments reflect Government priorities, are aligned with strategic sector principles, and address key technical issues. The infrastructure solutions proposed are considered technically sound, supported by engineering investigations and designs, and consider operational capacity constraints and life-cycle costs to promote project sustainability. More specifically, to enable access to water supply services in the project areas existing infrastructure will be rehabilitated or replaced and distribution coverage will be expanded. Where technically viable, a single system will be developed to supply multiple villages within the project areas. A comprehensive approach, including consideration of alternative water sources and climatic factors, has been applied to optimize designs and reduce costs, which will address the infrastructure backlog in the project areas and allow the AOs to meet increasing demands associated with population growth. Furthermore, the selection of rural villages to be included under the project and proposed investments will leverage and support the institutional reforms by establishing models for aggregated systems, which will extend services to areas beyond local government boundaries—that is, serving multiple AOs. The priority sub-projects identified and prioritized for financing under the AF have been assessed and verified.

Cost estimates have been prepared and reviewed by the Bank. The estimates are at planning level and are based on a comparison of costs from earlier phases of the project and include provisions for escalation and contingencies. The proposed contract packaging considers potential technical and procurement risks (including contractor's capacity) and geographical constraints. Moreover, the procurement packaging and implementation timeframes were reviewed from a technical perspective, and it was confirmed that the approach incorporates in-country and sector lessons learned and is considered achievable within the project duration.

Detailed engineering designs and preparation of bidding documents will commence in a phased approach upon approval of the AF. Further details on the technical concepts guiding the water supply investments under component 1 are presented in Annex 2.

The retrofitting works for sanitation facilities in schools, kindergartens/pre-schools, and health clinics will build upon the successful implementation models and experience developed through the RWSSP-2. Standard designs will be prepared in consultation with the Ministry of Education and Ministry of Health and applied (and adapted as required) where possible to selected social institutions within project areas.

The project will cover schools (and other social institutions) in the target rural communities. The planning costs allocated for this activity are around US\$30,000 per school, or US\$1,590,000 in total for 53 facilities within the AF project areas. This will adequately cover these institutions, and is estimated to provide services to more than 18,000 students. Any remaining funds will be used to upgrade sanitation facilities in other eligible social facilities (including kindergartens, health clinics) – decided in consultation with the AOs and on a demand basis. This will complement the water supply investments and, together with school WASH education and communication and the promotion of household sanitation, will ultimately contribute to improved school and living conditions and public health outcomes.

The household sanitation component covers four critical aspects: i) enabling environment/regulations for sanitation, ii) behavior change and demand creation, iii) capacity development of local actors, and iv) results-based incentive grants to households. All component 2 activities will be managed by ARIS, who will contract

individuals, firms and/or NGOs for design and supervision of works, capacity development and social mobilization, and development of communication and mass-media campaigns. Small works contracts will be used for implementation of the social institutions' facility upgrades/retrofitting. ARIS will work with AOs in the implementation of the results-based incentives schemes. Households will receive results-based incentive grants towards the cost of constructing hygienic sanitation facilities, based on independent verification.

## Social Analysis

### Explanation:

The combined project is expected to have positive social impacts such as improved water accessibility, hygiene, and sanitation standards in the project communities, which in turn have positive impacts on the quality of life, especially of women, children and vulnerable groups. Improved sanitation facilities and hygiene practices of the population are expected to contribute to overall health outcomes of the population, specifically children under five years old. The main project beneficiaries include residents of the participating communities. At the same time, awareness-raising campaigns and greater involvement of civil society and local, and national-level governance institutions will ensure a broader project impact and change in cultural practices in hygiene and sanitation.

**Involuntary Resettlement (OP 4.12):** Project activities related to the rehabilitation of existing and/or construction of new water supply systems (component 1) in the target areas and investments for retrofitting existing sanitary facilities under component 2 are likely to have temporary and may have permanent land-acquisition implications. Therefore, OP 4.12 Involuntary Resettlement has been triggered. A Resettlement Policy Framework (RPF) was prepared under the original project. It was disclosed in-country and on the WB Infoshop on July 6 and 7, 2016 respectively. To reflect scaling up of activities covered by the AF, the RPF has been updated. The updated RPF was publicly consulted in the project areas on March 15-16, 2017. Feedback from the consultations was reflected in the revised final document and disclosed both in-country and at the Infoshop on April 3 and 4, 2017, respectively. The RPF provides guidance on the preparation of resettlement action plans (RAPs) during project implementation.

**Gender.** The focus on women's participation will continue under the AF. Women make up more than a half of the population of the project area. Women tend to be responsible for household activities, including provision of water, cleaning and sanitation. Surveys carried out under RWSSP-2 indicate that some 80 percent of those tasked with collecting household water (for example, for drinking/bathing/washing) were women. Furthermore, time spent for this activity is significant, due to long distances to the nearest water sources (for example, standpipes or canals). At the same time, women's participation in the decision-making process, especially at the local level, is limited. Traditional decision-making mechanisms in rural areas of the Kyrgyz Republic tend to involve largely men and exclude women and youth from the process<sup>13</sup>.

The project will support active participation of women and seek to address specific gender-related needs across all project components, including gender-informed activities to support inclusion and equality and will promote and monitor the level of female participation. Under component 1, the project will monitor the extent that women are represented in the CDWUUs. In close consultation with DDWSWD and AOs will explore the possibilities to introduce quota for female participation to encourage the role of women in the management of water services. Under component 2, the design and implementation of behavior change campaigns will include a central role for women's groups, providing an important gender perspective to the issues; and giving voice to women in the community. In the Kyrgyz Republic, the number of women's groups is relatively low, yet they are active and focus on specific needs of women in the country.<sup>14</sup> The communications campaign will develop gender-differentiated messages to trigger women and men to improve their sanitation situation.

<sup>13</sup> ICG, 2008. Kyrgyzstan: the challenge of judicial reform. Asia Report #150.

<sup>14</sup> WDR, 2013. Gender Equality and Development. Background Paper: Kyrgyz Republic Country Case Study.

This approach acknowledges that although women are often powerful agents of change at the household level, decision-making processes around home improvements are often made jointly, and the role of men in the construction of sanitation facilities needs specific attention. The project will explicitly address the concerns of adolescent girls, through the inclusion of menstrual hygiene management in the school-WASH curriculum. The project includes gender-disaggregated monitoring. Under component 3, the project will develop incentive mechanisms for participating target groups to propose female professionals and AO representatives to join the training programs. Special outreach activities will be carried out to reach female post-graduate students and encourage their enrollment in the training courses. The vocational program for CDWUU members will equally aim to reach female CDWUU members and ensure that logistics and timing of offered capacity development activities are suitable for female participants. Gender-disaggregated data on training beneficiaries will be collected.

**Citizen Engagement.** Citizens have and will continue to be engaged in project activities through consultations with different groups of stakeholders and feedback from direct and indirect project beneficiaries. More specifically, under component 1, local community members will be involved in the project at all stages: detailed design, monitoring, and evaluation/lesson learning. Under component 2, in shaping and implementing information and behavior change campaigns, different groups of beneficiaries, and particularly women's groups, will be involved in passing on the messages and providing peer support in adopting proper sanitary practices and hygiene. As part of component 3, the project will promote service-oriented management that will include feedback from consumers on the services provided to them. Some of the Citizen Engagement activities would be supported through technical assistance under the institutional development component.

These information/awareness-building and demand-side processes will be supplemented by a grievance redress mechanism (GRM) that will cover all aspects of project implementation, including, inter alia, grievances related to involuntary resettlement. The GRM will also include a pro-active element through which ARIS will seek comment from beneficiaries once a year, as well as establishing the systems for receiving and processing unsolicited comments/complaints. GRM data will be collected, compiled and reported in quarterly reports, including an analysis of the different types of complaints. Grievances will be discussed during Bank implementation support missions with a view to responding to feedback and adapting project procedures causing harm to beneficiaries.

**Conflict Filters.** The original project and AF have considered the findings of a Conflict Filter assessment carried out during project preparation. Key sources of potential tension and conflict were identified and include: (i) inequality of services (access and quality) within the project areas; (ii) perception of or actual implementation delays; (iii) social resistance to tariff increases; (iv) change in water-use behaviors and practices; and (v) transparency and governance issues. These issues will be addressed through a range of technical, social and institutional support mechanisms. A summary of mitigation measures include: (i) engaging during both project preparation and implementation in pro-active communication that explain to both beneficiaries and the public at large the benefits brought by the project to the target communities; (ii) applying clear and transparent criteria for investment selection and design, including technical, social and economic/poverty indicators; (iii) developing suitable grievance redress standards and measures for the project (not only for safeguards-related issues); and (iv) identifying early on the propensity for social tensions and/or possible conflicts in the project areas by requesting ARIS to assess such risks as part of its social and environmental impact checks.

## **Environmental Analysis**

Explanation:

Even though the scale of the project will change, the nature of the activities remains the same; no changes to

the project safeguards category are expected, and no additional safeguard policies are triggered. The project remains Category B - partial assessment, and triggers the same environmental safeguards: OP 4.01 (Environmental assessment), and OP 7.50 (Projects on International Waterways).

The Project will continue to focus on achieving verifiable and sustainable results in the improvement of water supply and sanitation service delivery to participating rural communities.

The overall environmental impact of the project investments will be largely positive and include (i) improved water management and efficiency through replacement of leaking pipes and production systems, replacement of continuously running communal stand pipes with household stand-pipes, and installation of individual meters, together with support for improved operations; (ii) the overall water consumption for respective rural systems will be less than actual quantities and original design/planning estimates due to efficiency gains and use of water-saving technologies in public water supply systems; (iii) help in protecting ground and surface water resources by promoting the construction and use of environmentally sound sanitation facilities for human waste disposal; (iv) improved citizens' skills and awareness in planning and implementation of local activities, with particular attention to environment protection, and (v) sustainable management of improved infrastructure by communities, which will bring environmental and social benefits related to natural resources management.

While the environmental impact of the proposed project will be positive, some adverse impacts may be generated. These identified potential estimated environmental issues associated with the small/medium scale activities for local communities will be limited, temporary nuisances resulting from construction activities, and may include: (i) increased pollution due to construction waste; (ii) generation of dust, noise, and vibration due to the movement of construction vehicles and machinery; (iii) associated risks due to improper disposal of construction waste and asbestos, or minor operational or accidental spills of fuel and lubricants from the construction machinery; and (iv) improper reinstatement of construction sites upon completion of works. These potential environmental impacts are readily identifiable, small in scale, and minimal in impact and can be effectively prevented, minimized, or mitigated by including into the work contracts specific measures to be taken by contractors under close supervision of compliance by ARIS. Use of construction materials that are hazardous to human health (for example, asbestos and asbestos-containing materials [ACM]) will not be permitted. ACM waste will be collected, transported and finally disposed by applying special protective measures in accordance with hazardous waste handling standards.

The required mitigation measures for the project activities are standard and widely used in construction practices. They are already well prescribed in the Environmental and Social Management Framework (ESMF), which was prepared for the original project. Since the new project will support the same types of activities as under the original project the exiting ESMF has been updated and will be applied for the AF.

The ESMF for the original project was prepared and disclosed in-country and on the WB Infoshop on July 6 and 7, 2016 respectively. To reflect the scaling up of activities covered by the AF, the ESMF has been updated. The updated ESMF was publicly consulted in the project areas on March 15-16, 2017. Feedback from the consultations was reflected in the revised final document and disclosed both in-country and at the Infoshop on April 5, 2017. The updated ESMF will be incorporated into the updated POM for SRWSSDP-AF. Each activity to be financed under the project will be reviewed for safeguards risks in line with OP4.01, and must obtain the clearances required by Kyrgyz national regulations.

Site-specific Environmental and Social Management Plans (ESMPs) will be prepared for each sub-project. Implementation of environmental mitigation and compliance measures will continue to be carried out by the contractors (construction firms) and monitored by ARIS staff. ESMPs stipulate that all contracts for construction works include requirements for implementation of the specific measures as per the site-specific



ESMP provisions and good construction practices.

ARIS will continue to have overall management responsibility for ensuring that the measures indicated in the ESMP are being properly performed. ARIS, in collaboration with the local authorities of the participating rural communities and the Kyrgyz Forestry and Environment Preservation Agency, will perform the environmental monitoring during both construction and operation phases, as specified in the monitoring plan of the ESMP.

The SRWSSDP-AF will not finance any Category-A activities, will not support activities that target natural habitats or protected sites, and will prohibit those activities that can cause a significant loss or degradation of any significant natural habitat. The environmental screening process will check for the presence of physical cultural resources. In addition, chance find procedures will be included in all works contracts.

**Projects on International Waterways (OP/BP 7.50).** As in the original project, OP 7.50 has been triggered because the AF will continue to finance rehabilitation, improvement, or minor additions/expansions to drinking water supply systems located within the transboundary basin of the Syr Darya, Talas and Chui Rivers. However, project interventions are not expected to adversely affect water quality or quantity to downstream riparian states. It is anticipated that the nature of the AF activities will not (i) cause appreciable harm to the other riparian states, as it will not adversely change the quality or quantity of water flows, and (ii) will not be appreciably harmed by other riparian states' possible water use. Infrastructure rehabilitation and modernization and water supply management improvements should increase system efficiency, thereby generating water savings and providing users with reliable water supply. Further, the project aims to improve efficiency of water use and to substantially reduce technical losses and high water consumption rates. Leakages will be reduced through infrastructure rehabilitation and replacement, which will help conserve ground and surface water resources. Water conservation will be promoted through improved demand-management measures, i.e., replacement of continuously running communal stand pipes, replacement of communal stand pipes with household stand-pipes, and installation of individual meters.

During preparation of the original project, an exception to the riparian notification requirements under OP 7.50 was granted by the World Bank's Regional Vice President (RVP) on January 25, 2016. For the Additional Financing the exception from the requirement to notify other riparian's under OP 7.50 has been granted by the RVP on April 3, 2017 because the nature of the Project activities meet the policy requirements mentioned in paragraph 1 (i) and (ii) above.

## **Risk**

### **Explanation:**

The overall combined risk rating for the original project is Substantial. The Substantial risks identified relate largely to the operating environment and include institutional capacity constraints. The Bank and the implementing agencies are both cognizant of the risks and have incorporated elements into the project design for mitigation, building upon experience of previous projects and incorporating lessons learned into the project design. Activities to be included under the Project are demand-driven and have strong ownership at various levels. With sufficient implementation support from the Recipient and the Bank, potential risks can be readily identified and resolved.

The risks identified and described in detail at the time of preparing the original project remain relevant and applicable to the AF, and as such the overall combined risk rating for the original and AF project is also considered Substantial. A description relevant to each Substantial risk category is provided below.

The Substantial rating for risks associated with the Political and Governance and Macroeconomic categories are common to all Bank-financed operations and are informed by the Bank's analysis of the Kyrgyz

Republic's performance in such categories, which consider the general risks associated with the operating environment. These are considered common portfolio issues and are addressed through systematic monitoring, training and capacity building activities implemented under the guidance of the country management unit.

