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Report No: 23139-KG

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF SDR 12 MILLION

(US\$ 15MILLION EQUIVALENT)

TO THE

KYRGYZ REPUBLIC

FOR A

RURAL WATER AND SANITATION PROJECT

November 8, 2001

**Infrastructure and Energy Unit
Central Asia Country Unit
Europe and Central Asia Region**

CURRENCY EQUIVALENTS

(Exchange Rate Effective November 1, 2001)

Currency Unit = Som
 47.7003 = US\$1
 US\$1 = 0.021 Soms

FISCAL YEAR
 January 1 -- December 31

ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank	MAWR	Ministry of Agriculture and Water Resources
CAS	Country Assistance Strategy	MAWS	Ministry of Agriculture
CCWSS	Coordinating Council for Water Supply & Sanitation	MC	Management Consultant
CDD	Childhood Diarrhea Diseases	MEE	Ministry of Ecology & Emergency Situations
CDWSA	Community Drinking Water Supply Association	MEP	Ministry of Environmental Protection
DFID	Department for International Development (UK)	MIS	Management Information System
DRA	Demand responsive approach	MoE	Ministry of Environment
DRWS	Department of Rural Water Supply	MOH	Ministry of Health
EIA	Environmental Impact Assessment	NCB	National Competitive Bidding
EMP	Environmental Management Plan	NCHP	National Center for Health Promotion
FMS	Financial Management System	NGO	Nongovernmental organization
FSU	Former Soviet Union	NS	National Shopping
GoKR	Government of Kyrgyz Republic	NS	National Shopping
IAS	International Standards of Accounting	O&M	Operation & Management
ICB	International Competitive Bidding	PIP	Project Implementation Plan
IDA	International Development Association	PMR	Project Management Report
IFI	International Financial Intermediary	PMU	Project Management Unit
INGO	International Nongovernmental Organization	RWSS	Rural Water Supply and Sanitation Project
IRR	Internal Rate of Return	SA	Special Account
IS	International Shopping	SES	Sanitary Epidemiological Services
ISA	International Accounting Standards	SOE	Statement of Expenditures
KAS	Kyrgyz Aiyl Sui	TOR	Terms of Reference
LCS	Least-cost Selection	VAT	Value Added Tax
M&E	Monitoring & Evaluation	WHO	World Health Organization

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KYRGYZ REPUBLIC
RURAL WATER AND SANITATION PROJECT

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KYRGYZ REPUBLIC
Rural Water and Sanitation Project

Project Appraisal Document

Europe and Central Asia Region
ECSIE

Date: November 8, 2001 Country Manager/Director: Dennis de Tray Project ID: P036977 Lending Instrument: Specific Investment Loan (SIL)	Team Leader: Kavita S. Sethi Sector Manager/Director: Motoo Konishi, Hossein Razavi Sector(s): WR - Rural Water Supply & Sanitation Theme(s): Poverty Reduction; Water Poverty Targeted Intervention: Y
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Program Financing Data

☐ Loan ☒ Credit ☐ Grant ☐ Guarantee ☐ Other:

For Loans/Credits/Others:

Amount (US\$m): \$15 million (SDR 12 million)

Proposed Terms (IDA): Standard Credit

Grace period (years): 10

Years to maturity: 40

Commitment fee: 0.50 %

Service charge: 0.75%

Financing Plan (US\$m):	Source	Local	Foreign	Total
BORROWER		3.31	0.00	3.31
IDA		6.00	9.00	15.00
UK: BRITISH DEPARTMENT FOR INTERNATIONAL DEVELOPMENT (DFID)		0.00	6.25	6.25
Total:		9.31	15.25	24.56

Borrower: KYRGYZ REPUBLIC

Responsible agency: MINISTRY OF AGRICULTURE AND WATER RESOURCES

Ministry of Agriculture and Water Resources

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Estimated disbursements (Bank FY/US\$m):

FY	2002	2003	2004	2005	2006	2007		
Annual	1.50	3.00	3.00	3.00	3.00	1.50		
Cumulative	1.50	4.50	7.50	10.50	13.50	15.00		

Project implementation period: 2002 - 2007

Expected effectiveness date: 02/15/2002 **Expected closing date:** 10/31/2007

A. Project Development Objective

1. Project development objective: (see Annex 1)

The development objective of this project is for the majority of villages in the Issyk-Kul, Naryn and Talas oblasts: (i) to have improved access to potable water from water supply systems which the communities own, operate, maintain and manage in a sustainable manner; and (ii) to improve hygiene, sanitation and water-related practices at individual, family and institutional levels in the rural areas.

The development objectives would be achieved through:

(a) Community Participation and Empowerment: The project will use a demand responsive approach (DRA) at the village level involving all beneficiary groups, to assure that the project is demand oriented, properly dimensioned, and that the level of service is affordable to the community. The capacity of the community to manage services at village level will be strengthened by assisting them in planning, implementing and administering services, and the formation and training of Community Drinking Water Supply Association (CDWSA) boards.

(b) Cost recovery & sustainability: To ensure genuine demand for services and commitment, participating communities will make an initial contribution of 20% (mix of cash and in-kind) to the investment costs. An additional 5 percent will be repaid by communities over a 7 year period, including 4 years of grace; there will be no interest charges on the five percent loan portion. The remaining 75% of the investment cost shall be provided by the central government to the communities as an investment grant. To ensure sustainability, the CDWSA will collect user fees that cover full operation and maintenance costs and cover a contribution of 1% of the investment cost per year to a replacement/investment fund.

(c) Enabling institutions that facilitate demand responsive rural water supply: The project will assist the Government of the Kyrgyz Republic with the transformation of its current large, centrally managed, institution, Kyrgyz Aiyl Suu (KAS) responsible for operations and maintenance of rural water systems. KAS will be replaced by a leaner, more decentralized institution, the Department of Rural Water Supply (DRWS). DRWS will be a policy making and advisory body that will facilitate provision and management of water services at the community level, and will encourage use of the private sector for delivery of goods and services, including operations and management. DRWS will function at the central and Oblast levels while consumer bodies, the CDWSAs, assume responsibility for water provision at the community level.

(d) Support for hygiene promotion capacity. The Department for International Development (DFID) of the United Kingdom will work in villages selected for water supply sub-projects, facilitating village level hygiene promotion projects and assisting the refurbishment of demonstration sanitation facilities at schools and medical posts. In addition, DFID will assist the Sanitary Epidemiological Services (SES) to revisit their methods for water quality monitoring and protection, and will help to build capacity at the National Center for Health Promotion (NCHP), specifically the capacity for promotion of sanitary hygiene.

The proposed project is closely linked with a parallel operation under preparation by the Asian Development Bank (ADB) which has allocated \$36 million to cover the other four Oblasts in the country (Osh, Jalal-abad, Chui, Batken) for a rural and small towns infrastructure project with about 60% of project funds allocated for water supply and sanitation.

2. Key performance indicators: (see Annex 1)

The achievement of the development objectives will be monitored through five monitoring indicators:

- number of villages with access to safe water supply services and adequately using, managing and sustaining the improved services;
- number of registered and functioning CDWSAs that have collected community contributions;
- an established and functioning government Department of Rural Water Supply - DRWS, facilitating but not operating demand driven, community managed water supply schemes;

For the hygiene promotion and sanitation improvements funded by DFID, DFID proposes follow up through the following measures:

- reduction in the incidence of Childhood Diarrhea Diseases (CDD) and a reduction in incidence of intestinal worm infections; and
- increase in safe hand-washing practices, clean household latrines, schools with sanitary surveillance programs, and safe storage and handling of drinking water.

B. Strategic Context

1. Sector-related Country Assistance Strategy (CAS) goal supported by the project: (see Annex 1)

Document number: 17641-KG **Date of latest CAS discussion:** 05/07/98

The strategic objectives of the Bank's assistance in the Kyrgyz Republic are to attain sustained growth, reduce poverty, improve governance, and strengthen public finances. The CAS program supports poverty reduction through specific investments in basic social services, including health, rural water supply and sanitation, and support for rural infrastructure projects. Support for government wide procurement, audit and budget reforms, deregulation and enhancement of the competitive environment, along with strengthened public finances, are expected to contribute to both the growth and poverty reduction objectives. The Bank strategy also envisages assistance for increasing revenues and improving efficiency in expenditure management to reduce dependency on external budget support operations.