The risk rating for sector strategies and policies has been rated as Substantial to reflect significant challenges associated with the implementation of the water sector strategy, which requires substantial financing, strong Government commitment and parliamentary support. It is acknowledged that the capacity-strengthening activities at the central and local levels will require time and sustained efforts. Moreover, risks associated with the Institutional Capacity for Implementation and Sustainability have also been rated as Substantial. This risk rating reflects existing capacity constraints at the local (AOs) and central (DDWSWD) levels, which may affect sustainability of water service delivery. During preparation of the AF, key capacity issues have been identified and relevant activities have been included into the design to strengthen these institutions to fulfill their mandate. Potential institutional risks associated with project implementation have been mitigated through engaging ARIS in the process.

The fiduciary risk of the combined project is Substantial, reflecting potential procurement-related challenges and constraints: (i) insufficient competition due to lack of local contractor capacity and increased number of parallel procurement packages; (ii) potential risk of delays in the implementation of the project due to the complexity and decision-making that involves local governments; (iii) contract monitoring and management capacity constraints, and (vi) country-wide perceptions of limited transparency in complaint handling procedures. Such issues have been identified and mitigation measures introduced through the Project procurement Strategy, further discussed in Annex 3.

The Substantial Other risk associated with the AF is related to absorption capacity of the local market for implementation of expanded infrastructure activities. This relates specifically to the design institutes / consulting firms and civil works contractors, and is also relevant to capacity of ARIS as the implementing agency, responsible for contract management and construction supervision, amongst other activities. This risk may be mitigated through: (i) a phased approach over the extended project period, designed to flatten peak implementation periods and reduce pressure on market capacity, and (ii) reinforcing implementation arrangements, by considering requirements and potential constraints of the broader program. These Risk mitigation measures have been incorporated into the design of AF and are presented in detail in Annex 2 and 3.

#### **IV. World Bank Grievance Redress Service**

21. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the World Bank Inspection Panel, please visit [www.inspectionpanel.org](http://www.inspectionpanel.org).



## Annex 1: Results Framework and Monitoring

### KYRGYZ REPUBLIC: Sustainable Rural Water Supply and Sanitation Development Project Original and Additional Financing Result Framework (Cumulative Targets)

Project Development Objectives (PDO) are to assist the Kyrgyz Republic: (i) to improve access and quality of water supply and sanitation services in the Participating Rural Communities; and (ii) to strengthen capacity of the Recipient’s institutions in the water supply and sanitation sector.															
Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values								Frequency	Data Source/ Methodology	Responsibility	Comments
				YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9				
Project Development Objective Indicators															
Indicator 1. Number of people in rural areas provided with access to an improved water source under the project. Original Project	✓	Number (000) (% female)	0		26.5 (%)	72.5 (%)	100 (%)					Semi-Annual	Reports	ARIS	No results expected in YR1, as otherwise indicated.
Indicator 1. With Additional Financing	✓	Number (000) (% female)	0				123 (%)	149.8 (%)	175.9 (%)	208 (%)		Semi-Annual	Reports	ARIS	
Indicator 2.A. Number of people in project areas provided with access to improved sanitation, through social institutions. Original Project	✓	Number (000) (% female)	0		3 (%)	11 (%)	16 (%)					Semi-Annual	Reports	ARIS	

Project Development Objectives (PDO) are to assist the Kyrgyz Republic: (i) to improve access and quality of water supply and sanitation services in the Participating Rural Communities; and (ii) to strengthen capacity of the Recipient’s institutions in the water supply and sanitation sector.															
Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values								Frequency	Data Source/ Methodology	Responsibility	Comments
				YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9				
Indicator 2.A. With Additional Financing	✓	Number (000) (% female)	0				19 (%)	24 (%)	29 (%)	34 (%)		Semi-Annual	Reports	ARIS	
Indicator 2.B. Number of people in project areas provided with access to improved sanitation, through incentive grant. Additional Financing (New Indicator).	✓	Number (000)	0		0.75	2.75	4.75	6.75							Related to Intermediate Result Indicator no.10. Number of people per HH is 5.0 on average.
Indicator 3. Operating Cost Coverage Ratio in project areas. Combined Original and AF Projects		Ratio	TBD		0.50	0.60	0.70	0.80	0.90	>1.0		Annual	Reports	ARIS	
Indicator 4. Average hours of water supply per day in project areas. Combined Original and AF Projects		Hours per day	<12			14	15	16	17	>18		Semi-Annual	Reports	ARIS	
Indicator 5. Institutional Support Plan for DDWSWD developed and approved.		Yes or No	0	Draft	Reviewed and Approved	Yes	Yes					Semi-Annual	Reports	ARIS	Indicator applies to AF project as well

Project Development Objectives (PDO) are to assist the Kyrgyz Republic: (i) to improve access and quality of water supply and sanitation services in the Participating Rural Communities; and (ii) to strengthen capacity of the Recipient’s institutions in the water supply and sanitation sector.																
Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values								Frequency	Data Source/ Methodology	Responsibility	Comments	
				YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9					
Intermediate Results Indicators																
Component 1																
Indicator 6. New piped household water connections resulting from the project intervention. Original Project	✓	Number (000)	0		3.25	8.90	12.28						Semi-Annual	Reports	ARIS	Each connection serves a family of 5.0 persons on average and cover 70% of population.
Indicator 6. With Additional Financing	✓	Number (000)	0				15.20	18.40	21.60	28.95			Semi-Annual	Reports	ARIS	
Indicator 7. Number of social institutions in project areas connected to the water supply network. Original Project		Number	0		20	30	46						Semi-Annual	Reports	ARIS	
Indicator 7. With Additional Financing		Number	0				55	65	81	99			Semi-Annual	Reports	ARIS	
Indicator 8. Number of service providers with signed agreements with SES Department.		Number	0	3	6	9	12						Semi-Annual	Reports	ARIS	

**Project Development Objectives (PDO) are to assist the Kyrgyz Republic: (i) to improve access and quality of water supply and sanitation services in the Participating Rural Communities; and (ii) to strengthen capacity of the Recipient's institutions in the water supply and sanitation sector.**

Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values								Frequency	Data Source/ Methodology	Responsibility	Comments
				YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9				
<b>Indicator 8. With Additional Financing</b>		Number	0				18	26	34	40		Semi-Annual	Reports	ARIS	42 schemes in 53 villages under AF. Target is based on clustering of some smaller sub-projects.
<b>Component 2</b>															
<b>Indicator 9.</b> Number of social institutions in project areas benefiting from improved sanitation facilities. <b>Original Project</b>		Number	0		10	20	46					Semi-Annual	Reports	ARIS	
<b>Indicator 9. With Additional Financing</b>		Number	0				55	65	81	99		Semi-Annual	Reports	ARIS	
<b>Indicator 10.</b> Number of households received incentive grant to upgrade to sanitation facilities. <sup>15</sup> <b>Additional Financing (New Indicator)</b>		Number			150	550	950	1,350				Semi-Annual	Reports	ARIS	See Footnote.

<sup>15</sup> Budget is allocated for 3,500 households. However, due to the pilot nature of this sub-component, target is conservative. Implementation progress to be reviewed at MTR and target is adjusted accordingly.

**Project Development Objectives (PDO) are to assist the Kyrgyz Republic: (i) to improve access and quality of water supply and sanitation services in the Participating Rural Communities; and (ii) to strengthen capacity of the Recipient's institutions in the water supply and sanitation sector.**

Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values								Frequency	Data Source/ Methodology	Responsibility	Comments
				YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9				
<b>Indicator 11.</b> Number of people trained to improve hygiene behavior and sanitation practices. <b>Original Project</b>	✓	Number (000) (% female)	0		8 (%)	17 (%)	26.25 (%)					Semi-Annual	Reports	ARIS	
<b>Indicator 11.</b> <b>With Additional Financing</b>	✓	Number (000) (% female)	0				28.5 (%)	31.5 (%)	34.8 (%)			Semi-Annual	Reports	ARIS	Students, volunteers, teachers, social mobilizers.
<b>Indicator 12.</b> Preparation of standard designs and guidelines for on-site household sanitation.		Yes or No	0	Draft	Reviewed and Approved	Yes						Annual	Reports	ARIS	Design will be used for AF as well.
<b>Component 3</b>															
<b>Indicator 13.</b> Number of service contracts signed <b>Original Project</b>		Number	0	3	6	9	12					Semi-Annual	Reports	ARIS	
<b>Indicator 13.</b> <b>With Additional Financing</b>		Number	0				18	26	34	40		Semi-Annual	Reports	ARIS	As per indicator 8.



**Project Development Objectives (PDO) are to assist the Kyrgyz Republic: (i) to improve access and quality of water supply and sanitation services in the Participating Rural Communities; and (ii) to strengthen capacity of the Recipient's institutions in the water supply and sanitation sector.**

Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values								Frequency	Data Source/ Methodology	Responsibility	Comments
				YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9				
<b>Indicator 14.</b> Commercial Systems Operating in project areas <b>Original Project</b>		Number	0	3	6	9	12					Semi-Annual	Reports	ARIS	
<b>Indicator 14.</b> <b>With Additional Financing</b>		Number	0				18	26	34	40		Semi-Annual	Reports	ARIS	As per indicator 8.
<b>Indicator 15.</b> Connection plan for low income households in project areas. <b>Original Project</b>		Number	0	3	6	9	12					Semi-Annual	Reports	ARIS	
<b>Indicator 15.</b> <b>With Additional Financing.</b>		Number					18	26	34	40		Semi-Annual	Reports	ARIS	
<b>Indicator 16.</b> Legal creation of aggregated water service provider (pilot).		Yes or No	0	Draft	Reviewed and Approved	Yes	Yes					Semi-Annual	Reports	ARIS	Aggregation strategy applies to AF as well.

Project Development Objectives (PDO) are to assist the Kyrgyz Republic: (i) to improve access and quality of water supply and sanitation services in the Participating Rural Communities; and (ii) to strengthen capacity of the Recipient’s institutions in the water supply and sanitation sector.															
Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values								Frequency	Data Source/ Methodology	Responsibility	Comments
				YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9				
Indicator 17. Number of villages with updated information in water supply & sanitation national data base Original Project		Number	0		200	800	1,300	1,805				Semi-Annual	Reports	ARIS	Total villages = 1,805. This indicator will also apply to AF villages.
Indicator 18. Percentage of beneficiaries satisfied with the participatory process in the project.		Percentage	0		>60%	>65%	>70%	>75%	>80%	>85%		Annual	Reports	ARIS	This also applies to AF project beneficiaries
Indicator 19. Implementation of professional and vocational program Additional Financing (New Indicator)		Milestones	0		Needs Assessment	Program Design and Year 1	Year 2 Program	Year 3 Program	Year 4 Program			Annual	Reports	ARIS	

## Explanatory Notes

**The PDO and Intermediate Result Indicators are defined as those under the original project. One PDO and two intermediate result indicators are added to measure the performance of two new activities introduced under the Additional Financing.**

- 1. Indicator 1 - Number of people in rural areas provided with access to an improved water source under the project.** This core sector indicator captures the cumulative number of people directly benefiting from access to new piped water supply systems financed by the project. The project will support the installation of around 28,950 new connections to a household yard stand pipe, which will cover around 70 percent of total project beneficiaries. The average household size is 5.0 persons (as per recent data provided by the Ayil Okmotus). It is estimated that the remaining 30 percent of project beneficiaries will receive water through public standpipes to be installed in cases where it is not technically or economically viable to provide services through individual connections. Population estimates are based on figures provided by DDWSWD to the Bank, which refers to National Statistics Committee data, 2015.
- 2. Indicator 2.A - Number of people in project areas provided with access to improved sanitation, through social institutions.** This indicator captures the cumulative number of people benefiting from access to improved sanitation facilities in schools, kindergartens and other eligible social facilities, financed under component 2 of the project.
- 3. Indicator 2.B (New Indicator) - Number of people in project areas provided with access to improved sanitation, through incentive grant.** This indicator captures the cumulative number of people benefiting from access to improved sanitation facilities using the incentive grant described in component 2.3.
- 4. Indicator 3 - Operating Cost Coverage Ratio (OCCR).** This PDO indicator relates to efficiency and financial sustainability of water service providers in project areas. It captures outcomes related to the physical investments under component 1 and the institutional support activities, at the national and local level, financed under component 3 – and for this project it is a proxy indicator to measure strengthened capacity of sector institutions. Specifically, the indicator reflects the financial performance of the service provider as a ratio of total revenues and total operating expenses. The baseline values will be determined during year one of implementation and will be measured by the service providers thereafter as part of their operating procedures. ARIS will enter into agreements with the participating Ayil Okmotus at the early phases of implementation (prior to commencing works). This agreement will outline conditions for the Ayil Okmotus related to tariff increases, metering, billing and collection, and other necessary preconditions (including collection of connection fees from community members) to enable household connections to the new schemes.
- 5. Indicator 4 - Average hours of water supply per day.** This quality-of-service indicator tracks progress of outcomes associated with the infrastructure investments under component 1, including activities that focus on increasing production, improving network distribution, and reducing non-revenue water. To a lesser extent it will also be influenced by institutional support activities implemented through component 3. Baseline values reflect actual hours of supply at the time of appraisal. These values are expected to increase throughout the project duration, as the availability of water improves with support of project-financed investments.

- 6. Indicator 5 - Institutional Support Plan for DDWSWD developed and approved.** This indicator relates specifically to the objective of strengthening sector institutional capacity. It measures progress of the institutional support plan for DDWSWD, with defined actions to support capacity improvement towards providing institutional support for sustainable water service delivery in rural areas.
- 7. Indicator 6 - New piped household water connections resulting from the project intervention.** This intermediate indicator measures the number of new connections to be installed under the project – an important input into the estimate of project beneficiaries. The additional financing will support the installation of around 28,950 new connections to a household yard stand pipe, which will cover around 70 percent of total project beneficiaries.
- 8. Indicator 7 - Number of social institutions in project areas connected to the water supply network.** This intermediate indicator measures the number of schools, kindergartens, health clinics, and other eligible social facilities connected to the water supply network in the project areas.
- 9. Indicator 8 - Number of service providers with signed agreements with SES Department.** This intermediate indicator captures progress towards ensuring improved systems for water quality monitoring. As part of the quality assurance and operating procedures, water quality sampling and testing procedures will be introduced and agreements will be signed with SES Department for laboratory testing and certification.
- 10. Indicator 9 - Number of social institutions in project areas benefiting from improved sanitation facilities.** This intermediate indicator measures the number of schools, kindergartens, health clinics and other eligible social facilities, in which the project has supported upgrades and rehabilitation of the sanitation facilities.
- 11. Indicator 10 (New Indicator) - Number of households received incentive grant to upgrade to sanitation facilities.** This indicator measures the number of households who opt to receive sanitation incentive grants to improve their sanitation facilities. It is related to PDO indicator 2.A.
- 12. Indicator 11 - Number of people trained to improve hygiene behavior and sanitation practices.** This gender disaggregated indicator measures training outputs related to the sanitation and hygiene-promotion and education activities for school children, teachers, volunteers and social mobilizers in the project areas. Hygiene awareness programs for communities are carried out during community development and consultation.
- 13. Indicator 12 - Preparation of standard designs and guidelines for improved on-site household sanitation.** This intermediate indicator tracks the progress of outputs related to preparation of standard designs, including guidelines for construction and operations, for household latrines and septic systems for rural areas. Together with related education and social mobilization programs (to stimulate demand), this will facilitate private household investments in these facilities.
- 14. Indicator 13 - Number of service contracts signed.** This intermediate indicator tracks the progress of outputs related to institutional support activities provided under sub-component 3.1. Specifically, the project will also support the preparation of service contract agreements, to clarify and formalize respective responsibilities of the operator (CDWUUs) and asset owner

(Ayil Okmotus), and to support governance of service performance, tariffs and financing mechanisms.

**15. Indicator 14 - Commercial Systems Operating in project areas.** This intermediate indicator tracks progress on the customization and installation of new commercial systems for each service provider. The commercial systems include activities that focus on billing and commercial management, customer-service policies and procedures, and citizen engagement and complaints handling/recourse mechanisms.

**16. Indicator 15 - Connection plan for low-income households in project areas.** Component 3 activities will support the Ayil Okmotus and service providers to develop a connection subsidy plan and tariff mechanisms to address the needs of the poorest and most vulnerable groups within the project areas. This intermediate indicator will track the progress of this important output.

**17. Indicator 16 - Legal creation of aggregated water service provider (pilot).** As part of the institutional strengthening activities under component 3, the project will support the piloting of an aggregated service delivery model, which includes water service provision in more than one Ayil Okmotu. This activity is designed to enable more efficient and sustainable service delivery models. This intermediate indicator will track progress of this output.

**18. Indicator 17 - Number of villages with updated information in the water supply and sanitation national data base.** The project will support augmentation and institutionalization of the sector management information system/data base, building upon the work carried out under RWSSP-2. This system will be used to strengthen sector monitoring, evidence-based policy development, and investment planning. This intermediate indicator will track progress of this output.

**19. Indicator 18 - Percentage of beneficiaries satisfied with the participatory process in the project.** This indicator aims to report on the effectiveness of citizen engagement processes in the project. It will measure the level of satisfaction of project beneficiaries with the activities intended to engage them in project design, implementation and monitoring. The planned project surveys will be extended to obtain feedback from community members on their satisfaction with: (i) access to project information and awareness of decisions taken, (ii) their opportunities to provide feedback and participate in the dialogue; and (iii) the responsiveness of the implementing entity and Ayil Okmotus to feedback provided. These criteria will be rated on a 1-5 scale and will be equally weighted. ARIS will oversee this survey and report annually. Results will be gender disaggregated. Detailed mechanisms for collecting this data will be developed by ARIS, with support of the Bank, and included in the POM.

**20. Indicator 19 - Implementation of professional and vocational program at national and local level; and for private sector (New Indicator).** This indicator captures the progress of the new activity under component 3 of the additional financing. Details of the programs are reported to the Bank for each of the target activities.

## **Annex 2: Detailed Description of AF Activities**

### **KYRGYZ REPUBLIC: Additional Financing to the Sustainable Rural Water Supply and Sanitation Development Project**

#### **Project Design**

1. The AF will be implemented through the same components prepared under the original project. The activities under each component are designed to be implemented as a package of interventions that target both local institutional and infrastructure issues and the creation of an enabling environment at the national level to support sustainable water service delivery in rural areas.
2. The original project includes 38 participating rural villages in Osh, Chui and Issyk-Kul Oblasts, directly benefiting around 100,000 people. The beneficiaries will be provided with access to piped water services through new household connections. Furthermore, under the original project some 16,000 people (mostly children) will directly benefit through investments in sanitation facilities and associated hygiene and behavior change interventions in schools and other eligible public institutions (for example, health clinics).
3. The AF will continue to focus on rural villages in need within the same Oblasts due to practical considerations and to enable a concentrated level of effort for increased efficiency and development impact. The development impact will be deepened and expanded by increasing the coverage of combined<sup>16</sup> project interventions to more than 91 villages<sup>17</sup>, directly benefiting some 208,000 people in total<sup>18</sup>.

#### **Selection of Priority Sub-Projects under the AF**

4. A list of priority sub-projects, covering village clusters within Chui, Osh and Issyk-Kul Oblasts, was proposed by the Government. This list was presented by the DDWSWD, the lead sector agency, and was reviewed and confirmed by ARIS (the project implementing agency for this component) during project preparation. To prioritize investment needs, a multi-criteria assessment was applied, which included consideration of the following:
  - Current state of existing systems (for example, age, level of deterioration, coverage, etc.);
  - Public health issues (incidence of water-borne diseases); and
  - Readiness of the local Government authorities and community organizations to participate in the project and to adopt modern systems for water supply operations (including installation of meters and introduction of cost-reflective tariffs based on consumption).
5. The list of 42 priority subprojects covers 53 villages with total population of around 108,000 people. Eligibility for financing works in these areas has been confirmed during preparation and appraisal. Each area has significant needs for drinking water supply facilities and sanitation

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<sup>16</sup> Original, plus AF.

<sup>17</sup> Around 53 new village to be included under the AF.

<sup>18</sup> Around 108,000 additional project beneficiaries to be included under the AF.

development. Existing systems (where available) are deteriorated and have exceeded their technical and economic life span (often constructed in the 1950's and 60's). Thus, the coverage and quality of services is extremely poor. During consultations, community representatives openly voiced their concerns regarding access to clean drinking water, referring to a high incidence of water-borne diseases within the community and hardships associated with collecting water from stand pipes, distribution trucks and irrigation canals / drains – especially during the winter seasons when snow and freezing conditions are common (this task is typically borne by women and children). There is a strong willingness to participate in the project by the Ayil Okmotus (AOs), CDWUUs, and community representatives, including the adoption of modern practices for water services and operations (e.g., introduction of cost-reflective tariffs for metered consumption rates).

6. The list of priority sub-projects to be included under the AF is presented in Table A2.1; maps showing the location of sub-projects included under the original and AF are in Annex 5.

**Table A2.1 List of Priority Sub-Projects – Additional Financing (Osh, Chui and Issyk-Kul Oblasts)**

No.	Ayil Okmotu	Name of a Sub-Project	No.	Name of Villages	Population*
<b>Chui Oblast</b>					
<b>Alamudun Rayon</b>					
1	Tash-Moinok	Gornaya Maevka	1	Prohladnoye	2,410
			2	Kyzyl-Birlik	
			3	Gornaya Maevka	
2	Kara-Jygach	Kara-Jygach	4	Kara-Jygach	5,197
3	Ak-Dobo	Kaiyrma	5	Kaiyrma	1,084
4	Vasiliev	Vinogradnoe	6	Vinogradnoe	3,860
<b>Sokuluk Rayon</b>					
5	Frunze	Komsomol'skoye	7	Komsomol'skoye	3,198
6	Kainazarova	Belek	8	Belek	1,273
<b>Jaiyl Rayon</b>					
7	Taldy-Bulak	Boksoe-Jol	9	Boksoe-Jol	2,741
			10	Bekitai	
			11	Kaiyrma	
8	Sosnovka	Sosnovka	12	Sosnovka	5,950
<b>Chui Rayon</b>					
9	Iskra	Kara-Dobo	13	Kara-Dobo	1,431
<b>Issyk-Ata Rayon</b>					
10	Kochkoebaev	Kenesh	14	Kenesh	3,137

11	Ivanovka	Ivanovka Station	15	Ivanovka Station	5,195
12	Ken-Bulun	Ken-Bulun	16	Ken-Bulun	3,458
			17	Cholpon	2,000
13	Logvinenko	Chon-Daly	18	Chon-Daly	1,244
Panfilov Rayon					
14	Kurpuldok	Kurpuldok	19	Kurpuldok	1,552
15	Orto	Kum-Aryk	20	Kum-Aryk	1,961
16	Kurama	Orto-Aryk	21	Orto-Aryk	902
Kemin Rayon					
17	Kara-Bulak	Beisheke	22	Beisheke	1,172
18	Kok-Oirok	Kaiyndy	23	Kaiyndy	1,728
19	Boroldoi	Boroldoi	24	Boroldoi	2,100
Sub-total					51,593
Osh Oblast					
Alai Rayon					
20	Korul	Korul	25	Toghuz-Bulak	2,302
			26	Ken-Jylga	3,222
			27	1 May	1,675
21	Buloluu	Buloluu	28	Chon-Bulolu	1,468
			29	Kichi-Bulolu	833
Kara-Kulja Rayon					
22	Kyzyl-Zhar	Kyzyl-Zhar	30	Kyzyl-Zhar	714
23	Kyzyl-Zhar	Koo-Chaty	31	Koo-Chaty	2,175
			32	Chychyrkanak	327
			33	Kuyo-Tash	1,106
24	Kenesh	Kenesh	34	Kenesh	2,481
25	Kenesh	Por	35	Por	1,554
Karasuu Rayon					
26	Toloikon	Toloikon	36	Toloikon	3,831
27	Kyzyl-Suu	Chaichy	37	Chaichy / Alp Ordo	3,115
Uzghen Rayon					
28	Kyzyl-Too	Erkin-Too	38	Erkin-Too	2,395
29	Salamalik	Kyzyl-Bairak	39	Kyzyl-Bairak	1,000



<b>Chon-Alai Rayon</b>					
30	Kashka-Suu	Kabyk	40	Kabyk	885
<b>Sub-total</b>					<b>29,083</b>
<b>Issyk-Kul Oblast</b>					
<b>Ak-Suu Rayon</b>					
31	Ak-Bulun	Ak-Bulak	41	Ak-Bulak	2,233
32	Boz-Uchuk	Enchilesh	42	Enchilesh	1,119
<b>Jeti-Oghuz Rayon</b>					
33	Lipenka	Ichke-Bulun	43	Ichke-Bulun	1,471
34	Jeti-Oghuz	Jeti-Oghuz	44	Jeti-Oghuz	3,965
35	Orgochor	Boz-Beshik	45	Boz-Beshik	1,453
36	Tamga	Tamga	46	Tamga	3,010
<b>Ton Rayon</b>					
37	Ak-Terek	Barbulak	47	Barbulak	903
<b>Tuyp Rayon</b>					
38	Sary-Bulak	Kurmontu	48	Kurmontu	2,896
	Ak Bulak		49	Ak Bulak	1,108
39	Kuturgu	Kichi-Oruktuu	50	Kichi-Oruktuu	1,755
40	Chon-Tash	Jyluu-Bulak	51	Jyluu-Bulak	1,665
<b>Issyk-Kul Rayon</b>					
41	Sadyr-Ake	Grigorievka	52	Grigorievka	5,350
42	Abdrahmanov	Karool-Dobo	53	Karool-Dobo	870
<b>Sub-total</b>					<b>27,798</b>
<b>TOTAL:</b>					<b>108,474</b>

Note: \* Population figures were as presented by DDWSWD through official correspondence with the Bank, based on National Statistics Committee data, 2015.

### Detailed Component Description

7. The PDO is to assist the Kyrgyz Republic: (i) to improve access and quality of water supply and sanitation services in Participating Rural Communities, and (ii) to strengthen capacity of the Recipient's institutions in the water supply and sanitation sector. This objective will be achieved through implementation of activities defined under four components:

- Component 1: Water Supply Investments
- Component 2: Sanitation Development
- Component 3: Institutional Strengthening

- Component 4: Project Management

8. Further details of the activities to be financed under each component of the AF are provided below.

### **Component 1: Water Supply Investments (US\$30.0 million)**

9. This component will finance the rehabilitation needs of existing and/or construction of new water supply systems in the target areas benefitting up to 108,000 people in 53 new villages within Osh, Chui and Issyk-Kul Oblasts. The component will finance goods, works and services (including engineering design and construction supervision) and will include civil and electrical / mechanical installations for water supply production (bore holes, wellfields, intakes etc., disinfection, and pumping as required), transmission, and distribution (networks, storage, meters etc.) to households in the project areas. Component 1 of the AF also includes an allocation for contingencies to address potential unanticipated technical challenges hindering the achievement of the water supply development objectives in the project areas. Costs associated with the implementation of resettlement activities (as per RPF procedures) will be financed under component 1 through the central Government's contribution to the project.

10. Forty-two sub-projects have been identified for financing, serving around 108,000 people in 53 villages. For each sub-project detailed technical, environmental, social and economic and institutional assessments will be carried out, based on which engineering solutions and service delivery models will be developed, with consideration of the following design philosophy and implementation principles.

- **Equitable Access and Quality of Services within the Project Areas.** Where technically and economically feasible, the project will seek to cover all project areas through individual metered connections. The use of public standpipes will be minimized due to operational difficulties and challenges in maintenance. Furthermore, the system design will include zoning with bulk meters, and pressure and flow control devices (where applicable, especially for gravity systems) to ensure equitable distribution of water between up- and down-stream village clusters.
- **Technology Choices and Life-Cycle Costs.** The system design will consider a range of materials, equipment and technology options available and their associated costs to ensure that the infrastructure and equipment can be adequately serviced and maintained and are resilient and robust. The capital and operating/maintenance costs will be reviewed in the process to ensure that solutions offered consider the full life cycle costs and are, therefore, cost effective to operate and maintain.
- **Water Source Options Assessment.** The design process will review and assess water source alternatives and not just seek to simply replicate existing systems. This review should consider the costs and benefits associated with water source alternatives, including potential water security constraints (for example variable seasonal flows), water quality requirements, operating costs, and associated capital infrastructure costs for production, transmission and distribution.

- **Engineering Design and Construction Supervision.** Due to the scale of some of the infrastructure works and considering lessons from RWSSP-2, international expertise will be engaged through the project to support design review, construction supervision and contract management.

11. Two other important elements related to the technical designs and implementation of activities under this component are as follows:

- **Operating Models.** The default water service operator is the local CDWUU, which will enter into a contract for service provision with the relevant AOs. However, additional institutional models will be assessed, including the potential to create aggregated service delivery models that include more than one AO, where viable, which will be piloted through the project. This process will be informed by the outputs of the ADB-financed Water Sector Reform TA, which is reviewing institutional mechanisms for water service delivery. Institutional support activities will be defined under component 3 to provide backstopping and support for rural water supply operators to help enable sustainable service delivery.
- **Community Contributions.** The SRWSSDP will not have a mechanism for mandatory community contribution (in previous projects, communities were expected to contribute 5 percent of the capital investment costs). However, community members will be responsible for the cost of the household connection. These costs will exclude the water meter, which will be provided by the project, but include all other materials and labor for connection to the individual yards/houses. Community members may also consider allocating any already collected contributions to a fund for future maintenance or towards the costs of connections. The matter will be addressed through the community consultation process and supported under component 3.