The proposed project is consistent with the Bank's poverty reduction strategy and will focus on the priorities listed above, in particular it supports: (i) an increased role for the private sector through privatization of rural water provision under a demand responsive approach; (ii) improving conditions for the rural poor by investments in rural water schemes to halt the deterioration of services and combat public health threats; (iii) improved governance via restructuring rural water institutions; and (iv) public finance strengthening by introducing cost recovery from consumers and thereby relieving pressure on the public budget. (A CAS progress report is accompanying this project to the Board)

2. Main sector issues and Government strategy:

The Kyrgyz Government's development strategies are in line with the Bank's Country Assistance Strategy (CAS) as outlined above.

The report *"Kyrgyz Republic: Water Supply and Wastewater Sector Note"* (Report No 19487-KG, June 28, 1999), has been the basis for the continuing sector reform dialogue between the Bank and the Government. The main sector issues and the issues to be addressed under the project outlined in this and the following section emanate from the Note and agreements reached with the Government.

Service Coverage and Quality. Water and wastewater service levels in the Kyrgyz Republic are low by international standards. Only about one-third of the national population of 4.6 million has house connections. Another forty percent receives water from stand posts or water tankers and the remaining population has no organized water service at all. Service coverage drops off considerably in small towns and is very low for the village segment. Most of the groundwater pumping systems, disinfecting facilities, and rural standposts are currently inoperable and users have reverted to open water sources. In periods of drought or freezing weather, a large number depend on costly water from tankers. Coping with poor and unsafe water and sanitation services is most difficult for the poor who have to spend more of their income and energy on water than the middle and high income population. Approximately 20 percent of the population is connected to a sewerage system - nearly all urban. Small towns and rural communities rely on on-site solutions, primarily latrines and drain fields.

Because of the poor state of repair of facilities, lack of maintenance and insufficient resources available for operations, the reliability and safety of the service is becoming an ever more important concern and source of discontent of the population. Service interruptions have become the norm rather than the exception. Much of the village water systems are no longer in operation or near collapse, as national government funding has ceased and village initiative to maintain the system in working condition has been limited.

Safety and Reliability of Services and Public Health Concerns. The quality of water supply is of ever greater concern throughout the country, but most pronounced in the secondary and smaller cities and villages. A variety of factors - breakdown of old water treatment facilities, lack of resources to operate these facilities adequately and disinfect water properly, increasing contamination of water resources, inflow of polluted ground water into pipe systems during periods of service interruptions - are contributing to ever more extensive violation of drinking water quality standards. The SES reports that in 1997, approximately 14% of water samples taken throughout the country did not meet bacteriological standards, and 3.1% did not meet physical/chemical standards. While, as a national average, these results are not particularly alarming, the extent and frequency of unsafe water quality has become critical in some areas. For instance, in the Chui region, 86% and in the Talas region 70% of water systems do not meet sanitary requirements.

Linked to the decline in the water supply systems, health indicators in the Kyrgyz Republic have considerably deteriorated. Over the recent past, the incidence of Hepatitis A, Typhoid, diarrhea diseases and intestinal infections has significantly increased, particularly in the southern regions of Osh and Jalal-Abad. In 1998 a large outbreak of Typhoid Fever and Dysentery occurred in the Osh and Jalal-Abad regions where 1,200 people were diagnosed with these diseases. Cholera outbreaks were reported in southern Kyrgyzstan (Osh) in 1998 and in December 2000 an Hepatitis A outbreak in Talas affected 2,900 people. According to the Kyrgyz Republic's National Statistics Committee and SES, 8 percent of all infant deaths in 1997 were attributed to diarrhea, and intestinal worms account for about 40 percent of all reported infectious disease. Infectious and parasitic diseases account for 11.3% of morbidity for those under 15 years of age and 6.9% for those older than 15 years. Of the infectious diseases reported (both under and over 15 years) parasites accounted for 39.6%, diarrhea accounted for 16% and Typhoid for 1.3% of total morbidity.

While deteriorating health standards can be attributed to a number of causes, including declining health services, and contaminated food, social assessment, and health surveys conducted in the Kyrgyz Republic indicate that drinking water contamination exacerbated by poor sanitation, hygiene and water use practices, are the main causes of the deterioration. People in rural areas appear to suffer most from the absence of potable water supplies. With the existing systems becoming increasingly inoperable, some people walk large distances, only to obtain contaminated water from springs, rivers, and ponds. Water from irrigation canals are the only source for many. People are aware of the danger of unsafe water and try to protect

themselves, but with limited success. Contributing to deteriorating public health is the frequent absence of proper sanitation facilities. Poorly designed pit latrines increase the risk of the spread of disease by vectors such as flies and mosquitoes. Poor hygiene and water handling habits contribute to the spread of disease even where safe water is available.

Institutions and Governance Relationships. Responsibility for the provision of water supply in rural areas is currently organized in accordance with a 1997 constitutional amendment. In the pre-independence era, water supply systems in rural areas were owned by sovkhozes and kolkhozes. As part of the privatization of the assets of these entities in 1996, communal assets including water and sewerage were transferred to local village administrations without allocating the beneficiaries any budget for operations and maintenance. To remedy this situation, the government created KAS in 1997. Today rural water supply systems are managed as follows:

- **Kyrgyz Aiyl Suu (KAS):** An independent organization in the Ministry of Agriculture and Water Resources dedicated to the operation and maintenance of “head works”, water production and transmission systems, for rural communities. KAS has a staff of 8 people at the national level, and employs over 650 people in 30 regional offices. With dwindling contributions from the budget, KAS has become increasingly ineffective in its mission. In 1998, KAS received some 8 million, to maintain and operate some 5,000 installations; these resources were barely enough for the management of 20% of all systems. The remaining installations under KAS's responsibility are either abandoned or being operated by the villages themselves. The shortage of resources has led KAS to close down its offices in Issyk-Kul, Naryn, Chuy, Talas, Osh and Jalal-Abad. Despite operational responsibility for all rural water systems, KAS does not have a centralized facility for technical material (chemicals, spare parts for piped water networks, reservoirs, standpipes etc.). Further, KAS has no experience with contracting for Operations and Maintenance (O&M) and is completely dependent on the State budget.
- **Village Councils:** Most of the country's approximately 1,750 villages have turned to their village councils to deal with water supply. All of them have only limited experience and know-how to deal with their new mandate, but some have shown initiative and been successful in their new role. In a break with past practice of free services, funding of village systems is provided by users, often through “in kind” payments, and villagers have volunteered their labor through the traditional “Ashar” system to rehabilitate or expand the existing systems. There is little information on the costs and revenues for the village-operated systems, but prices quoted are usually based on contributions of one to three soms per person per month. The fact that villages are beginning to take charge of their own destiny without Government support bodes well for the introduction of a rural water supply policy that is based on community demand, ownership, and management.

In addition to the agencies that are directly involved in service provision, there is a plethora of institutions that deal with water and sanitation in one way or another. The SES section of the Ministry of Health is responsible, through its Oblast and Rayon offices, to monitor the quality of water. Exploitation of new ground water requires the approval of both the Ministry of the Environment (MOE) and the Hydrological Expedition of the State Committee of Geology and Mineral Resources. However, before this source can be used, approval must also be obtained from the Department of Water Resources in the Ministry of Agriculture and Water Resources (MAWR). There is however, no central body that represents the interests of the rural water supply in the Government.

Legal Framework. Water use in the Kyrgyz Republic is governed mainly by the Water Law, January 1994, with complementary legislation included in portions of the law on land, and law on licenses. The law

most relevant to the project is the Law on Drinking Water, February 19, 1999. Though private ownership of water facilities is allowed in the Water Law, the Law on Drinking Water specifies that rural water systems may be owned by communities, private persons, the State, or companies. Owners are required to comply with the environmental and water quality standards of the country. According to the law, all water tariffs have to be approved by the Legislative Assembly of Jogorku Kenesh which is a fairly lengthy procedure, and which would interfere with the CDWSAs ability to set their own tariffs based on cost recovery. However, since then an amendment has been passed which allows individual CDWSAs to set tariffs.

Sector Finances. Prior to independence, the Government provided large subsidies which kept the water and wastewater systems at least marginally operational. Now with the Government no longer able to provide the subsidies of the past, the sector is in the midst of an unprecedented financial crisis. The loss of subsidies, combined with low domestic tariff levels - present tariff levels ranging from \$0.03 to \$0.10 per m³ - and poor revenue collection - in many places as low as 30 percent of billings - have led to a financially untenable position for all water and sanitation institutions. Today none of the sector institutions are able to cover even basic operating and maintenance costs, let alone replace or rehabilitate deteriorating facilities or construct new works. To cope with the financial short fall, operators discontinue maintenance, cut back operating costs through reduction of operating hours, apply less than recommended chemicals, and are late in paying their suppliers. Unless the financial base of the sector improves drastically, water and sanitation services will continue to decline with ever increasing social and economic costs. The development of community based rural systems that cover cost through user contributions is an encouraging development pointing to the potential for the introduction of cost recovery principles.