12. Detailed engineering designs and preparation of bidding documents for these sub-projects will commence during the first year of implementation. Planning-level cost estimates have been developed based on experience to date and comparison of market rates from RWSSP-2 and include provisions for escalation and contingencies. The proposed contract packaging considers potential technical and procurement risks (including market capacity constraints), and geographical constraints, and where possible seeks to increase efficiency through economies of scale (by grouping similar investments into larger packages). Moreover, the procurement packaging and implementation timeframes were reviewed from a technical perspective and it was confirmed that the approach incorporates lessons learned through the experience of RWSSP-2 and is considered achievable within the extended project period.

13. The planning-level cost estimates for civil works under component 1 of the AF are around US\$27.2 million, including a contingency for potential cost overruns under the original project and AF. The remaining funds under this component will be allocated towards other related activities, including engineering design, construction supervision and contract management.

14. In preparing the AF, the new activities were reviewed within the context of the broader program in order to appraise the implementation capacity to successfully deliver expected outcomes. This review identified the absorption capacity of the local market and qualifications

of the construction industry as the key constraint for implementation of expanded infrastructure activities. This issue has been addressed through the project planning process, and the Project Procurement Strategy reflects the lessons learned to date and results from market research and will facilitate implementation and mitigate risks by adopting a phased approach over an extended project timeframe, which is designed to flatten peak implementation periods and reduce pressure on market capacity. Furthermore, the proposed packaging for civil works will allow more local construction companies to qualify. Through such participation, it is expected that the technical experience and financial qualifications of the local industry will develop throughout the lifetime of the program.

15. The AF will also reinforce the implementation arrangements by further supporting the capacity of ARIS, the implementing entity responsible for contract management and construction supervision. This will include the involvement of international experts to support ARIS in design review, contract management and construction supervision. Further details related to the implementation arrangements and the additional support to ARIS are provided in Annex 3.

16. The implementation schedule, which demonstrates the phased approach for the infrastructure works financed under component 1, is presented below.

17. **Climate Change Considerations.** During preparation of the AF and in accordance with IDA corporate requirements, the project—and in particular the component 1 activities—were assessed with respect to potential impacts associated with climate change. Specifically, a climate and disaster risk screening tool was applied that identified potential elevated risks due to changes in temperature, rainfall patterns and snowmelt conditions. Such changes may affect the reliability of water sources and the location of design of key infrastructure components due to increased frequency and intensity of flooding and landslide events. The results of this screening process will be further considered, and detailed site-specific assessments will be carried out during the engineering design process for each sub-project. In addition, the project's reductions in Non-Revenue Water due to physical losses will lower stress on the water supply system, which will increase system flexibility and resilience during times of climate change-induced water shortages.

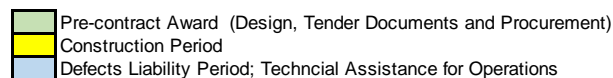
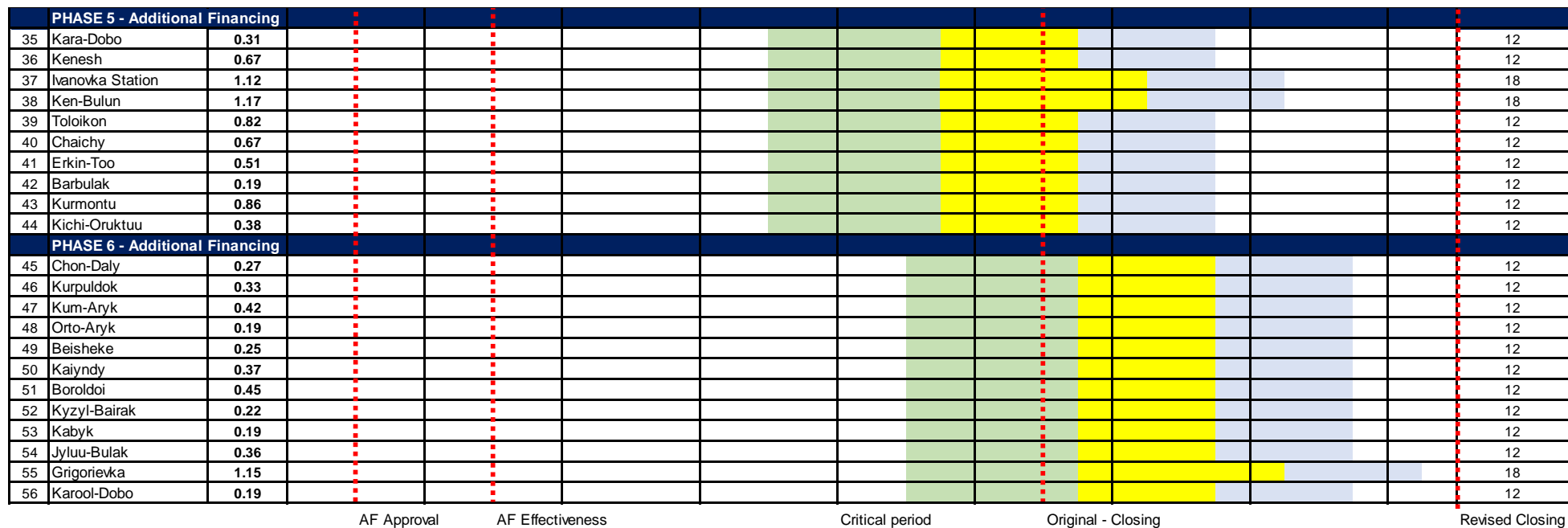
18. The project investments were also assessed in terms of their likely impacts on greenhouse-gas (GHG) emissions. The GHG accounting modelling results indicate that the net emissions of the project are -1,047,777tCO<sub>2</sub>-eq over the 30-year life of the project. The project's gross emissions are estimated to be 56,106 tCO<sub>2</sub>-eq and the average annual net emissions would be -34,926 tCO<sub>2</sub>-eq. The main sources of emissions reductions are generated through avoiding water tanker trucking (-686,976 tCO<sub>2</sub>-eq) and reducing the amount of water boiled at home (-367,984 tCO<sub>2</sub>-eq). This latter activity would see energy efficiency gains due to lower home electricity usage.

19. The project has also been designed to optimize climate change mitigation co-benefits through focusing on improving energy efficiency in the sub-project areas. This approach includes replacement of key assets (pumps, pipes, intakes, treatment systems, etc.), to reduce non-revenue water and overall energy consumption requirements for operating the water supply systems in each sub-project area.



Component 1 - Implementation Plan - Original + AF

No.	Sub-Project Name	Costs (US\$, M)	2017				2018				2019				2020				2021				2022				2023				2024				2025		Construction Period (Months)
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2					
	PHASE 1 - ORIGINAL																																				
1	Kyrgyz-Ata	3.48																																24			
2	Togotoi	0.49																																12			
3	Sultan	1.83																																18			
4	Kurama-Panfiovka	1.48																																18			
	PHASE 2 - ORIGINAL																																				
5	Otuz Adyr	4.41																															18				
6	Gulbaar	1.73																																18			
7	Sary-Tash	0.46																																12			
8	Achyk-Suu	0.52																																12			
9	Kun-Tuu	1.21																																18			
10	Alekseyevka	1.51																																18			
11	Kyzyl-Tuu	0.71																																12			
12	Tolok	0.27																																12			
13	Chelpek (rectification)	0.70																																12			
14	Darkhan (rectification)	0.50																																12			
	PHASE 3 - Additional Financing																																				
15	Gornaya Maevka	0.52																																12			
16	Kara-Jygach	1.12																																18			
17	Kaiyrma	0.23																																12			
18	Belek	0.27																																12			
19	Korul	1.55																																18			
20	Buloluu	0.49																																12			
21	Kyzyl-Zhar	0.15																																12			
22	Ak-Bulak	0.48																																12			
23	Tamga	0.65																																12			
24	Enchilesh	0.24																																12			
	PHASE 4 - Additional Financing																																				
25	Komsomol'skoye	0.69																																12			
26	Vinogradnoe	0.83																																12			
27	Boksoe-Jol	0.59																																12			
28	Sosnovka	1.28																																18			
29	Koo-Chaty	0.78																																12			
30	Kenesh	0.53																																12			
31	Por	0.33																																12			
32	Ichke-Bulun	0.32																																12			
33	Jeti-Oghuz	0.85																																12			
34	Boz-Beshik	0.31																																12			



**Figure A2.3: Component 1 – Water Supply Investments – Implementation Plan (Original and Additional Financing)**

## **Component 2 Sanitation Development (US\$4.1 million)**

20. The AF activities will build on the valuable experiences under RWSSP-2, will incorporate global best practices, and are designed to support the Government's Sector Development Strategy<sup>19</sup>. The sanitation development component for the AF will largely expand similar activities under the original project to the 53 new villages included under the AF and will introduce additional activities focused on the promotion of household sanitation. The overall approach will follow a programmatic framework, guided by interventions in the following focus areas: a) strengthening the enabling environment, b) changing water, sanitation and hygiene (WASH) behaviors, c) developing local markets for sanitation goods and services, and d) providing financial incentives (sub-grants) to accelerate access. The activities under this component are organized under three inter-linked sub-components as follows:

21. **Sub-component 2.1: Rehabilitation of Sanitation Facilities in Social Institutions (US\$ 2.0 million).** This component will finance retrofitting of existing sanitary and handwashing facilities in selected schools and other eligible social institutions (for example kindergartens and health clinics) within the 53 new villages. The retrofitting works for sanitation facilities will build upon the successful implementation models and experience developed through the RWSSP-2. Standard designs will be prepared in consultation with the Ministry of Education and applied (and adapted as required) where possible to selected public schools and kindergartens within the project areas. The project investments will cover at least 53 schools across the sub-projects under the AF, servicing around 18,000 students in the AF project areas. These works will complement the water supply investments and be supported by WASH education and promotion activities for teachers and students. The improved WASH facilities together with the WASH in school promotion and education program (including Menstrual Hygiene Management) will contribute to improved development outcomes, including public health and a more conducive learning environment within school settings, especially for girls. The project will scale-up the certification system for WASH in schools, which was piloted under RWSSP-2.

22. **Sub-component 2.2: Enabling Environment, Communications, and Capacity Development (US\$1.0 million).** This sub-component will include a range of activities that will improve the enabling environment for sanitation development, build the capacity of a wide range of stakeholders, and support communications campaigns to change WASH behaviors of households to create demand for improved sanitation and hygiene and increase awareness among national and local actors. The sub-component will finance goods, services, and workshops in support of the following activities. These are aligned with and further expand on the activities under the original project:

23. Enabling environment: This includes the institutional strengthening, equipment provision and capacity development for the Department on Proliferation of Diseases and State Sanitary Epidemiology Surveillance (SES department) for water quality testing, certification and monitoring for the seven additional rayons associated with the AF project areas. It includes technical assistance for regulatory modifications to support enabling conditions at the local and central levels, such as the development and dissemination of technical guidelines for household

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<sup>19</sup> Titled: *Water Supply and Sanitation Development Strategy until 2026*, approved by Government Decree #155 of March 28, 2016



sanitation to AOs and other stakeholders, or other guidelines needed under the rural sanitation strategy that will be prepared under the original project (e.g. on guidelines for behavior change communications, on incentive policies for households, and on fecal sludge management).

24. ***Communications:*** This includes support to the implementation of a program-wide “Ala-Too Bulagy” social and behavior change communication strategy and related campaigns to promote improved WASH practices in the 53 new villages included under the AF. Considering the expanded implementation period of the AF, it allows for updating/refreshing and expansion of specific information, education and communication (IEC) materials related to a range of WASH-related behaviors, such as the regular payment of tariffs, wise water consumption, upgrading and maintenance of hygienic sanitation facilities, handwashing with soap, disposal of child feces, and menstrual hygiene management. The WASH communications program will be introduced through several channels. Educational programs will be introduced through the school system, parent groups (see component 2.1) and wider community activities. To effectively lead and coordinate community activities (see also component 2.3), a WASH committee, chaired by the AOs and consisting of various stakeholders (e.g. AO officials, village representatives, school, health center and/or SES-department representative, school parent-group member), will be set-up and trained.

25. Sanitation marketing and behavior change activities will be introduced within project communities, modifying already existing methodologies and materials, including the development of user-friendly materials for promotion of standard designs, cost information and construction guidance. In coordination with the AO and the WASH committee, promotion activities will be closely guided by ARIS facilitators and carried out through interpersonal communication guided by village health volunteers and through various village and group meetings and community events, encouraging the participation of trained local businesses/masons. Broader public campaigns (mass media and social media) to support improved knowledge, attitudes, and practices within the project areas are also covered, as well as advocacy, documentation and dissemination of the achievements of the “Ala-Too Bulagy” program to sustain program momentum.

26. ***Capacity development:*** To ensure effective implementation of the component, technical assistance and capacity development activities will be targeted to AOs and WASH committees to carry out their roles in planning, coordination, implementation support and monitoring of the results of sanitation development, including the administration, documentation and monitoring of the result-based incentives (see component 2.3). To facilitate access to local markets for sanitation goods and services, training will be provided to local businesses/contractors, as well as masons, to ensure that technical sanitation guidelines are followed in the construction of facilities and to introduce customer-oriented practices. Training and coaching will be provided for village health volunteers, school teachers and other community facilitators to capacitate them for the effective delivery of educational and behavior change communications activities. Finally, this sub-component will facilitate the exchange of lessons and learning across AOs and knowledge exchange for local and national stakeholders, including south-south exchange.

27. **Sub-component 2.3: Results-Based Incentives for Household Sanitation Development (US\$1.1 million).** This sub-component will pilot the introduction of results-based incentive

grants to households to upgrade their household sanitation facilities to a hygienic level. Through activities under sub-component 2.2, effective demand for upgrading of household facilities will be increased, and households are expected to self-invest in improving their sanitation facilities. To address affordability constraints and behavioral barriers, an incentive grant will be offered to households covering a part of the cost incurred by households, and paid once independent verification of the upgraded facility has taken place (results-based). A differentiated incentive grant for indoor flush systems (septic tanks, soak pits) and outdoor improved latrine types will be available for all eligible households in the project areas using a demand-based approach. This component will follow an adaptive learning approach, reflecting its pilot character. The incentive grant scheme will be piloted in one sub-project in Chui and one sub-project in Osh, after which a rapid evaluation will be carried out to adjust the approach, fine-tune the implementation processes and inform further scale-up<sup>20</sup>.

28. This incentive grant scheme will be applied in the original and the AF project areas and is expected to benefit 3,500 to 4,500 households<sup>21</sup>, covering around 10% of all households in the project population. This sub-component covers the costs of the sub-grants to households as well as costs of the independent verification agent hired by ARIS to verify that households have upgraded their sanitation facilities to a hygienic level as per the stipulated requirements.

29. Implementation arrangements and process steps for sub-component 2.3: The results-based incentives will broadly follow the implementation arrangements outlined below and that will be further detailed in a separate “Manual for Result-Based Sanitation Incentives”. The World Bank’s acceptance of this Manual will be a condition for disbursement of the results-based incentive grants to households (classified as category 3 expenditures - see Annex 3). To implement component 2.3, the Memorandum of Understanding between ARIS and the AOs will include a section on the roles and responsibilities of the AOs and the WASH committee in the implementation of the sanitation development component. AOs – supported by the WASH committees – will be responsible for adequate communication, documentation, construction monitoring, and progress reporting to ARIS on the results-based sanitation incentive scheme.

30. ARIS will ensure that essential upfront capacity building activities will have taken place (under sub-component 2.2) before the introduction of the incentive scheme including i) training of AOs and WASH committees on procedures, mechanisms and conditions and documentation requirements of the incentive schemes, ii) technical guidelines for suitable household sanitation options and their installation requirements, iii) training of village facilitators and other volunteers on behavior communications and sanitation product promotion, and iv) training of local contractors and village masons on construction and installation of sanitation facilities and customer relations. ARIS will provide technical support to AOs and their WASH committees through regular implementation support activities. ARIS will procure the Independent Verification Agent (IVA) and will be responsible for the transfer of the sub-grants to households’ bank accounts upon satisfactory verification of the sanitation facilities by the IVA.

31. The process for implementation thereafter are as follows:

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<sup>20</sup> Due to the pilot nature of the project the target in the results Framework is set at 1,350 households only, while the allocated budget may be able to reach 3,500-4,500 households.

<sup>21</sup> Depending on the relative demand for in-door flush-toilets or outdoor VIPs

- a. Public announcement and community meetings to explain the results-based incentive scheme and conditions for participation (by AO and WASH committee). Information regarding the sanitation options and trained masons/contractors will be communicated.
- b. Application form submission, including necessary information and documentation on existing and planned sanitation facilities (by households).
- c. Application review and documentation of baseline situation (by AO/WASH committee); upon acceptance of the list by ARIS, AOs confirm eligibility to interested households and publicize the list.
- d. Signing of the user agreement between households and AOs, indicating criteria for verification, minimum technical quality requirements and other conditions for disbursement (e.g. opening bank account).
- e. Household organizes construction of the facility and financing<sup>22</sup>.
- f. During construction AOs/WASH committees will monitor and guide households on adequate installation, document (e.g. through video/picture) the adequate construction of the underground part of the facility, and the full completion of the facility.
- g. AO/WASH committees monitor and publicize progress on the completion of the facilities and report to ARIS.
- h. ARIS mobilizes the IVA to carry out verification; this includes both the inspection of the documentation process by the AOs as well as on-site verification<sup>23</sup>.
- i. IVA reports and makes recommendations to ARIS for payments
- j. ARIS reviews recommendations and makes payments to household bank accounts.

32. *Targeting, level and features of results-based incentives:* the level of the incentive grants will be set in the Results-Based Incentive Manual and can be changed after the evaluation of early piloting. Awaiting the results of ongoing Bank-Executed TA (supply chain and costing analysis) the level of incentive grants for flush-systems (septic tanks, soak pits) is proposed to be US\$275 (including a 10 percent income tax), and US\$99 (including a 10 percent income tax) for ventilated improved latrines<sup>24</sup>. Based on preliminary cost-estimates, this represents around 40 percent of the full cost expected to be incurred by households<sup>25</sup>. Since the allocation for household sanitation incentive grants is capped for the pilot (at US\$1 million) and a demand-responsive approach will be used, the exact number of beneficiaries will depend on consumer choices for the type of facility. It is expected that 3,500-4,500 households will be able to benefit from the results-based incentive grants. This is expected to leverage at least US\$ 1.5 million in household self-investment.

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<sup>22</sup> Households may opt to self-construct the sanitation facilities or co-construct hiring skilled labor (trained masons or contractors). Households are responsible to pre-finance the facility through savings or micro-loans. The need and potential to include micro-lending in the Project will be assessed at MTR stage.

<sup>23</sup> In the pilot phase, all households will be verified through on-site visits. Once more experience is gained, a sample-based on-site verification will be considered.

<sup>24</sup> Kyrgyz regulations require a 10 percent income tax to be paid by households. To facilitate this income tax payment, the Project will automatically deduct this from the amounts transferred to the household bank account, and centrally transfer this to the relevant tax authority.

<sup>25</sup> Estimated costs for an indoor bathroom with a septic tank system range from 30,000-50,000 KGS. A net transfer of US\$250 to households for this level of facility represents around 44 percent of a 40,000 KGS facility. For outdoor improved latrines, estimated costs are around 15,000-20,000 KGS. A net transfer of US\$90 to households reflects around 42 percent of 15,000 KGS facility.

33. Since the incentive grant will be paid upon installation and verification, households will need to be given sufficient time to mobilize the necessary resources. The period to participate in the incentive grant program will be time-bound, determined in the manual, e.g. twelve months after public announcement of the incentive grant scheme in a respective AO. This will help to manage expenditure under this demand-driven scheme and encourage faster uptake. The program will be introduced in target communities once water supply systems are constructed and will be accompanied by intensive promotion and capacity building activities under sub-component 2.2. The targeting of the results-based incentive grants is geographic and all households in the selected sub-projects will be eligible for the scheme (unless households already have an indoor flush toilet). Sub-projects have already gone through a prioritization in terms of lack of WASH services and overall poverty rates.

Verification. Household incentive grants will be paid upon independent verification of upgraded sanitation facilities. For this purpose ARIS will recruit an IVA in each Oblast that will carry out verification of facilities on a quarterly (or monthly) basis, using a verification checklist<sup>26</sup> to be included in the user agreement. The IVA will also inspect the adequacy of the household selection and quality of the construction process, as documented by the AOs.

### **Component 3: Institutional Strengthening (US\$7.0 million)**

34. Component 3 will finance goods and services to strengthen sector institutional capacity at the national and local levels and to design and implement a sector-wide Professional and Vocational Development Program. This component will build upon substantial outputs prepared under RWSSP-2 and will complement technical assistance financed by the Asian Development Bank, which includes the analysis and design of institutional structures and mechanisms to support sustainable service delivery in rural areas.

35. Activities under this component are organized under three sub-components as follows:

36. **Sub-component 3.1: National Level (US\$0.7 million).** Activities to be financed under this sub-component will ensure continuity of support for the extended period of the program (additional 3 years), building upon and complementing activities financed under the original project. As such, the definition of these activities will remain flexible to assist the Government to respond to emerging needs, fill analytical and knowledge gaps and provide additional technical assistance for implementation of the sector reforms. Areas of technical support may focus on professionalizing the CDWUUS/aggregation models, as well as institutionalizing support for service providers.

37. **Sub-component 3.2: Local Level (US\$2.5 million).** Sub-component 3.2 will finance activities that focus on capacity building and strengthening the local authorities (AOs) and CDWUUs responsible for water service delivery in the project areas. This will involve extending

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<sup>26</sup> The verification checklist will be prepared for different sanitation options and will include features related to the conditions of the user interface (slab, squatting hole, water seal), the elevation of the slab, other functional features (like ventilation), the siting and conditions of the pit or tank and its accessibility (for emptying), robustness and privacy of the superstructure.

a package of capacity building interventions, already designed under the original project, to the 53 new villages included under the AF. Such support includes, amongst others, training and capacity support on tariff setting, billing and collection systems, operations and maintenance (for example, disinfection), water quality testing, customer relations, complaints mechanisms, human resources, and commercial management.

38. The sub-component will also finance start-up equipment and toolkits for operators (including computer equipment, spare connection materials, meters, testing equipment, and tools) to assist with the transition to operations (post construction). It will include training and knowledge exchange visits with RWSSP-2 participants or other sub-project areas. The assistance will also support the preparation of service contract agreements, to clarify and formalize respective responsibilities of the operator (CDWUUs) and asset owner (Ayil Okmotus) and to support governance and monitoring of service performance, tariffs and financing mechanisms. Local level institutional support will also seek to strengthen DDWSWD capacity at the rayon level, focusing on sector monitoring and technical support for complex operational and maintenance issues.

39. Important factors for sustainability of service delivery, considered through this sub-component, include:

- **Start-up Support for Operator.** During preparation, it was agreed that the project will finance start-up support activities for the operators. This will include provision of basic operation and maintenance equipment (computers, spare parts and materials, tools etc), as a startup support package. Furthermore, the works contractors may have a 2-3 month operational support Bill of Quantity line item within their contract, to allow for the smooth operational transition of the new infrastructure. The project (under component 3) will also support the installation of new procedures for meter reading and billing and collection, along with mechanisms to receive and respond to complaints. Water meters for household connections will also be provided by the project. Providing upfront support during the early phases of operations will help to improve service delivery, willingness to pay and long-term sustainability.
- **Tariffs.** Modern practices of applying consumption-based, cost-reflective tariffs will be introduced through the project. The tariffs should be calculated considering full operating and maintenance costs, and include a reserve for asset replacement over time. The project will also carefully consider the communities' ability to pay and the need for lifeline tariffs for low income / very low-consuming customers. It will support the preparation of plans to support connections targeting the poorest and most vulnerable residents in the project areas, who may need assistance beyond the water meter provided by the project. The project will support the development of the tariff setting procedure, and in addition to the CDWUU's will involve the Local Council members (the approval authority) and the Anti-monopoly committee (who ultimately review and provide their no-objection).
- **Roles and Responsibilities of Asset Holder and Operators.** As noted in the Government's Water Supply Strategy, there is a need to ensure clarity of roles and responsibilities between the asset holder (AO) and the operator. This concerns the cost of asset maintenance, replacement and possible future expansion, and the necessary tools to

map asset inventory and implement asset management. The project will support this definition of functions and associated budgeting implications, and post-construction support arrangements through component 3 activities (see also component 3.1).

- **Consultation and Behavior Change Communication Programs.** Communities have already been closely consulted during project preparation, and will further participate during implementation. For sustainability of the systems, the project will implement behavior change communications programs under the umbrella “Ala-Too-Bulagy” public campaign (see component 2.2). The campaign will focus on the wise use of water, motivating community members to i) not use drinking water for irrigation purposes (except for limited homestead gardening), ii) stop drinking directly from irrigation canals, and iii) make regular payments based on a good understanding of their metered water use.

40. **Sub-component 3.3: Sector Professional and Vocational Development Program (US\$3.8 million).** This sub-component is a new activity introduced through the AF, designed to support the development of industry-wide capacities of professionals and local-level actors in the water sector, building the pipeline of a future workforce in the sector. Industry requirements and current capacity constraints will be carefully considered, and a comprehensive Program will be developed to respond to medium and long-term priorities. The Program will aim to support already existing professional qualification levels and certification processes for vocational knowledge and skills development, and for this purpose will forge partnerships with relevant national educational organizations (e.g., universities and vocational schools/centers). Support in this area will strengthen the sector sustainability agenda in line with the project development objectives.

41. The recent ADB Capacity Development TA (CDTA)<sup>27</sup> indicated the growing industry demand for higher-level water sector professionals and skilled vocational workers. The shortage of professionals and lack of managers and technicians able to make competent management and engineering decisions was identified as one of the biggest challenges in the sector, both for WSS utility operators (vodokanals), as well as CDWUUs. The CDTA provided recommendations—to be validated in the Institutional Capacity and Training Needs Assessment under the project—for a curriculum to address the following themes: i) sector reform and the regulatory, institutional and legal framework, ii) tariff policy, tariff setting methodologies and sector financing, iii) technical aspects (e.g. disinfection, technical structures), iv) O&M of water systems, including asset management and commercial aspects, and v) contract management, technical design and supervision (FIDIC, etc.).

42. The sub-component will support the development and customization of certificate-oriented, long-term courses based on the Institutional Capacity and Training Needs Assessments. The project will provide resources for equipment, operating expenses, training and technical assistance to enable the delivery of the Sector Professional and Vocational Development Program. To deliver the Program, ARIS—as implementing agency—will enter into an agreement with the ARIS Training Institute as overall technical coordinator for component 3.3. The ARIS Training Institute is established as a separate legal entity and is certified to provide educational courses. ARIS and its Training Institute will develop partnerships with national and international academic institutions and centers of excellence to support curriculum development, design, and delivery of

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<sup>27</sup> Report: Capacity Development Issues, ADB Capacity Development Technical Assistance, July 2016

the program, as well as with vocational schools/centers, and will coordinate closely with the HR development section in DWSSSD.

43. All knowledge products developed under the sub-component will be available through a public website. The Institutional Capacity and Training Needs Assessment will be accompanied by a scoping of potential national educational and vocational institutions and other platforms/hubs that can be leveraged to reach the target audiences, fill existing capacity-development gaps, and ensure high-quality and effective delivery the program. This Program will be delivered through a wide-spectrum of methods and channels, such as formal training (in ARIS Training Centers), skills training (in vocational schools), on-the-job learning in other training hubs (such as vodokanals), e-learning, and various forms of peer-to-peer learning.

44. The Program will be offered to various segments of the industry, and Program components will be designed around various job profiles and educational levels of the expected participants: (i) policy makers within relevant government agencies; (ii) service authorities (municipalities and AOs) and service providers (vodokanals and CDWUUs), (iii) private sector professionals (water and wastewater engineers, design consultants, contractors) and design/supervision engineers within government entities<sup>28</sup>; and (iv) post-graduate students.

45. At the outset of implementation of this sub-component, Consultants will be recruited to undertake an Institutional Capacity and Training Needs Assessment in consultation with key stakeholders from the central and local level to i) determine capacity building and human resources needs of different target groups, ii) identify the partners for implementation of the Program, and iii) design the overall Program content. The Consultant will help to develop the Year 1 Program Plan, which will describe in detail the implementation arrangements, course offerings/training for the first Program cycle, partnership arrangements, monitoring framework, and estimated budget. The ARIS Training Institute will—based on the experience gained during the Year 1 Program—develop the consecutive Year 2, Year 3 and Year 4 Program plans<sup>29</sup>.

46. The following set of activities will be implemented:

- *Training Needs Assessment and Institutional Capacity Assessment:* Review and analysis of existing academic/learning materials to define the set of knowledge and skills of the different competences needed by each target group, as well as identification of partners.
- *Design of the overall Program:* Develop the outline and curriculum for the Program (including various target groups) in accordance with the national academic program rules and procedures and/or other vocational requirements when relevant. This includes design of implementation and delivery mechanisms (channels) and partnerships.
- *Development of Year 1 Program Plan, including all Courses and learning activities and estimated budget:* Develop tailored training modules with theory, practical assignments, exams, presentations, case studies, and exercises; in addition to training modules, develop

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<sup>28</sup> This includes the regional state departments of capital investments (under GOSSTROY) as well as the State Construction Expertise entity.

<sup>29</sup> A so-called Program plan will contain offers for various target groups, some may be a multi-year certificate oriented program, while other offerings may be shorter term without formal certification.

other capacity-building instruments to reinforce knowledge, skills and learning in the work environment. This includes a detailed Year 1 Program plan and estimated budget.