System Condition and Operating Inefficiencies. The impact of inadequate finances on rural water systems has been severe. The majority of the systems, more than thirty years old, are in desperate need of replacement and repair. The problems of initially inadequate designs, poor materials, and poor construction have been exacerbated by lack of maintenance. About half of the country's 1,750 villages have no functioning water system and need major rehabilitation to be operational; those systems that do function often only do so intermittently. In the southern oblasts of Osh and Jala-Abad, only about one fourth of the villages have operable water systems, with much of the groundwater pumping systems, disinfecting facilities and standpipes nonfunctional. Those systems that are functional have low operating efficiency in terms of high electricity consumption of the pumps, high leakage rate and water availability dependent upon availability of electricity.

Investment Needs. A very rough estimate of the investment levels required to provide the Kyrgyz people with a modest, but safe level of water supply and sanitation services would be as follows: about US\$90 million for the rehabilitation and expansion of rural water systems. Additional resources would be required to improve sanitation in rural areas. Also, expenditures for maintenance and operation will have to increase significantly. The financial situation of the country and affordability limits on tariffs will make it impossible to raise the financial resources to cover all rural areas needed in the near term. Expanding and improving services will have to proceed in phases and priorities will have to be set. The pace of sector development will be determined by the future level of resource mobilization and the cost effective utilization of these resources.

Government Strategy. The key elements of the government's strategy and policy agenda to address the above issues are: (i) comprehensive institutional sector reform and capacity building to lay the groundwork for sustainable sector development; (ii) decentralized planning and management services based on Community Driven Development and giving local governments the responsibility and means to assist communities in improving their services; (iii) introduction of cost recovery policies as the only means to finance the rehabilitation and maintenance of water and waste water systems; (iv) careful selection of cost effective investments based on affordability and consumer preference; and (v) promotion of private sector participation, including operation and maintenance of facilities.

3. Sector issues to be addressed by the project and strategic choices:

Decentralization and Institutional Restructuring. The effective implementation of the governments' redefined support role in the rural water sector is one of the objectives of the project. As part of the institutional restructuring under the project, KAS is to be liquidated. There is, however, need for an agency that represents the interests of the rural water sector in the government. This requires the creation of a national rural capacity to develop and coordinate implementation of rural sector policy with representation at the Oblast and rayon levels. This institutional support structure is necessary for realizing the rural water supply program delivery and ensuring sustainability of project investments. The need for a national rural water agency has been accepted by the government and a decree (Decree no. 578) establishing DRWS was passed on September 19, 2000. The Decree specifies the creation of DRWS (including number of offices and staff) and the dissolution of KAS by January 2003. The decree also contains the personnel budget for DRWS estimated at 1.8 million soms. Even though the DRWS is much smaller than its predecessor KAS, the budgetary allocation envisaged in the decree is not considered sufficient for its annual total fixed and variable costs. The government recognizes this and expects the situation to improve as the fiscal situation in the country changes. Execution of the decree is the responsibility of the Department of Agriculture Policy and Natural Resource Use in the Prime Minister's Office.

As per the decree, DRWS is housed within the MAWR with responsibility for further developing the water sector strategy, policy, and administration of resources for the rural water sector. DRWS is visualized as a much leaner entity than its predecessor with a maximum of 11 staff at the national level and 4-5 people in each of the Oblast offices. While initially rayon level offices of the DRWS were part of the recommended organizational structure of DRWS, the government has put off their establishment due to lack of funds. When the fiscal situation in the country improves, the government will re-consider establishing rayon level offices of DRWS. In the meanwhile, the Oblast DRWS offices will work with rayon administration staff to facilitate the implementation of the sub-projects at the community level and monitor completed sub-projects. Involvement of rayon administration will complement the staff of DRWS and will involve personnel closest to rural communities.

While the decree has taken effect and DRWS is already functional, staffing of the national and regional offices has to be completed. The liquidation of KAS is to be completed by January 2003; this will release approximately 650 operators in the regions, some of whom will be re-absorbed into DRWS. As the government is decentralizing and shifting the operational duties of KAS to communities and the private sector, the liquidation of KAS is necessary. However, KAS is the only institution with sector know-how, tools and equipment, and most important, operational staff with knowledge of rural headworks and networks. It is therefore logical that DRWS should draw on the staff released from KAS. In addition, former KAS operators offer a pool of technical staff that could be trained to work with CDWSAs on a contractual basis for the operational and maintenance needs of the systems rehabilitated under the project. It is expected that KAS operators would retain their work tools and equipment which form the bulk of

KAS's assets. To assist in the creation of a private sector for rural water services and develop employment opportunities for former KAS employees, the project will assist in training staff interested in participating in civil works and O&M contracts.

It is expected that a number of DRWS staff will be recruited from the former staff of KAS. However, the role and functions of this staff in DRWS will be radically different from their role in KAS. To effectively carry out its new responsibilities, DRWS requires adequate and appropriate capacity building. The task of training former KAS staff and building capacity in DRWS is one of the objectives of the project and will be carried out through an international management contract. The management contractor will be charged with capacity building within DRWS and the private sector composed mainly of former KAS operators. For DRWS, the management contractor will: i) strengthen administration and management in the areas of accounting, Management Information System (MIS), Monitoring & Evaluation (M&E), and financial management; and ii) train management and staff throughout DRWS in all aspects of preparation, implementation and O&M of rural water and sanitation projects. This would include community mobilization, socioeconomic analysis, technical analysis, design and costing of systems, procurement of goods and services, construction management and supervision. For the former KAS staff, assistance will be provided in developing private contracting capacity for civil works and procurement of goods.

Sustainability and Community Management. The project is designed to maximize the involvement of communities at all stages of the project cycle. Indeed the sustainability of the project centers around the communities' ability to process information on technical and financial options offered to them and make informed choices about their investments in water facilities. Since it is critical that communities understand the alternatives on offer and link the size of the elected investment to their affordability levels, the project will be implemented by an international firm, most likely an international nongovernmental organization, the project management consultant, with experience in community driven projects. One of the main tasks of the project management consultant will be to work with local NGOs in promoting and explaining to communities and government officials the centrality of the community's decision making to the success of the project.

Once the communities have decided to participate in the project and have selected the investment size, they would participate in the implementation of works. When the sub-projects are completed, the legally established, representative user bodies at the community level, the CDWSAs, would assume management of the community water facilities. The CDWSAs may in turn contract management, and operations and maintenance to private individuals and or firms.

It is expected that the involvement of the beneficiaries at every stage of the project will create ownership at the grassroots level and that the vested interest of users in functional water systems will increase accountability and lead to responsible management. Specific water management skills are not always available at the village level; the international management contractor, working with local nongovernmental organizations (NGOs), and DRWS staff, will assist user bodies in building management capacity for tariff establishment, revenue collection, and operations and maintenance. Assistance on technical aspects during the rehabilitation/construction phase will also be provided by the management consultant's team.

One of the inputs towards sustainable investments is financial contributions by communities. The communities will be required to take responsibility for full cost recovery of O&M costs, and a substantial part of the capital costs. Communities have to understand and accept the financial implications of participating in the project before they are accepted into the project. The project envisages the following roles and responsibilities of communities:

- at the planning stage, it is the community that will select the size and type of investment based on the level of service that community members can afford;
- community members will participate in the preparation of the technical designs of the water systems;
- communities will be responsible for an upfront contribution of 20% of the capital costs in cash and kind. At least 5% of this will be in cash with the remainder provided as a mix of cash and in-kind contributions, both the collection of the cash and the coordination of the in-kind contributions will be the responsibility of the community;
- the community will be involved in the procurement of certain types of goods and services (typically civil works);
- once construction is finished, ownership and management of the water supply facilities will be assumed by the legally registered, representative user bodies - the CDWSAs. The CDWSAs may in turn contract management functions to private individuals, firms, or NGOs;
- the communities will be responsible for the full O&M costs of their water systems;
- 1% of capital costs will be collected by communities into a replacement fund.
- the CDWSA will determine the tariff level and structure in consultation with its members;
- the CDWSA will be responsible for the collection of tariffs;
- communities will repay 5% of the investment costs over a 7 year period, with 4 years of grace. There will be no interest charged on the loan portion of the investment costs.