- *Implementation of Year 1 Program plan, through delivery of the Courses and learning activities:* Organize the relevant course (logistic arrangements, communication, etc.); organize other learning activities.
- *Evaluation of the Year 1 Program:* Monitor the satisfaction of the participants and the effectivity of the learning trajectory for various target groups, program courses and learning activities.
- *Preparation of the consecutive year Program plan (Year 2, year 3 and year 4), with adjustments based on evaluation and emerging sector demands.*

47. The implementation mechanisms of the Program for the various target groups will be further detailed, but is expected to include the following:

- *Policy Makers:* A team of the international and national consultants will be recruited to support the delivery of the program for sector officials, with involvement of suitable national academic institutes. Training will take place in the ARIS Training Center in Bishkek.
- *Service Authorities and Service Providers:* Outreach of training provision to these two groups across the country will be essential for its success and cost-effectiveness. Hence, a Training of Trainers (ToT) model will be pursued and partnerships with vocational schools and/or leading vodokanals as training hubs will be established. Consultants will be recruited to develop a suitable curriculum for each target group, with clear learning goals, and tailored delivery method and courses, who will support the training and coaching of Master Trainers who will subsequently deliver the Program to the target groups at regional and district level (ARIS regional training centers, district offices, vocational schools, etc.).
- *Private Sector Professionals:* The training program will be provided by a team of international and national consultants in partnership with national academic institutions. Training will take place in the ARIS Training Centers located in Bishkek and Osh and training modules will be endorsed by the Kyrgyz Academy of Education. Participants from the private sector may be charged a fee to attend the training to foster commitment, but barriers will be kept low. Engineers from public institutions will also be targeted to enhance their design, supervision and contract management capabilities.
- *Post-graduate students:* The Program will foster good relationships with all relevant postgraduate diploma programs in the country and will carry out necessary marketing of the Program's professional courses to students in their final years. This cross-fertilization will enhance knowledge and skills-development of the next generation of sector professionals and will improve students' prospects in the job-market through enhanced networks within private sector or public institutions (government, vodokanals, etc.).

48. **Implementation arrangement of Component 3:** Component 3 will be implemented directly by ARIS, in close coordination with DDWSWD, who will contract specialized consultants



(individuals or firms as appropriate) for several activities. Activities to be financed under sub-component 3.1 will be demand driven and remain flexible to adapt to emerging needs of the DDWSWD. The Bank will also closely coordinate with ADB and other donors working in the sector to ensure that complementary and efficient support is provided. Under sub-component 3.2, the social mobilization and communications programs will be carried out by ARIS directly, recruiting specialized consultants/firm for the development of state-of-the-art communication campaign. However, these activities will be implemented in close coordination with AOs and CDWUUS as well as village volunteers. Activities under component 3.3 will be implemented by ARIS, through an agreement with the ARIS Training Institute as technical coordinator, and in partnership with relevant national academic institutions, vocational schools, and other training hubs (e.g. vodokanals, academy for local governments). ARIS will recruit the necessary international and local consultants, in areas where national expertise is not available, as well as for the Training Needs Assessment and Program design to enhance the quality and effectiveness of the Program.

#### **Component 4: Project Management (US\$ 2.1 million)**

49. This component will support implementation of scaled-up project management activities associated with the AF: (i) contracting of local experts to assist the implementation unit and participating AOs in the implementation of the project's activities; (ii) the maintenance of the Monitoring and Evaluation System (M&E), developed under the original project, to continuously monitor and evaluate the performance and results of the project; (iii) the project-related operating costs of the implementing unit, including consulting fees and in-country travel expenditures; (iv) project operating costs, including contributions towards the cost of administrative assistance by ARIS staff (the so-called administrative pool of ARIS); and (v) an annual audit of project accounts. This sub-component will also finance annual beneficiary satisfaction surveys, impact assessments, and support mechanisms to improve citizen engagement and consumer feedback.

### Annex 3: Implementation Arrangements

#### KYRGYZ REPUBLIC: Additional Financing to the Sustainable Rural Water Supply and Sanitation Development Project

1. Institutional and implementation arrangements which were established for the original project will also be used for the implementation of the AF. With scaled-up scope and coverage of the project activities, the Project Operations Manual (POM) of the original project will be updated and revised, incorporating instructions to cover specific aspects of project implementation management for the AF. The POM will be prepared and adopted prior to effectiveness of the AF.
2. **Implementation period.** The original SRWSSDP was designed to be implemented over a period of 5.5 years, beginning as of effectiveness (February 3, 2017) for both the IDA Grant and IDA Credit. With the AF, the original project closing date will need to be extended by three years, from June 30, 2022 to June 30, 2025, to ensure an adequate period of implementation of additional activities, including a one-year period of post-construction operational assistance in the project areas. The Mid-Term Review (MTR) for the combined project will be in December 2020.
3. **Institutions involved in project implementation.** The key government institutions involved in the implementation of the proposed AF will be the same as those in the original project; that is, the Department of Drinking Water Supply and Wastewater Disposal (DDWSWD) (under the State Agency for Architecture, Construction and Communal Services (SAACCS - GOSSTROY)) at the national level; the Ayil Okmotus (AOs) in the participating areas of Osh, Chui and Issyk-Kul Oblasts; and the Community Drinking Water User Unions (CDWUUs) at the local and community levels. The Ministry of Health and Ministry of Education will also be involved as key stakeholders during the implementation of Component 2 activities.
4. The Community Development and Investment Agency (ARIS) will be responsible for overall implementation, including fiduciary and safeguards compliance, of the proposed AF project. ARIS was created by Decree of the President of the Kyrgyz Republic in October 2003 as a legally and operationally autonomous institution for managing the implementation of the IDA-supported First Village Investment Project (VIP I). It operates under the oversight of a Supervisory Board comprised of twenty-one representatives of the State administration, the local government sector, and civil society,<sup>30</sup> and is headed by an Executive Director. It has been and is

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<sup>30</sup> The Supervisory Board is composed of the following members: seven representatives of state bodies of the Kyrgyz Republic, representing, respectively, the President of the Kyrgyz Republic; the Prime Minister; the Ministers of Economy and Finance; the Minister of Justice; the Minister of Education, Science and Youth Policy; the Minister of Health Care; and an Oblast Governor appointed by the President of the Kyrgyz Republic; seven representatives of local self-government bodies; and seven representatives of civil society. The responsibilities of the Supervisory Board are to guide and supervise the activities of ARIS; to appoint and, if warranted, dismiss the Executive Director; to approve the policies, modifications, and amendments to ARIS's Charter, the annual budget, and working plans and any modifications to them, annual reports, reports on special studies, and independent auditors' reports. The overall responsibility and supervision of ARIS are in the hands of the Supervisory Board, to which both the Executive Director and the Audit Unit report. The Board meets normally once to at most twice a year.

currently responsible for management of other Bank projects.<sup>31</sup>

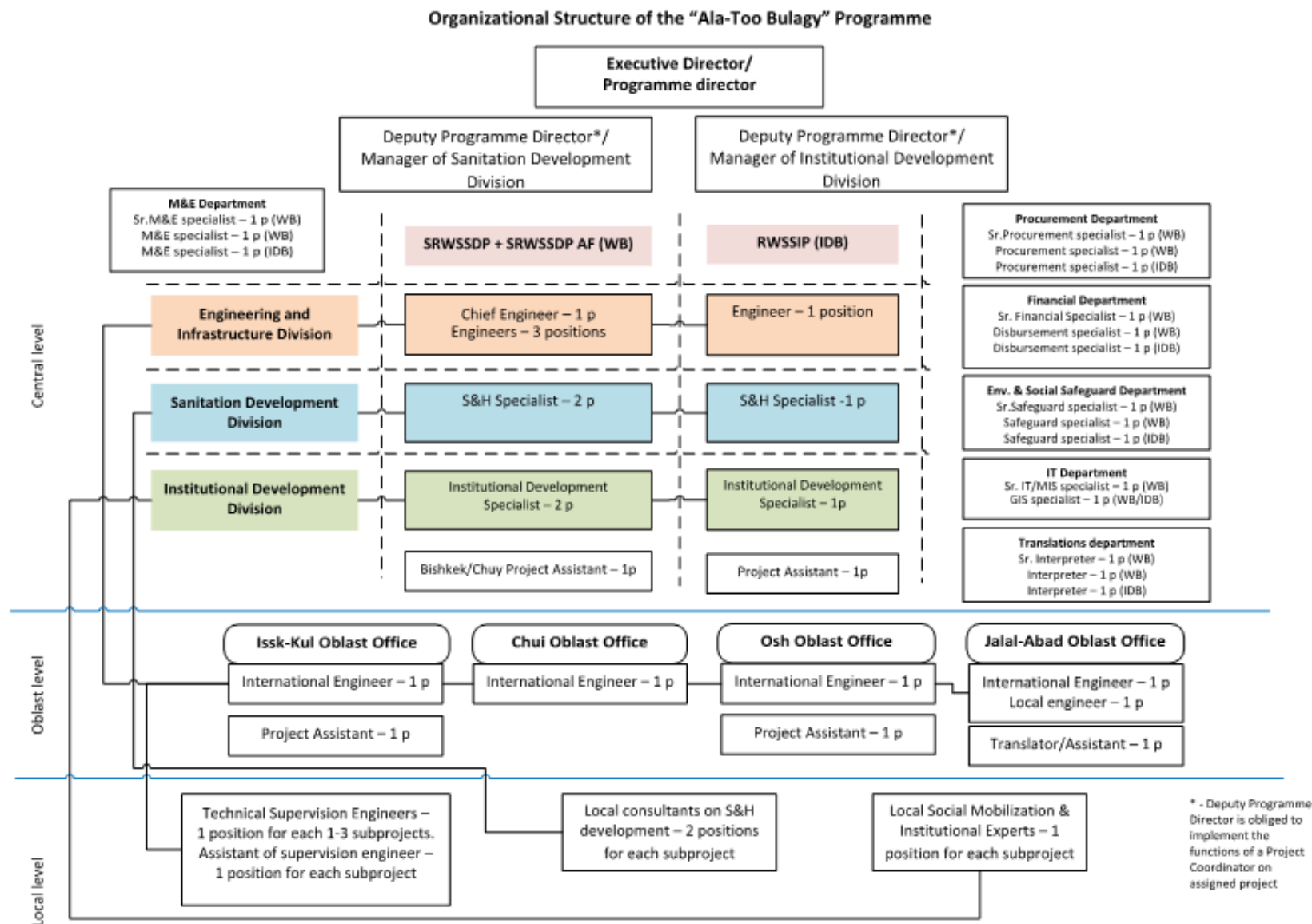
5. With the proposed AF, the capacity of ARIS will be strengthened and implementation arrangements will be reinforced to address the potential constraints of the broader program. Two measures are taken under the AF project to ensure effective implementation of the investment programs:

- i. Support to the “Ala-Too Bulagy”<sup>32</sup>, a new national rural program created to facilitate implementation of investments in the water and sanitation sector, including the original SRWSSDP and the AF, as well as investments by other development partners. The AF intends to strengthen the structure of the Ala-Too Bulagy program by introducing a programmatic arrangement whereby ARIS organizes itself to work across donor programs and utilize its human resources in a more structured and efficient manner (Figure A3.1). The new programmatic organizational structure will help to support knowledge transfer across the various projects and ensure standardization of approaches / methods, which will be scalable to the needs of the program.
- ii. ARIS’s human resources capacity will also be strengthened with additional core team members and other resources when the need arises. For purposes of the IDA projects, ARIS will maintain a core team and support staff within the new structure, including: two project coordinators/Deputy Directors, an institutional development specialist, sanitation specialist, three international civil engineers (one for each Oblast), three resident senior national civil engineers (one for each Oblast), a procurement specialist, a financial management / disbursement specialist, a safeguards specialist, a monitoring and evaluation specialist, GIS / ICT specialists, a project assistant, and an interpreter. ARIS will also engage site supervisors for each sub-project as part of the construction supervision team and contract an individual international expert on a Lump-Sum basis to support the engineering design review process. ARIS will also engage necessary support staff for the social and institutional support activities planned under Components 2 and 3.

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<sup>31</sup> First, Second and Third Village Investment Projects (VIP I, II and III), Small Town Infrastructure and Capacity Building Project (STICBP), Bishkek and Osh Urban Infrastructure Project (BOUIP) and Additional Financing (BOUIP-AF), and the recently approved Urban Development Project.

<sup>32</sup> “Ala-Too Bulagy”, means the (water) source of Ala-Too, where Ala-too is a sacred mountain range within Kyrgyzstan, which is a symbol of motherland for the Kyrgyz people.



**Figure A3.1: Organogram of Ala-Too Bulagy**

6. The SRWSSDP's project team will work under the management of ARIS's Executive Director. ARIS's Administrative pool will provide support, as needed.

7. In its position as the implementing agency for the SRWSSDP, ARIS will be responsible for and carry out all project implementation in accordance with the POM, including procurement, financial management and accounting, social and environmental safeguards, and citizen communication, as well as routine communications with IDA. The DDWSWD and participating AOs and CDWUUs at the community level will be closely associated with all decisions regarding procurement, contract execution, site supervision, and authorization of payments to contractors. Relations between ARIS and participating villages and assignment of project implementation responsibilities will be governed by an Agreement into which ARIS will enter with each AO. A model of the Agreement was prepared and approved by the Association under the original project and is included in the POM.

8. The Agreement will also detail the responsibilities for the AOs with respect to sanitation development, specifically the results-based incentive grants, following the detailed implementation steps, procedures and documentation requirements included in the Manual for Result-Based Sanitation Incentives. AOs will form WASH committees with the aim to create broad interest in sanitation development at the community level, support AOs in their responsibilities, and ensure that the incentive scheme is implemented with high levels of transparency and community involvement.

9. AOs at the local level play active and critical roles in the implementation of this project. The heads of the AOs will take the lead on behalf of the participating AOs in project implementation. The AOs will be engaged in review of all technical aspects under the SRWSSDP within their prerogatives. Specifically, they will review and comment on all technical specifications and terms of reference, join evaluation panels, review and comment on technical reports and deliverables, exercise supervision oversight, and participate at key activities such as testing or commissioning of assets. The AO's office will be responsible for: (i) obtaining any required approvals; (ii) holding annual public engagement meetings in order to ensure proactive communication with the population; (iii) engage communities to participate in the process to create ownership among the beneficiaries; (iv) ensure a minimum participation of women in community consultations; and (v) facilitating the organization of sanitation community events and the coordination of the household results-based incentive program, including required monitoring and documentation of construction. AOs are expected to play critical roles in explaining to beneficiaries and the public at large the benefits from the project, report on implementation progress, and disseminate a robust grievance redress process spanning beyond safeguards-related issues.

10. The AOs will also play an important role in facilitating achievement of the development objectives and ensuring the sustainability of investments, and the requirement for service providers to collect revenues that exceed costs (so that CDWUUs become self-sustaining). Specifically, AO's with support from ARIS will ensure tariffs are set to cover operations costs, water meters are installed, billing and collection systems are improved, and connection fees are collected in a timely manner from each household to enable individual connections to be installed

in the project areas during the construction periods (aiming for maximum possible coverage). The specific responsibilities of the AOs will be outlined in the Agreement which will be signed with ARIS. Obtaining the AO's willingness to cooperate in these areas of support will be considered a pre-condition for commencement of works.

11. DDWSWD is responsible for development of both the rural and urban water supply and the sanitation sector, including policy, planning and sector coordination. The Department has had relatively low levels of authority and capacity, however, over recent years it has demonstrated stability and its ownership of the new sector strategy represents significant progress. DDWSWD is the overall executing agency for the project, a role that includes (amongst other activities): overall sector coordination and policy support; Government and donor liaison; participation in all procurement activities (for example, as a member of evaluation teams); identification and prioritization of sector interventions (including infrastructure investments and institutional support); and as the responsible agency of the Government, provision of support to ARIS for implementation (as required). DDWSWD will coordinate the national-level institutional support activities and will be the primary beneficiary of the expected outputs from this sub-component.

12. The Ministry of Finance (MoF) is the Recipient's representative for all World Bank financed projects, including the SRWSSDP. As such, the MoF declares its commitments to the objectives of the project and will cause the project to be carried out in accordance with the financing agreement and other relevant documents. The MoF will be responsible for providing timely co-financing for the project in accordance with the Financing Agreement.

13. **Technical supervision.** ARIS will be assigned as the "Project Manager" or "Engineer" under the civil works contracts, with overall responsibility for construction supervision and contract management. ARIS will enter into agreement with the AOs (the Employer), who will sign the Civil Works contracts. This will ensure the roles and responsibilities of both parties are clearly defined and the arrangements are legally robust. ARIS will engage necessary international expertise (Individual Consultant(s)), to reinforce their capacity for engineering design review, technical supervision, and contract management (including establishment of systems for document control, etc.).

14. ARIS will hire three full-time international civil engineers who will be based in each province, and if required will provide backstop during peak phases and implementation load. On behalf of ARIS, the international engineers will be responsible for establishing and overseeing systems of quality, time and cost controls to ensure civil works are appropriately supervised and managed in accordance with the conditions of contract and drawing from best international practice. In addition, the international civil engineers will support ARIS's engineering / supervision team through training and capacity-building activities. They will also be responsible for preparing monthly progress reports, copies of which shall be furnished to the IDA.

15. Three full-time national civil engineers (or resident engineers) will also be engaged by ARIS for each Oblast, along with site supervisors for each of the sub-project areas. These staff will work under the guidance and with support from the three international engineers. The roles and responsibilities of the international and national engineers (who will be certified registered professional within the Kyrgyz Republic) will be formalized through an official delegation of

authorities for each contract. These details have been outlined in the POM for the original project and will be applied to the AF, but it is envisaged that the national civil engineers (resident engineers) will be assigned as the Project Managers or Engineers representative under the contract due to national legislative requirements. The proposed arrangements, which combine both national and international inputs, will satisfy both national regulations and the project's internal quality assurance requirements.

16. A pool of qualified experts (i.e., hydro-geologist, electrical and mechanical engineer, etc.) will also be engaged for short periods of time on an as-needed basis to support the resolution of specific technical issues if they arise.

17. **Monitoring & Evaluation.** ARIS will also oversee continuous monitoring and evaluation (M&E) of project implementation and results. A project level M&E system is being developed by ARIS for monitoring both the original and AF projects<sup>33</sup>. M&E activities will focus on: (i) ensuring that project activities are implemented in accordance with procedures outlined in the POM; (ii) providing information on physical and financial implementation progress of the project; (iii) project performance in terms of project benefits and delivery against the project's Results Framework; (iv) alerting the Kyrgyz authorities and the Bank to actual and/or potential problems in implementation so that adjustments can be made in a timely fashion; and (v) providing a mechanism for ARIS to continuously evaluate its performance and explore possible improvements. ARIS will prepare semi-annual progress reports and submit them to the Bank, with copies to DDWSWD and the MoF. The semi-annual reports will be consolidated in an Annual Report. Under the original project, ARIS, in coordination with DDWSWD, will develop a sector-wide M&E system for performance monitoring of service providers that—once developed and rolled out—will continue to generate essential information for the project-level M&E.

### **Fiduciary - Financial Management**

18. ARIS will be responsible for the implementation of the financial management (FM) function for the AF, including planning and budgeting, accounting, financial reporting, external auditing, funds flow, and internal controls. The FM assessment of the AF confirmed that there are overall adequate FM arrangements in place at ARIS for implementation of the AF. In particular: (i) ARIS's FM staff has significant experience in implementing Bank-financed projects; (ii) there are adequate accounting software and management information systems utilized by ARIS; (iii) the audits of the Bank-financed projects implemented by ARIS have revealed no major issues; and (iv) the IFRs on the projects implemented by ARIS have been received on time and in general found to be acceptable to the Bank.

19. No major weaknesses have been identified at ARIS with respect to implementation of the AF. Meanwhile, prior to implementation of the AF, ARIS will need to (i) hire an additional FM/accounting staff to be assigned to the AF in order to cover the increased workload; (ii) update its accounting software to include the functionality for automatic generation of the AF financial reports as well as SOEs; and (iii) develop and utilize in the management information system a database of the results-based incentive grant scheme beneficiaries to track the progress with the

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<sup>33</sup> As well as the Islamic Development Bank's RWSS project—i.e., at the level of the Ala-Too-Bulagy program.

implementation and payments to households under the scheme. Those are not conditions, but capacity-building measures.

20. Before Project implementation ARIS will update the SRWSSDP's POM to describe the FM arrangements for specific activities under the AF.

21. In addition, before disbursement of funds under sub-component 2.3 (Results-Based Incentives for Household Sanitation Development), ARIS will develop and adopt a Manual for Household Results-Based Sanitation Incentives (RBIM), acceptable to the Bank, in which the details of eligibility and selection criteria for beneficiary households, the eligible types of and minimum criteria for improvements in sanitary facilities, the standard subsidy levels for each type of eligible improvement, as well as the flow of funds and related controls for the results-based incentive grants scheme, will be described. The manual will also include all application forms, sample user agreements, monitoring forms to be used by the AOs, as well as verification checklists. This will be a disbursement condition for sub-component 2.3. The subsidy payments to eligible households will be made via bank transfers to the personal bank accounts of eligible households.

22. ARIS has acceptable budgeting and planning capacity in place for the AF implementation. Project accounting will be done on a cash basis, and IPSAS "Financial Reporting under the Cash Basis of Accounting" issued by the International Public Sector Accounting Standards Board (the IPSASB) of the International Federation of Accountants (IFAC) will be used for the Project financial reporting. The current chart of accounts used for the parent project will be amended to reflect the specific activities under the AF.

23. The internal control system in place at ARIS was assessed to be adequate overall and capable of providing timely information and reporting on the AF, as well as safeguarding of the Project's assets.

24. Project management-oriented Interim Un-Audited Financial Reports (IFRs) will be used for the AF monitoring and supervision. The format of the IFRs has been confirmed and will include: (i) Project Sources and Uses of Funds, (ii) Uses of Funds by Project Activity, (iii) Designated Account Statements, (iv) A Statement of the Financial Position, and (v) SOE Withdrawal Schedule. ARIS will produce IFRs every calendar quarter throughout the life of the project. These financial reports will be submitted to the Bank within 45 days of the end of each calendar quarter. The first IFR will be submitted after the end of the first full quarter following the initial disbursement. Separate sets of IFRs will be prepared and submitted for the parent project and AF.

25. There are overall adequate auditing arrangements in place, with no pending audits for the active projects implemented by ARIS. The auditors have issued unmodified (clean) opinions on the financial statements of the projects implemented by ARIS, with no critical recommendations in the management letters.

26. The audit of the Project annual financial statements, consolidated for the parent project and the AF, will be conducted (i) by independent private auditors acceptable to the Bank, using



terms of reference (TOR) acceptable to the Bank and procured by ARIS, and (ii) per the International Standards on Auditing (ISA) issued by the International Auditing and Assurance Standards Board of the International Federation of Accountants (IFAC). The annual audits of the Project's financial statements will be provided to the Bank within six months following the end of each fiscal year, as well as at the Project closing. The cost of the Project audit will be financed from the proceeds of the Project.

27. The Recipient has agreed to disclose the audit reports for the Project within one month of their receipt from the auditors and acceptance by the Bank by posting the reports on ARIS's website or other official websites of the Recipient. Following the Bank's formal receipt of these reports from the Recipient, the Bank will make them publicly available per World Bank Policy on Access to Information.

28. In addition to the project audit, an independent verification agent (IVA) will be involved in verifying the results of the improvements in the household sanitation facilities. The standard (for each specific type of sanitation facility improvement) subsidy will be paid to eligible households after the IVA verification and confirmation of acceptable results. The review of sample subsidy payments will also be included in the terms of reference for the Project audit. The costs for the IVA will be covered from the AF proceeds.

29. The overall FM risk for the Project is assessed as Moderate, with Substantial Inherent Risk and Moderate Control Risk. The combined overall Fiduciary risk rating is Substantial given the substantial procurement risk rating.

30. In the environment of project implementation, corruption is perceived to be an important issue; adequate mitigation measures have therefore been established and will be closely monitored to ensure that the residual project risk remains acceptable, including: (a) a formal internal control framework as described in the POM; (b) a flow-of-funds mechanism via a commercial bank acceptable to the Bank; (c) project financial statements to be audited by independent auditors and on terms of reference acceptable to the Bank; and (d) regular FM implementation support and supervision and procurement prior and post reviews to monitor and assess the corruption risk.

31. According to the latest Doing Business Survey 2017, the Kyrgyz Republic was among the bottom-rated CIS countries and scored modestly vis-à-vis many other developed and developing countries (75th<sup>34</sup> out of 190) on the ease of doing business. Meanwhile, per the 2016 Transparency International Corruption Perception Index, the Kyrgyz Republic was ranked 136th<sup>35</sup> of 176 countries. The latest PEFA report (conducted in 2014) found that several critical Public Financial Management (PFM) elements including internal controls, external audit (Supreme Audit Institution [SAI]), and financial reporting remain weak. While some elements of the country PFM, such as the country's budget system, as well as the treasury system for government co-financing funds, will be used for the Project, for other PFM elements (such as accounting, financial reporting, internal controls under the Project), ARIS's respective systems will be used for this Project. The Project's Designated Accounts (DAs) will be opened in a commercial bank

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<sup>34</sup> <http://www.doingbusiness.org/data/exploreeconomies/kyrgyz-republic>

<sup>35</sup> [http://www.transparency.org/news/feature/corruption\\_perceptions\\_index\\_2016](http://www.transparency.org/news/feature/corruption_perceptions_index_2016)

acceptable to the Bank. Government counterpart funding of Bank-financed projects in the Kyrgyz Republic is assessed to be overall adequate for several years, however, some delays have been observed with the provision of Government counterpart funding recently, which, if they persist, may impact the implementation of works under Components 1 and 2.

## Disbursements

32. Two separate Designated Accounts (DAs) will be opened for the AF: one for IDA Credit funds and the other for IDA Grant funds. Both will be managed by ARIS. The DAs will be opened in USD in a commercial bank acceptable for the Bank. The SOE-based disbursement method will be applied for the AF.

33. Project funds will flow from the Bank either: (i) via the DA, which will be replenished on the basis of SOEs; or (ii) on the basis of direct-payment withdrawal applications and/or special commitments received from the implementing entities. Withdrawal applications documenting funds utilized from the DAs will be sent to the Bank at least every three months.

34. Government counterpart funding will be made via the State Treasury through normal budget allocation procedures initiated by the implementing agency in accordance with standard Treasury and Budget execution regulations.

35. The following disbursement methods may be used under the Project: Reimbursement, Advance, Direct Payment and Special Commitment. The ceilings for each DA will be established at USD 2,000,000. The detailed instructions on withdrawal of AF proceeds will be provided in the Disbursement Letter.

36. The following table specifies the categories of Eligible Expenditures that may be financed out of the proceeds of the Credit/Grant (“Category”), the allocation of the amounts of the Credit/Grant to each Category, and the percentage of expenditures to be financed for Eligible Expenditures in each Category.

Category	Amount of the Credit Allocated (expressed in USD)	Amount of the Grant Allocated (expressed in USD)	Percentage of Expenditures to be Financed (inclusive of Taxes)
(1) Works under Components 1 and 2	19.80	0.2	73.5%
(2) Goods, consulting services, training and incremental operating costs under Components 1, 2, 3 and 4	-	15.0	100%
(3) Sub-grants under Components 2.		1.00	100%

37. The Government contribution of US\$7.20 million will finance the remaining 26.5 percent for Works under Components 1 and 2. Since the government contribution under this category is significant (over 20 percent) it should be ensured that lack of timely availability will not impede project implementation. Therefore, the Government should commit itself through a letter to make available the needed contributions at the beginning of each year based on expected disbursements.

38. ARIS will develop and adopt the RBIM, acceptable to the Bank, where the details of eligibility and selection criteria for beneficiary households, the eligible types of and minimum criteria (as well as checklist) for improvements in sanitary facilities, the standard subsidy levels for each type of eligible improvements, as well as the flow of funds and related controls for the results-based incentives scheme will be described. This will be a disbursement condition for Category (3): until and unless the Recipient had adopted the Manual for Household Result-Based Sanitation Incentives in form and substance acceptable to IDA.

### **Fiduciary - Procurement**

39. **Applicable Procurement Guidelines.** Procurement for the proposed AF will be carried out in accordance with both “Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers,” dated January 2011 (revised July 2014) and “Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers,” dated January 2011 (revised July 2014). The World Bank “Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credit and Grants” dated October 15, 2006 and revised in January 2011 and as of July 1, 2016, will also apply. For each contract to be financed by the Association, the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior review requirements, and time frame are agreed between ARIS and the Association task team in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect actual project implementation needs and improvements in institutional capacity.

40. To ensure that Bank funds are used only for the purposes for which financing is provided, the Bank will carry out its procurement functions, including implementation support, monitoring and procurement oversight, under a risk-based approach (thresholds applicable since November, 2016). The procurement Risk has been assessed by the Bank during preparation of the AF as Substantial.

41. **Procurement Risk Assessment.** The Bank staff conducted a procurement capacity and risks assessment using the Procurement Risk Assessment and Management System (PRAMS). Procurement activities will be carried out by ARIS, which has been effectively managing procurement activities under BOUIP, VIP3, and the RWSSP-2. ARIS will have overall responsibility for procurement under the project. ARIS has a main office in Bishkek and seven oblast offices. The main office of ARIS is staffed by four well-qualified and experienced procurement specialists, of which one will be dedicated to the SRWSSDP team. Ten small oblast-level liaison offices ensure adequate coverage of the country and will provide administrative and logistical support for ARIS field staff.

42. The Procurement Capacity Assessment Report, including the risks and risk mitigation plan, has been filed in the World Bank's PRAMS.