The CDWSAs will be collecting revenues from the water users as described above. It is understood that the CDWSA revenues would not be subjected to taxation, including Value Added Tax (VAT). The Ministry of Finance has confirmed, based on input received from the National Statistics Committee, that provision of water is considered a utility service. In accordance with current Tax Law, provision of utility services such as electricity, gas, radio, TV antenna, hot and cold water, and heating is exempt from VAT (Article # 143-1 of Tax Code). The tax code also allows for cost amortization and this should permit the CDWSAs to set aside funds into a replacement fund for future replacement of water assets. This would not be considered as profit as long as it is in accordance with the existing relevant laws and regulations of the country.

Hygiene and Sanitation. While the RWSS is expected to improve considerably the situation of safe water supply in the villages, the health impact will be maximized through hygiene education and improved sanitation facilities. An hygiene promotion program will be facilitated by DFID in the villages selected for participation in the water supply sub-projects. The DFID project includes facilitation of village level hygiene promotion and assistance with refurbishment of sanitation facilities. The training of local people in hygiene promotion and participatory approaches will enable the work to continue beyond the duration of the project. In addition, the DFID project will assist the SES to revisit their methods for water quality monitoring and protection, and help to build capacity at the NCHP, specifically the capacity for promotion of sanitary hygiene.

Developing Markets for Delivery of Goods and Services. So far KAS has had the responsibility for operations and maintenance of rural water systems. The government's strategy of devolving O&M as well as ownership of water works to local communities eventually implies a shift in procurement, contracting, and contract supervision responsibilities. Community level contracting is important since it establishes commercial links between the communities and the providers of goods and materials, and develops local capacity for procurement and sub-project supervision. The continued functioning of the water systems under the proposed project will require the regular availability of spare parts.

To this end, the project will support the development of a local market for the provision of equipment and spare parts for investments under the project. International suppliers will be required to tie-up with local traders who have or can establish local distribution networks in the project Oblasts. These local traders would stock the international manufacturers' equipment and parts and maintain distribution outlets and be accessible to rural communities. International suppliers of goods would also be required to train their local counterparts in the installation and maintenance of goods supplied by them. The procurement process in the project is considered an instrument to develop local capacity for trading, for establishing local distribution networks, and installation and maintenance of goods procured internationally. The willingness of international suppliers to take on the tasks outlined above will be tested early in the project, and the results would be incorporated in future procurement and capacity building efforts. The communities' ability to procure directly from the local suppliers would be established during project implementation. Communities would, over the course of the project, be able to contact and make needed purchases directly from the local distributors. KAS staff are knowledgeable about rural systems and networks. Former KAS staff would be provided training in community contracting and the project would provide opportunities for interested staff to develop distribution networks/service agencies.

Cost recovery from communities. The results of the social assessment and the Bank's Poverty Assessment Update indicate that the rural population's ability to pay is severely limited (about 33 soms - US\$0.66 equivalent - per household per month). While rural areas as a whole fall in the low income category, there is some variation between Oblasts. Naryn and Talas are two of the poorest Oblasts while Issyk-Kul-kul is the richest in the country. While the project seeks full O&M contributions from users, capital cost recovery is based on the participating community's ability to pay. A minimum 20% (in cash and kind) of investment costs will be paid by communities. An additional 5 percent of investment cost will be repaid by communities over a 7 year period, with 4 years of grace. Per capita investment, under the credit, would be limited to US\$50. Based on these assessments, the project proposes financing arrangements as follows:

1. Rural communities will select preferred service levels based on willingness and ability to pay.
2. The community will provide an up front, cash, contribution to the capital costs. A second contribution to the capital cost will be provided in kind (typically labor and construction materials). The total of both contributions shall be no less than 20% of the capital costs with minimum of 5% in cash.
3. Communities will repay 5% of the capital costs over a 7 year period, with 4 years of grace.
4. 75% of the capital cost will consist of a grant provided by the Government to rural communities, through IDA.
5. The community will assume full responsibility for tariff setting and collection; tariffs will cover (i) full operation and maintenance costs and (ii) an annual contribution of 1% of the total capital cost to the replacement/investment fund. The CDWSA may use this fund to make capital intensive repairs or to extend the water supply system.
6. System extension to cover populations within the participating villages will be financed at the same rate as rehabilitation of existing systems.
7. Households wishing to upgrade their services (e.g. yard or house connection) will be required to repay the whole cost of the upgrade based on a repayment schedule determined by the CDWSA, with advise from the Project Management Consultant (PMC).
8. Per capita investment will be limited to US\$50 for each sub-project, except in some cases with agreement between IDA and the Borrower.

Funding for the New Institutional Structure. The privatization of KAS and the establishment of DRWS will reduce staffing levels considerably and remove the government's obligation for budgetary subventions for operations and maintenance. The overall burden on budget resources for the rural water sector will hence be significantly reduced. Operating costs for the DRWS as well as redundancy packages for those

KAS employees not re-hired by the new DRWS will be borne by the Government of the Kyrgyz Republic (GoKR).

C. Project Description Summary

1. Project components (see Annex 2 for a detailed description and Annex 3 for a detailed cost breakdown):

Project investments will be directed at the three Oblasts of Talas, Naryn, and Issyk-Kul which together account for approximately 18 percent of the national population, according to preliminary figures of the 1999 First National Population Census. Two of these Oblasts, Talas and Naryn, are the poorest of all the Kyrgyz Oblasts with average wages in Talas rated as the second lowest in the country (UN 1999). The project would benefit at least 325,000 people in rural areas, if per capita investments are at the maximum allowed (US\$ 50); the number of beneficiaries will be higher if the average per capita investment is lower.

Component	Sector	Indicative Costs (US\$M)	% of Total	Bank- financing (US\$M)	% of Bank- financing
1. Village Water Supply Rehabilitation and Construction	Rural Water Supply & Sanitation	16.25	66.2	13.00	86.7
2. Village Sanitation and Hygiene Promotion		1.75	7.1	0.00	0.0
3. Project Management & Institutional Strengthening		4.50	18.3	0.00	0.0
4. Project Supervision & Training		1.50	6.1	1.50	10.0
5. Incremental Project Operating Cost		0.55	2.2	0.50	3.3
Total Project Costs		24.55	100.0	15.00	100.0
Total Financing Required		24.55	100.0	15.00	100.0

Costs include contingencies and all taxes and duties.

2. Key policy and institutional reforms supported by the project:

The project supports fundamental sector reforms, and applies a totally new approach to water provision in the Oblasts of Naryn, Issyk-Kul, and Talas. The project will: (i) develop and implement a demand driven approach which allows beneficiaries to determine key elements of the project at the planning stage. At its center, a demand driven approach transfers pricing decisions - by letting communities decide service levels and how much of the service they wish to purchase - from governments to the market; (ii) implement community management and ownership of water assets in rural areas of Naryn, Talas, and Issyk-Kul; (iii) redefine the government's role in infrastructure provision from provider to facilitator, accompanied by decentralization of responsibilities to communities and local agencies; (iv) initiate cost-recovery principles in the rural areas, and move sector financing from government subventions to user charges; and (vi) support the development of local markets in provision of equipment and parts.

While an institutional framework supporting these changes has been developed and established, reforms supported by this project will require continued commitment from the Kyrgyz government. KAS, the entity previously operating rural waterworks, is now replaced by a new, much leaner structure, the DRWS, with a policy and facilitating role in rural water. DRWS has been established by decree on September 19, 2000, and the government has committed to an annual budget for DRWS. Additionally, the legal framework required to support water and sanitation facilities ownership and management by user bodies has also been

established. The government will need to continue its budgetary support for DRWS for this project to succeed and for the rural communities and water sector to benefit from the Bank's involvement. The dissolution of KAS in its role of rural water facilities operator is a key reform supported by the project. An Action Plan, with a time table for key actions, for the closure of KAS has been agreed between the Bank and the government, in fulfillment of one of the conditions of project Negotiations.

3. Benefits and target population:

Benefits: The project aims to provide drinking water facilities to people in rural communities of the Talas, Naryn and Issyk-Kul Oblasts. The direct benefit is the increased availability of potable water to rural communities. Introduction of cost-based water tariffs along with community ownership and management are expected to substantially improve their sustainability. A market niche will be created from the establishment and strengthening of a network of formal and informal institutions that would help plan, install and provide maintenance of infrastructure facilities. This would benefit the private sector and NGOs. Oblast and Rayon governments will gain significant institutional capacity in developing Oblast water and sanitation plans and in working with communities to facilitate sub-projects. This will contribute to strengthening the community-local government link, with spill-over effects to other rural development activities. Communities' potential abilities to plan and manage community-based projects will be reinforced.

A community management approach to water and sanitation provision will be implemented for the first time in the FSU under this project. The success of the project would have a powerful, positive impact in demonstrating the benefits of a demand oriented method of water delivery in the Region.

Target Population: The project will target about 250 of the 392 villages in the three project Oblasts. Approximately 350,000 of the 561,000 people in the rural areas of Naryn, Talas and Issyk-Kul will be direct beneficiaries under the project. The targeted communities depend largely on agriculture for subsistence and about two third of the people are below the poverty level. The project will give priority to:

- communities that express a high demand: i.e. there is a strong willingness to participate in the investment (cash and in-kind) and willingness to pay consumption related cost-based user fees;
- communities with high social cohesion and proven "self-help" capabilities;
- communities that have the ability to pay for the water and sanitation services;
- communities that have access to water resources of which the exploitation is technically feasible and economically and environmentally sustainable; and
- communities whose current water supply systems provides poor quality water or whose system covers less than 50% of the village population.

4. Institutional and implementation arrangements:

Implementation Period: FY2002 - FY2008

Executing Agency: Ministry of Agriculture and Water Resources, Department of Rural Water Supply

Project Duration

The project would be implemented over a six year period in accordance with the Project Implementation Plan. All implementation arrangements under RWSS will be governed by the guidelines and procedures set out in the Project Operational Manual (POM). The submission of the draft POM was a condition of project negotiations and was met prior to negotiations. The POM was finalized during Negotiations; any subsequent changes to the POM will need prior Bank review and approval.

Executing Agencies and Implementation Arrangements

DRWS. The overall responsibility for implementation of RWSS will reside with DRWS within the MAWR. Since DRWS is a newly formed entity, it will need to develop within its organizational structure an in-house ability to support CDWSAs both technically and organizationally. It is critically important that the project receives strong policy, operational and logistical support from DRWS staff at the central and oblast levels who will work closely with the project management contractor for the duration of the project. With 392 villages in the three Oblasts, about 250 sustainable CDWSAs need to be formed, which means there is need for CDWSAs support and assistance after the project is completed. In general, the DRWS sub-national units would be involved with CDWSA promotion, assistance with their establishment and training, technical support, and monitoring and evaluation. The sub-national DRWS units would not only have responsibility for CDWSAs to be supported under the RWSS, but also work with any other CDWSA that would request ad-hoc assistance.

Supporting Consulting Services. As DRWS is a new entity, it does not yet have the capacity to play the role of policy maker, facilitator, and advisor on rural water provision to communities. To ensure capacity building in DRWS and to synchronize the work of the many stakeholders in the project into a unified system which ensures smooth implementation of the project, a project management consultant (PMC) will be hired. The PMC will undertake, jointly with sub-national DRWS staff, the preparation, implementation, and administration of sub-projects, in addition to capacity building. IDA and DFID have had a close collaboration during the preparation of the project, and DFID is parallel financing two project components: the PMC and the hygiene and sanitation component. Since DFID provides funding in the form of grants, the PMC will be financed through a grant. The availability of grant funds releases additional funds towards increased coverage of village water systems from the IDA credit. DFID is in the process of selecting an international management consultant (this could be an international NGO) who will work in collaboration with local Kyrgyz NGOs. Specifically, the project management consultant, with local NGOs, would:

- strengthen the administration and management of DRWS;
- train DRWS management and staff at all levels in all aspects of preparation, implementation, and O&M of rural water and sanitation community based projects;
- undertake community mobilization;
- assist the communities in preparing a formal project proposal including the preparation of budgets, social assessments, financial analysis and final technical designs;
- assist the communities to set-up the CDWSA and provide training in basic management skills required to operate and administer the water supply system;
- assist the community to manage and supervise the construction of the water supply systems and procure all goods and services necessary accomplish this;
- provide continued management support to the CDWSAs once the water supply systems are up and running;
- develop private contracting capacity for civil works and goods;

- train local private sector in the use of new techniques and materials required for the construction of the water supply systems; and
- conceive, develop, install and maintain an M&E system for the project, train DRWS staff in its upkeep and use.

Project Management Unit (PMU). DRWS capacity to implement the project is weak, this is being addressed through capacity building of DRWS staff and through the establishment of a PMU. DRWS at present does not have the staff and capacity needed for the project. It is intended that the PMU staff would be absorbed into the DRWS at the end of the project. The PMU is responsible for the daily management, administration, and coordination of the project. The PMU's responsibilities include accounting, procurement, disbursement, management of Special Accounts (SA), M&E, and reporting. This PMU will be expanded and strengthened to carry out the implementation of the RWSS funded by the ADB. This is being done to facilitate a uniform approach to rural water supply and sanitation in the country. The ADB's project, which became effective in 2002, adopts a community based approach to rural water provision and would support water and sanitation sub-projects in Osh, Chui, and Jalal-abad Oblasts.

The PMU will be staffed with the following core staff: project director, procurement specialist, financial manager, accountant, water engineer, and M&E specialist/sociologist. The project director reports directly to the Minister of MAWR. To ensure satisfactory implementation of the RWSS project and the development of sustainable CDWSAs, the PMU, DRWS and the management consultants would operate and cooperate as described in the following paragraphs.

The PMU core staff would be responsible for all core activities such as procurement and financial management for the two projects. The PMU would be responsible for carrying out procurement actions using World Bank and ADB procurement procedures, as applicable. It would also prepare all Requests for Proposals and terms of reference for consulting assignments. The PMU would serve as the basis for the bid committee that would be responsible for reviewing and evaluating procurement packages. The PMU will also be responsible for the financial management of the project (see below in section on Financial Management).

The PMU staff would play a coordination role between the International Development Association (IDA), ADB, GoKR, and the projects. The Engineer would ensure that the technical aspects of the engineering work are carried out professionally. International consultants would be hired to assist the PMU in the areas of financial management, procurement, technical know-how and appraisal of villages participating in the project. As required and based on the workload, the project would finance additional core and technical staff to ensure that all activities under the two projects are carried out effectively. Manpower requirements would be evaluated jointly by the Banks and Government during regular supervision missions to determine any necessary changes.

CDWSAs. CDWSAs would be the main vehicle for ensuring beneficiary participation in the project. The CDWSAs, established by the communities, are the key organizations responsible for the ownership and long term management of water supply and sanitation facilities constructed under the project. They are the driving force of the process and will be responsible for determining and representing community choices. Commitment to the project concept of community ownership and financial responsibility would be demonstrated through a series of steps to be taken before systems rehabilitation or new construction happens. These steps include the CDWSAs establishment as a legal entity, preparing an application for project participation, opening an account, collection of the community's cash portion of the upfront capital contributions, selecting a water provision option, and developing a tariff structure.

Communities would be selected to participate in the project in accordance with agreed procedures and eligibility criteria, and the rehabilitation of each system would be carried out in accordance with agreed terms and conditions. Each step in the sub-project cycle, covering responsibilities and milestones, is detailed in the Operational Manual for the project. In summary, approval for inclusion in the project would be in response to a CDWSA request and members would participate at all stages from identification, planning, and design to construction. The Management Contractor, with local NGOs and sub-national DRWS staff, would work in teams that facilitate the prioritization with technical advice and assist CDWSAs in surveys, design, procurement, and construction supervision. Most rehabilitation works would be carried out by local contractors that would be procured through competition in line with relevant Bank procurement guidelines. Based on contributions from a CDWSA and the Management Contractor, the PMU would submit a report to the IDA that summarizes the process of each CDWSA establishment and CDWSA member participation in the selection of rehabilitation works, the description, cost estimate and financial analysis of the selected rehabilitation works and the environmental considerations. This report would form the basis for IDA's approval of the rehabilitation works for a particular community.

First year program. Given the limited Kyrgyz expertise and experience with community based rural water systems development, it has been agreed that the project would start with a small number of pilot sub-projects during the first year and then expand to thirty or more sub-projects per year for the remainder of the project. Project preparation consultants have worked with communities to prepare the first year program. Communities which present the highest probability of successful support are being targeted for the first year.

Fifteen community sub-projects have been developed and prepared for the first year program. Community mobilization has been completed, and proposals for fifteen rural systems to be rehabilitated have been prepared. The formation of CDWSAs in these communities and their legal registration is ongoing. All this has been done with the participation of the communities who were involved in the selection of the rehabilitation/construction works. The design work for the selected systems is ongoing and it is expected that the sub-projects would be ready for construction in 2002. The CDWSA Board and management staff will be involved in the procurement and supervision process. The lessons learned from this process will be incorporated in preparing the projects for the following years.