Risk Description	Description of proposed mitigation through the procurement process
Low participation of bidders	Ensure the publication of procurement notices and contract award information as required by the Bank Procurement and Consultant Guidelines, including publication on the E-GP website and ARIS web-site.
Delay in the procurement and implementation processes due to the complexity of procurement processes and decision-making involving local governments	Advance development of bidding documents (including the construction design).
Insufficient contract monitoring and contract management skills.	Prepare project Operational Manual that will include a procurement section detailing procurement arrangements and an independent complaint-handling mechanism, including for contract management.
Frequent procurement complaints	To bring to the Bank's notice every complaint received from any supplier or consultant relating to the procurement and contract management process, and to record and address each of these complaints promptly and diligently.

43. Given the findings of the assessments, the initial overall procurement risk under the project is assessed as "Substantial."

44. **Procurement of Works.** Works procured under this project include rehabilitation of water supply system and sanitation facilities in the target rural communities. Works contracts equal to and above US\$ 5,000,000 equivalent will be procured under ICB procedures using the Bank's SBD for procurement of goods. The NCB method will be applicable for procurement of works contracts with an estimated budget of less than US\$ 5,000,000. The ECA Sample NCB bidding documents shall be used, considering the NCB conditions set forth in the Financing Agreements. Works contracts with an estimated budget less than US\$ 50,000 equivalent may be procured using Shopping procedures on the basis of at least three written price quotations obtained from qualified suppliers.

45. **Procurement of Goods.** Goods contracts equal to and above US\$ 1,000,000 equivalent will be procured under ICB procedures using the Bank's SBD for procurement of goods. The NCB method will be applicable for procurement of goods contracts with an estimated budget of less than US\$ 1,000,000. The ECA Sample NCB bidding documents shall be used considering the NCB conditions set forth in the Financing Agreements. Goods contracts with an estimated budget

of less than US\$ 100,000 equivalent may be procured using Shopping procedures on the basis of at least three written price quotations obtained from qualified suppliers.

46. **Selection of Consultants.** Consulting services will include development of detailed designs; various engineering services related to technical supervision of the civil works and project audit; and various contracts under Component 3 to strengthen the institutional capacity of project beneficiaries. The methods for selection of consultants will include Quality- and Cost-Based Selections (QCBS), Quality-Based Selections (QBS), Fixed-Budget Selection (FBS), Least-Cost Selection (LCS), Selection based on Consultant's Qualifications (up to US\$ 300,000), Single-Source Selection in compliance with Paragraph 3.8 of the Bank's Consultant Guidelines, and Individual Consultants (IC). Contracts estimated to cost above US\$ 300,000 equivalent will be advertised through United Nations Development Business (UNDB), the Bank's website, and local media (one newspaper of national circulation or the official gazette), and ARIS's website). Short-lists of consultants for services estimated to cost less than US\$ 300,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines. The Bank's Standard Request for Proposal Document would be used as a basis for all procurement of consultancy services to be procured under the Project.

47. **Training.** Training includes expenditures (other than those included in the consulting category) in connection with study tours, training courses, seminars, workshops and other training activities, including cost of training materials, space and equipment rental, travel, per diem costs of trainees and trainers, and trainers' fees (as applicable) based on an annual budget found satisfactory by IDA.

48. **Operating Costs.** The credit/grant will finance incremental expenses incurred by ARIS for project implementation, management and monitoring, including operation and maintenance of vehicles, office equipment operation and supplies, communications costs, support for information systems, translation costs, bank charges, travel and per diem costs, salaries of contractual staff (excluding consultants' services and salaries of officials of the Recipient's civil service), social charges, office administration costs, and other reasonable expenditures directly associated with the carrying out of the project as agreed by the Bank; all based on an annual budget acceptable to the Bank. Some ARIS staff hired under previous projects would continue working for implementation of the project.

49. **Assessment of the agencies' capacity to implement procurement.** Responsibility for actual implementation of the project will rest with ARIS, the project implementing agency. Participating AOs will retain authority to sign contracts and their representatives will be closely associated with all decisions regarding contract execution, site supervision, and authorization of payments to contractors.

50. **Procurement Thresholds and Methods of Procurement.** It has been agreed that if an invitation for a bid is comprised of several packages, lots, or slices, and invited in the same invitation for bid, then the aggregate value of the whole package determines the applicable threshold amount for procurement and for the review by the Bank. The national competitive

bidding (NCB) conditions will be part of the Financing Agreement. The following methods of procurement shall be used for procurement under the project.

Expenditure Category	Contract Value (USD)	Procurement Method	Bank Prior Review
Civil Works	≥ 5,000,000	ICB	All contracts above USD 10,000,000
	< 5,000,000	NCB	NA
	<50,000	Shopping	NA
	NA	DC	All contracts above USD 10,000,000
Goods	≥ 1,000,000	ICB	All contracts above USD 2,000,000
	<1,000,000	NCB	NA
	<100,000	Shopping	NA
	NA	DC	All contracts above USD 2,000,000
Consultant Services	NA	QCBS, QBS, FBS, LCS and CQS*	All contracts ≥ USD 1,000,000 for firms; all contracts ≥ USD 300,000 for individuals.
	NA	SSS	
	NA	IC	
Notes:	ICB – International Competitive Bidding NCB – National Competitive Bidding DC – Direct Contracting QCBS – Quality- and Cost-Based Selection QBS – Quality-Based Selection FBS – Fixed-Budget Selection LCS – Least-Cost Selection *CQS – Selection Based on Consultants’ Qualification below \$300,000 depending on the nature of assignment SSS – Single (or Sole) Source Selection IC – Individual Consultant selection procedure NA – Not Applicable		

51. The Procurement Plan sets forth those contracts that will be subject to prior review by the Bank. All other contracts shall be subject to post review by the Bank. The Bank may, at its own discretion, require that a sample of contracts below the threshold be subject to prior review, at any time or when the Procurement Plan is updated. The prior review thresholds will be periodically reviewed and revised as needed during the Project implementation period based on implementation of risk mitigation measures, reports from procurement post-reviews, and improved capacity of the implementing agency.

52. **Procurement plan.** ARIS, in consultation with DDWSWD, has developed a Procurement Plan for the first 18 months of project implementation. This plan is dated May 11, 2017. The plan will be made available in the project database and in the Bank's external website after approval of the project. The Procurement Plan will be updated annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

53. The frequency of procurement supervision missions will be once every six months. Special procurement supervision for post-procurement reviews will be carried out at least once every twelve months.

54. **Advance procurement.** To facilitate implementation of the AF, all new procurement activities will be advanced as feasible in line with the agreed procurement plan.

55. **Retroactive financing.** There will be a provision for retroactive financing up to an aggregate amount not to exceed SDR 500,000 equivalent. This will cover eligible expenditures procured in accordance with World Bank guidelines and implemented in accordance with other relevant operational policies for executing project activities incurred prior to effectiveness. Retroactive financing will finance the relevant project expenditures incurred and payments made on or after June 1, 2017.

## **Annex 4: Economic Analysis**

### **KYRGYZ REPUBLIC: Additional Financing to the Sustainable Rural Water Supply and Sanitation Development Project**

1. The economic benefits from the project will derive from improvements in the quality of water supply services and sanitation services in schools, pre-schools and other public buildings. Investments in rural water supply systems are expected to result in improved water quality, expanded access to improved water sources, increased duration of water supply, and reduced seasonal variation. Improving these services will enhance welfare by reducing coping costs (for example, time saved from water collection and reduced need for in-house drinking-water treatment). Improvements in the quality of water supply and sanitation services and practices through the WASH educational program are also expected to have positive welfare effects through improved health.
2. Currently, around 60 percent of households in the project area do not have in-house or in-yard water connections and spend an average of 2 hours per day collecting water. Many households, due to intermittent supply or distant standpipes, still rely on unprotected standing water sources such as rivers, irrigation canals and shallow wells. Where water supply service does exist, the number of hours of water supplied varies from 2-3 hours to 24 hours in some of the villages. Thus, households have significant coping costs. Overall beneficiary villages in the Chui and Issyk-Kul Oblasts seem to have relatively better quality water supply services (both in terms of duration and access) compared to beneficiary villages in Osh Oblast. A household survey has been conducted and provides baseline conditions for the villages targeted through the original project. A follow-up survey will be conducted prior to project closing to assess end-of project conditions and benefits.
3. The original project was designed to improve water supply services for approximately 100,000 residents in 38 villages, as well as to provide improved sanitation facilities in schools and other public buildings. The economic analysis of the original project estimated an economic rate of return (ERR) of 13 percent and a net present value (NPR), at a social discount rate of 5 percent, of US\$ 19.99 million. This Additional Financing is expected to improve water supply for approximately 108,000 residents in 53 villages in the same provinces as the original project, as well as to provide sanitation facilities in public buildings. The villages and beneficiaries have similar socio-economic and water-supply and sanitation characteristics as those in the original project.
4. The project's economic analysis has been updated to include investments and expected outcomes from both the original and additional financing. The economic analysis consists of a cost-benefit analysis projected over a 25-year period, including the 8-year period of implementation for the combined project. Costs consist of all investment (including design and supervision costs) costs of Components 1 and 2 and the costs for Components 3 (local and professional development) and 4 (project management), as well as expected operating costs for the water supply and sanitation infrastructure (assumed to be five percent of capital investment costs). Benefits include the value of decreases in the time spent collecting water and welfare gains at the household level associated with reduced need for in-house treatment (i.e., boiling of



water) and reduced incidence of water-related diseases such as infectious hepatitis and diarrhea as a result of improved access to quality water and decline in the reliance on standing water sources. Expected benefits are based on results observed from similar projects in the country, namely the STICBP and the Rural Water Supply and Sanitation Projects (RWSSP1 & 2) and the Bishkek and Osh Urban Infrastructure Project and Additional Financing (BOUIP and BOUIP-AF).

5. Operating costs and project benefits are expected to be realized in the year following the implementation of each sub-project, and therefore increase incrementally each year until all project investments are completed. Given the rolling nature of sub-project construction, some benefits will begin to be observed in 2019, with full implementation (and benefits) in 2024.<sup>36</sup>

6. Project benefits and the main assumptions of the analysis are as follows:

- **Project Investment Costs:**
  - Component 1: US\$ 51.1 million
  - Component 2: US\$ 7.1 million
  - Component 3: US\$ 9.5 million
  - Component 4: US\$ 3.5 million
- **VAT:** 12 percent, applied to 95 percent of costs of Components 1 and 2
- **Operating Costs:** Five percent of investment costs of Components 1 and 2
- **Reduced time in collecting water:** Based on results obtained from similar operations in the country (STICBP, RWSSP1 & 2), a reduction from approximately two hours to around 30 minutes of time for collecting water has been assumed (this is considered a conservative assumption as most households will benefit from in-yard or in-house water connection by the project and time savings will therefore be greater). A rural average hourly wage of US\$0.68<sup>37</sup> is used as a conservative measurement of the opportunity cost of this time savings. Under these assumptions, the project is projected to generate annual benefits of US\$8.2 million upon full project implementation.
- **Reduced coping costs from boiling water:** It is common practice in the country for households to boil water prior to consuming it. Energy savings associated with reduced need to boil water due to improved water quality are estimated based on 5 liters per day per capita benchmark. We estimate that by the end of the project only a negligible percent of households will boil water. Well-established benchmarks for the region are used in terms of energy requirements to boil water (0.09 kWh per liter of water) and an economic cost of US\$0.27 per kWh.<sup>38</sup> Under these assumptions, the project is expected to generate annual benefits of US\$5.4 million from energy savings linked to boiling water.

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<sup>36</sup> Note that this advances the recognition of project benefits compared to the economic analysis for the original project, which only recognized project benefits once project implementation was entirely complete, in 2021. This adjustment results in a somewhat higher ERR and NPV than that estimated for the original investments.

<sup>37</sup> Based on ILO data for the Kyrgyz Republic and discussions with the project team.

<sup>38</sup> World Bank (2012), *Europe and Central Asia Balancing Act: Cutting Subsidies, Protecting Affordability, and Investing in the Energy Sector in Eastern Europe and Central Asia Region*

- **Benefits from reduced incidence of water-borne diseases.** Data on the incidence of water-borne diseases had been collected in beneficiary villages identified under the original project; villages in Chui and Osh Oblast reported relatively low levels of infectious hepatitis, with villages in Issyk-Kul reporting higher incidences (under one percent incidence in Chui and Osh; approximately six percent incidence in Issyk-Kul). With respect to hepatitis, we assume that people lose around 10 days of work/school and that treatment costs around US\$186 per person. Although underreported, diarrhea is significantly more common, with 15 percent of the population affected each year, although with lower lost productivity (one day) and treatment costs of only US\$3 per incidence. We find that a reduction in the above water-borne diseases could lead to annual savings of around US\$58,300 in reduced costs for treatment and US\$270,750 in reduced losses of days of work.

7. Based on the above assumptions, an implementation period of seven years, and a total projection period of 25 years (including implementation), the projected net cost-benefit stream yields an ERR of 15.7 percent and an NPV, using a five percent social discount rate, of US\$59.3 million. The ERR is somewhat higher than the estimated 13 percent ERR of the original project; this is thought to be due to the inclusion of benefits on a rolling basis, as sub-projects are completed and brought into operations, rather than upon the completion of all sub-projects at the end of the project, longer water collection times than previously estimated.

8. **A sensitivity analysis** was conducted to assess the impacts of: (i) a reduction of expected benefits; (ii) an increase in expected costs; and (iii) an increase in implementation time. Results can be found in the table below. As can be observed, the economic returns to the project are most sensitive to declines in the estimated benefits, however, all resulting ERRs remain above the minimum 5 percent, indicating that the economic returns to the project are robust.

**Sensitivity Analysis: Increase in Investment Costs\***

	+ 10 percent	+ 20 percent	+ 30 percent
ERR	13.8%	12.2%	10.8%
NPV	US\$ 52.0 million	US\$ 44.7 million	US\$ 37.5 million

\* Note that an increase in investment costs results in an equivalent percentage increase in operating costs.

**Sensitivity Analysis: Increase in Operating Costs\***

	+ 20 percent	+ 50 percent	+ 100 percent
ERR	14.7%	13.1%	10.5%
NPV	US\$ 53.2 million	US\$ 44.0 million	US\$ 28.7 million

**Sensitivity Analysis: Decrease in Project Benefits**

	- 20 percent	- 30 percent	- 40 percent
ERR	10.9%	8.3%	5.5%
NPV	US\$ 30.8 million	US\$ 16.6 million	US\$ 2.3 million

**Sensitivity Analysis: Increase in Implementation Period**

	+ 1 year	+ 2 years
ERR	13.6%	12.0%
NPV	US\$ 51.2 million	US\$ 43.2 million

\* It is assumed that investments costs are incurred as in the base case, but that operational costs and benefits begin one and two years later than the base case.

## **Annex 6: Map of Project Areas**

### **KYRGYZ REPUBLIC: Additional Financing to the Sustainable Rural Water Supply and Sanitation Development Project**