Ministry of Environmental Protection. The Ministry of Ecology and Emergency Situations (MEE) and its oblast departments will carry out the environmental review work for the subprojects. It has been agreed with the MEP that the PMU would submit a semi-annual list of schemes for which rehabilitation is scheduled, with an indication of the planned works. Based on this information, MEP would decide the type of environmental assessment needed. Rayon-based inspectors of the MEP would provide inspection and monitoring during and after the rehabilitation works (see also Section E.5).

Project Oversight

The Government has established a Coordinating Council for Water Supply and Sanitation (CCWSS - Decree # 365-r, September 20, 2000) chaired by the Minister of Agriculture. The CCWSS is mandated to review RWSS implementation progress, provide guidance to project management and resolve problems of inter-agency coordination. The Committee would meet semi-annually or more frequently as required. The members include the Deputy Minister of Finance, the Deputy Chairman of Goskominvest, the Deputy Minister of Health, the Deputy Minister of Environmental Protection, the Chairman of KAS (to be replaced by Director General of DRWS), and the deputy heads of all seven oblasts. Technical staff from regional offices and CDWSAs would be invited as needed.

Close coordination will be maintained with DFID which is providing substantial resources to the project as parallel financing, and ADB which is implementing a parallel infrastructure project in two northern oblasts of the country. It is expected that other donors and agencies will also play an important role in the successful implementation of the project. Regular contact will be maintained with donor representatives and they will be invited to participate on supervision missions. In addition, aide-memoires will be shared with the primary donor agencies.

Financial Management (see Annex 5 for details).

The Project is part of the GoKR's development program, implemented by the Ministry of Agriculture and Water Resources. Project activities will be implemented by the PMU. The PMU has no prior experience in World Bank projects. Accounts and records for the Project will be maintained by the PMU, which will procure and implement a financial management system (FMS), as prescribed by World Bank policy, capable of producing Project Management Reports (PMRs). Based on experience with other projects, it has been determined that development of a satisfactory financial management and accounting system will require consulting assistance. The PMU will also recruit a suitable financial manager and will procure and implement a financial management manual (FM manual) and an Internal Control Procedures Handbook (IC handbook). All these actions will be initiated before negotiations. A financial manager will be appointed within four weeks of effectiveness. The financial manager would be responsible for overall project financial management, maintenance of books of accounts for the project, preparation and dissemination of financial statements and PMRs, and ensure timely audit of the project. The PMU shall complete setting up of the computerized FMS and adoption of the FM manual and IC handbook within three months of effectiveness.

Books of accounts for the project would be maintained by the PMU based on International Accounting Standards (IAS). Quarterly PMRs, per formats agreed with the Bank, would be generated from the FMS. Formats of the PMRs would be incorporated in the FM manual. Initially, disbursements for the project will be under the traditional method through a SA (to be operated in accordance with the Bank's operational policies) that would be opened with a Bank acceptable to the World Bank. At the end of the first year of implementation, the financial system in place would be reviewed to assess whether PMR-based disbursement procedures can be adopted. If the system meets the requirements, disbursements will be made quarterly based on PMRs submitted by the Borrower. Disbursement arrangements against Statements of Expenditures (SOEs) is summarized in Annex 5 and allocation of loan proceeds in Annex 6. When PMR-based disbursement procedures are adopted, there will be no disbursements against SOEs. The target date for this conversion is September 1, 2003.

Auditing. There will be annual audits of the project financial statements and annual performance audits of the activities under the village water supply systems rehabilitation and construction component. All audits will be performed by auditors acceptable to the Bank, in accordance with audit terms of reference (TORs) prepared by the PMU and cleared by the Bank before the engagement of the auditor. The audit of the financial statements would be performed by a private sector auditor. The performance audits of the activities under the Rural Projects component will be carried out throughout the year by a private sector auditor. There will also be internal audit work performed by the Ministry of Agriculture internal auditors.

The cost of audits performed by private sector auditors will be eligible for financing from the Bank credit. All audits will be performed in accordance with International Standards on Auditing (ISA) and the Bank's guidelines on auditing as stated in the *Financial Accounting Reporting and Auditing Handbook* (FARAH) and other guidance that might be provided by the Bank. The audit reports will be in a format in

accordance with ISA and Bank guidelines, and will include an opinion on the project financial statements, the SOEs (or PMRs, as applicable) and the SA, as well as a management letter - the report on the Rural Projects component will contain an opinion on the adequacy of the activities performed, together with a management letter. Audit reports will be submitted to the Bank no later than six months after the end of the fiscal year to which it relates. The external auditors would be appointed within three months of signing of effectiveness.

Monitoring and Evaluation and Reporting

Monitoring and Evaluation. M&E is important, as the results of M&E would feed on an on-going basis into the sub-project preparation process during the project. The management contractor responsible for project coordination and implementation will design and establish a project-specific M&E system. The M&E system will actively promote stakeholder participation. This system will serve as the key project impact and performance monitoring tool. It will be used to ensure prompt response to problems and dissemination of lessons as they are learnt. Operational indicators such as the number of CDWSAs formed, acceptance of project rules by consumers, number of water systems under construction and completed will be used to provide information to assess progress of implementation and take timely decisions to ensure progress is maintained according to schedule. Evaluation determines whether the project objectives set in terms of expected outputs, and impact are being or will be met. Evaluation will be carried out (1) during implementation (mid-term evaluation, special surveys), (2) at completion, and (3) some years after completion.

Reporting: The PMU would prepare quarterly progress reports, which would include information on: (i) procurement; (ii) completion rate of ongoing tasks; (iii) payments made to contractors; (iv) institutional development, including training; (v) updated performance indicators; (vi) difficulties encountered, proposed measures to overcome these and assistance required; (vii) updated project cost estimates, procurement plan and implementation schedule; and (viii) compliance with the agreed Environmental Management Plan (EMP).

D. Project Rationale

1. Project alternatives considered and reasons for rejection:

Continuation with a traditional Bank investment project. Financing and technical assistance in the FSU has generally focused on water systems in large cities and towns, where scale economies could be realized. Rural areas have been part of few Bank projects in the region and have received declining support from national and local governments. This State-subsidized support has followed traditional, supply-driven provision of water and sanitation systems, where water is not treated as an economic good. These systems have proved nonviable, and it is not defensible to continue in the old style. There are two on-going water supply projects in the Central Asia region which target rural populations (Uzbekistan and Turkmenistan). Both projects used a traditional approach investing in physical infrastructure and TA to the existing rural water agency and both have run into significant implementation problems. These projects are now being restructured using a community based approach. A project focused solely on assisting government operators to rehabilitate water assets would likely have the adverse effect of propping up inefficient public operators at the expense of consumers and potential private sector entrants.

In addition to a community based approach, it is important to re-align sector institutions to create an enabling framework for community based water provision. Allowing KAS to continue as the sector institution while using a community driven approach to investments was not considered feasible. Sustainable investments under Community Driven Development require transfer of ownership and O&M

responsibilities to communities once the rehabilitation/construction is over. With the devolution of O&M to communities, KAS's role as public operator of rural water supply systems ceases to exist. Their continued existence would only be a drain on the public budget. It was therefore not considered feasible to adopt a community based approach without institutional reform in the sector.

Financing small towns water systems. The project at conception included rehabilitation of water systems in both rural areas and small towns. During the course of preparation it became obvious that covering both would strain the Government's implementation capacity and Bank's supervision and quality control capacity. Based on extended discussions with the Government it was decided that rural villages only would be tackled under the project. Secondary towns and cities may be addressed under a future project.

Investing using a community based approach and a new rural water agency. This is the option selected for the project after extensive discussions with the GoKR and KAS. Under this option all of the Credit funds would be channeled into rural water facilities and no Credit funds would be allocated for small towns. To maximize the benefits from water investments, DFID is financing a complementary sanitation and hygiene component. The project includes supporting institutional reforms with the creation of a small, policy making unit at the national level and representative units at the sub-national level to facilitate policy implementation, and the privatization of KAS.

2. Major related projects financed by the Bank and/or other development agencies (completed, ongoing and planned).

Sector Issue	Project	Latest Supervision (PSR) Ratings (Bank-financed projects only)	
		Implementation Progress (IP)	Development Objective (DO)
Bank-financed			
Rural Water System Rehabilitation	Uzbekistan Rural Water and Sanitation Project	S	S
Rural Water System Rehabilitation	Turkmenistan Water Supply and Sanitation Project	S	S
Other development agencies			
International Secretariat for Water (International NGO)	Community-Based Rural Water Supply Pilot Project in Southern Kyrgyzstan		
MercyCorps (International NGO)	Community Based Credit Scheme in Kyrgyz Republic		
Helvetas (International NGO)	Community Based Rural Water Supply in Kyrgyz Republic		
Asian Development Bank	Community Based Infrastructure Services Sector Project		

IP/DO Ratings: HS (Highly Satisfactory), S (Satisfactory), U (Unsatisfactory), HU (Highly Unsatisfactory)

3. Lessons learned and reflected in the project design:

While the Bank's involvement in the water and wastewater sector in the transition countries is still at its beginning and no operation has been completed, the Bank has broad experience world-wide in service provision for low income communities and where government resources are constrained. Some of the key lessons derived from the Bank's work in the sector are summarized below:

Simplicity in project design lowers project risks. An important lesson in project preparation is to keep project design simple, as the inclusion of multiple components and institutions greatly increases the risks to the project. The design of this operation involving communities has been kept simple as possible with the main focus on rural water provision and institutional reforms. To enhance the impact of project investments, geographic coverage under the World Bank project has been limited to three Oblasts while two northern Oblasts are being covered by the ADB following a similar project concept. Further, coordination and smooth implementation will be unified under a management contractor to be hired for this purpose. Given the country's tight fiscal situation and desire to maximize limited resources, the GoKR still has a strong aversion to towards borrowing for foreign technical assistance, preferring to seek foreign technical assistance from bilateral donors, through grants or other means. The Bank team worked hard to involve DFID who is now providing substantial grant funds for project implementation. However, in addition to DFID funds, to ensure adequate project implementation, limited foreign technical assistance has been integrated in this project.

Timely project preparation is important for successful implementation. Experience from around the world underlines the importance of rigorous, early preparation for successful implementation. Poor quality at entry may lead to unrealistic expectations, disbursement delays, and poor institutional and financial performance. On-going rural water supply projects in Uzbekistan and Turkmenistan highlight the need for high quality at entry. In both Uzbekistan and Turkmenistan implementation has suffered from lack of upfront restructuring of institutions, poor implementation planning and incomplete preparation of sub-components. Emphasis is therefore being placed on front-loading preparations with institutional restructuring, preparation of a detailed operational manual, and approximately 10 percent of the sub-projects being ready before the project is effective.

Devolution of responsibilities is important for sustainability. One of the main lessons emerging from Bank experience is that the single most important requirement for sustainability of investments in rural water provision is the devolution of ownership and O&M responsibilities to user communities. The project has made this requirement its central theme and provides extensive support for capacity enhancement at the local level. The project concept DRA has been adjusted to the Kyrgyz context and institutions. Key economic, financial, organizational and technological rules have been defined. It is, however, recognized that sector reform is a lengthy and often politicized process, so flexibility should be built in and expectations need to be realistic. It is very important that there is strong involvement and ownership by all stakeholders, including the Borrower, the project executing agencies, and the beneficiary communities. This requires that adequate attention is paid to the political-economy by marketing reforms to lawmakers, the general public, and sector specialists. Information on sector reforms and the requirements for participation in the project will be widely dispersed and the POM made available to local communities, government officials, and civic bodies to build a constituency for the reforms proposed under the project.

4. Indications of borrower commitment and ownership:

The GoKR is committed to increase water and sanitation coverage in rural areas and has firmly endorsed the principles of (i) cost recovery through user-fees; and (ii) community participation, management and ownership of the water supply infrastructure. A principal indication of Government commitment lies in the decree on KAS privatization that was approved by the government on September 19, 2000. In preparation for this project, the government decreed (#578 of September 19, 2000) that KAS is to be privatized and fully replaced by the already functional DRWS in the MAWR. The Department will be a policy and advisory body at the national level, with representation at the Oblast level. The budget sources and staff for DRWS have also been specified. It was initially proposed that the DRWS has representation at the Rayon level as well. Due to the tight fiscal situation in the country the government has limited the size of DRWS and there are at present no rayon level offices. The Decree was followed by a Regulation which details the functions, authority, and activities of DRWS. The Department will facilitate, (and not be involved in operating water systems), community water supply schemes in Kyrgyzstan's rural areas; the Oblast level DRWS staff will work closely with Oblast and rayon government representatives in preparing and implementing water schemes under the project. Oblast administration officials have expressed eagerness to accept decentralized responsibility for water provision in rural areas, and are fully committed to working with communities and DRWS in implementing the proposed demand-driven approach.

The Rural Communities have expressed an eagerness to take charge of their water and sanitation services and although willingness to pay for these services is rather low in some areas, experience with demand driven water supply projects implemented in the Osh Oblast has shown that willingness to pay increases dramatically once the systems are up and running.

5. Value added of Bank support in this project:

This project will initiate cooperation between the World Bank and the Kyrgyz Republic in the rural water and sanitation sector. The reform program for the rural sector has been sculpted based on the World Bank sector report and worldwide Bank experience in the sector. The value added of Bank support in this project lies in: (i) assisting in developing a long term, community based rural water program that could serve as a common framework for other International Financial Intermediaries (IFIs); (ii) developing and implementing an institutional framework which reduces the government's administrative and fiscal burden; (iii) introducing a sustainable model for rural water provision; (iv) acting as catalyst for various policy and sector reform decisions; and (v) facilitating investment in the sector by other IFIs. There is also value added to the Bank's own learning and experience in implementing a flexible project design, and preparing the first community based project in a transition economy.

E. Summary Project Analysis (Detailed assessments are in the project file, see Annex 8)

1. Economic (see Annex 4):

- ☒ Cost benefit NPV=US\$ million; ERR = 13-15 % (see Annex 4)
- ☐ Cost effectiveness
- ☐ Other (specify)

The major benefits of this projects are improved water services to approximately 350,000 beneficiaries in rural communities. These include direct user benefits from water consumed and consumer surplus for users who now use less effective and more costly alternatives, such as rivers. The project offers improvements to communities that demonstrate genuine demand and express a willingness to participate. The investments in the improvement of the water supply systems are scaled to a level of service with affordable O&M costs for the beneficiaries. It is highly likely that user benefits, calculated on the basis of

time savings related to improved sources, will be realized. A project economic analysis has not been attempted here as the distribution of investments amongst sub-projects is not known. Instead, returns have been calculated for two possible investments under the project: a standpipe system and a handpump on a borehole. Based on conservative assumptions regarding time savings, productive time, and the value of time, the internal rate of return for a handpump on a borehole is 14.4 percent and for a standpipe system 13.2 percent. Further information is provided in Annex 4.

Additional benefits are expected from the sanitation and hygiene component, although these have not been quantified.

2. Financial (see Annex 4 and Annex 5):

NPV=US\$ million; FRR = % (see Annex 4)

Additional financial aspects are covered in:

- (i) Fiscal impact
- (ii) Community contributions
- (iii) Financial management capacity assessment

The communities will assume responsibility for the full O&M costs of the water schemes, that is user fees will cover 100 percent of O&M. Users will also make an annual contribution of one percent of the total investment cost to a replacement/investment fund. This fund can be used by communities for extension of the system and for replacement of equipment when it reaches the end of its lifetime.

The size of the each sub-project will be determined by the villages' willingness and ability to pay the O&M cost plus contributions to the replacement fund. The size of each sub-project would, however, be capped at US\$50 per capita. This cap would be reviewed on an annual basis.

Communities will contribute minimum 20 percent of the investment costs of the water supply systems. The community contribution can be a mix of cash and in-kind (labor, materials, etc.) but at least 5 percent of the contribution must be in cash. To demonstrate genuine commitment to the project, the cash contribution will be made up-front, before the implementation phase of the sub-project. The Community must commit itself to providing the in-kind contribution during the implementation phase of the sub-project. In addition to up-front contributions, communities will repay 5 percent of capital costs over a 7 year period, with 4 years of grace. There will be no interest charges on the 5 percent of debt, and the government assumes the foreign exchange risk.

The remaining 75 percent of the investment cost will be provided as a construction subsidy by the Government/IDA. The Government's contribution will further consist of: (i) exemption of duties for imported items; (ii) exemption of VAT for locally procured goods and services; and (iii) the recurrent cost of establishing and operations of the Rayon, Oblast and Central levels of the DRWS.

A risk exists that villages will not continue to pay after systems are handed over. This will be monitored during the project, and the Oblast DRWS will have the task of continued monitoring and promulgation of results thereafter. Experience with community driven rural water projects implemented by an NGO in the southern part of the Kyrgyz Republic, have shown that, if anything, willingness to pay increases rather than decreases after successful implementation.

Fiscal Impact:

At the national level, the Government is expected to make a budgetary contribution of US\$50,000 in annual recurrent cost of operating the DRWS at national and Oblast levels and forego approximately US\$2.8 million over the life of the project in VAT, import duty and income tax exemptions generated by the project. The fiscal impact of the Credit repayment is about US\$600,000 per annum after the grace period, which is equivalent to half a percentage point increase in the annual debt service. This level of Government contribution is considered affordable.

The CDWSA will be required to contribute a minimum of 5 percent to the sub-project cost in the form of cash, and an additional 15 percent or higher in-kind contribution. The average cost of a sub-project is expected to be between US\$30-45 per capita (or US\$180-270 per family of 6). A five percent cash contribution would represent a US\$9-14 per family contribution, or 2.0-3.0 percent of the monetized value of the average annual family income estimated by the social assessment. If one considers the cash portion of the average annual family income, the contribution represents approximately 6.4-9.6 percent. Recurrent costs of operations and maintenance plus 1 percent of capital investment cost per annum is expected to be about approximately US\$1.4-\$2.1 per capita per annum for a typical system. This amounts to approximately US\$8.4-\$12.6 per family per annum, or 1.7-2.6 percent of the monetized value of the average annual family income. If one considers the cash portion of the average annual family income, the contribution could represent approximately 6 to 9 percent of the incomes.

3. Technical:

Virtually all existing village water supply systems are standpipe systems. A typical system serves between 1,000 and 5,000 people and consists of groundwater exploitation by submersible pumps, transmission to storage reservoirs with or without intermediate booster pumping; gravity flow from the reservoirs to the distribution networks and standpipe delivery points which serve a number of families. The systems consists mainly of asbestos cement pipes, manufactured locally, steel standpipes made locally and submersible and booster pumps manufactured in other FSU countries namely Moldova, Russia and Ukraine. In most cases the groundwater is of very good quality and abundantly available in the three regions under the project. The depth of the aquifer varies strongly. Many of the existing water supply systems are over 30 years old and no longer functional.

Because of the history of rural water supply in Kyrgyzstan, most communities aspire to standpipe systems. It will indeed be cost effective to rehabilitate old standpipe systems where villages can afford the O&M costs. However rehabilitation/construction of standpipe systems will not always be possible: quite often the existing standpipe systems were over-designed, or designed without any consideration for operation and maintenance cost; rehabilitation of these systems would burden the communities with O&M costs that they

can not afford. In some cases construction of new standpipe systems would require per capita investment costs that far exceed the subsidy ceiling. Where communities want/need an alternative to standpipe-water-distribution, the project will introduce other water supply systems such as boreholes or shallow wells equipped with hand pumps. Experience in the Osh Oblast with community driven rural water supply scheme showed that although there was initial hesitation on behalf of the community vis a vis hand pumps, they quickly became the popular solution in areas with erratic electricity supply.

The project will pay particular attention to ensure that the systems are easy and cost effective to run and maintain. Where possible gravity feed system will be favored. A major challenge in building water supply systems in Kyrgyzstan is frost. During the winter, water sources closer to the surface (springs, infiltration galleries, etc.) tend to freeze making the more expensive borehole-submersible-pump-solution often imperative.

Where appropriate, the project will introduce the use of: (i) new materials such as PVC, PE pipes; (ii) handpumps; (iii) water disinfection through chlorine products rather the UV treatment; (iv) state of the art submersible pumps; (v) protection equipment for pumps safeguarding them from dry running and unstable electricity supplies; and (vi) where applicable introduce metering.

4. Institutional:

4.1 Executing agencies:

The Director of the newly established DRWS shows considerable interest in the demand driven approach on which the project is based. Despite his interest, DRWS is hampered by the lack of a full staff complement and experience in working with community based projects. DRWS needs assistance from qualified personnel in the development and management of sub-projects and the implementation cycle who would be part of the PMU. Beyond this, the project will use a decentralized approach, with key roles played by communities, Oblasts, international management consultants, and the private sector. The project management consultant will work with communities to establish and develop their capacity to implement the project cycle and assume responsibility for procuring and contracting sub-projects. Appropriate procurement and disbursement procedures for community contracting are part of the operational manual. In addition, capacity building will be provided to project stakeholders as needed to enable them to effectively carry out their roles. An important challenge will be the development of the private sector, through appropriate incentives, that would facilitate long term sustainability of a spare parts distribution system. (For details see section C4: Project Description Summary. Executing Agencies and Implementation Arrangements)

4.2 Project management:

While the Ministry of Agriculture manages the largest IDA portfolio in the Government and has developed a degree of project management capacity, including procurement and financial management, this project is first of its kind in terms of the level of decentralization, number of communities involved, and application of a Demand Responsive Approach (DRA). DRWS, the main project management organization, is also a new organization with a very different mandate than its predecessor. Thus, the project management capacity to carry out the project is considered very weak.

To strengthen the project management and implementation capacity, the project includes the following assistance: (i) an international management consulting firm (working in collaboration with local NGOs) with expertise and strong track record in institution building, design and implementation of rural water sub-projects, and community mobilization; and (ii) international experts working within the PMU to assist

in project implementation, approval of sub-projects, installation and maintenance of financial management systems, accounts, monitoring and evaluation of project progress, and compliance with Bank fiduciary responsibilities.

Flow of Funds

The IDA credit of US\$15 million equivalent will initially be disbursed on the basis of traditional disbursement procedures. After approval of FMSs of the PMU by the Bank, and with mutual agreement with the Bank, the Borrower may choose to substitute traditional disbursements with PMR based disbursements. The Borrower is the GoKR. The counterpart contribution of US\$3.31 million will be provided by a mixture of community contributions and central government allocations. Communities will contribute 20% of all sub-project costs, this implies that IDA will fund 100% of 80% of sub-project costs.

Overall project management and administration will be the responsibility of the PMU within the MAWR. To facilitate timely project implementation, the Borrower will open one SA for the project in a commercial bank acceptable to the Bank. The acceptability of the banks proposed for local currency accounts will be reviewed and certified by the PMC. To facilitate payment to local contractors for civil works completed at the community level, the PMU will maintain accounts in banks at the Oblast level. Funds would be transferred to these accounts based on 30 day anticipated expenditures. To avoid disruptions in operations, the first transfer to the local currency accounts will cover the needs of up to two months. The PMU would authorize the representative of the local DRWS office to order the transfer of funds to the bank account of the contractor. The Project's local currency accounts will be opened in private banks acceptable to the Bank, will be fed from periodic transfers from the Special Account sufficient to cover the needs of a month or so, and withdrawals will be made only on the basis of a request/progress report prepared by the Consultants supervising the local works. This arrangement will be revisited after a year to determine if changes need to be introduced to this system.

Administration of the SA, including Credit disbursements for all project components of the three Oblasts, and preparation of consolidated accounts and financial reporting will be centralized at the PMU. The project supervising engineer, part of the international management consulting contract, will issue engineer's certificates for works completed. The documentation for authorization for payment will be counter-signed by the legally authorized representative of the CDWSA. Counterpart funds will be maintained in a project account to be maintained in a commercial bank.

Community contributions

The counterpart funds are a combination of community and government contributions. The government's contribution consists of its share of incremental operating costs and the remainder of the counterpart funds are contributed by participating communities. These contributions will be accounted for in the project books, and properly reported on.

4.3 Procurement issues:

Procurement Arrangements. Contracts for works and goods to be financed under the Loan will be procured in accordance with the Bank's Guidelines - *Procurement under IBRD Loans and IDA Credits, dated January 1995, revised January and August 1996, September 1997 and January 1999*; consultants will be hired in accordance to the Guidelines - *Selection and Employment of Consultants by World Bank Borrowers, dated January 1997, revised September 1997 and January 1999*. Major project elements, their estimated costs and proposed procurement methods and packages are shown in Annex 6. The Bank's Standard Bidding Documents will be used. Procurement under the proposed project will be carried out by the PMU in the MAWR, the management contractor, and the participating communities.

The procurement capacity assessment recently carried out rated that the related agencies, DRWS, its predecessor agency KAS, and its parent ministry of MAWR, were in a high risk category. The reasons are: (i) practice of the public procurement law is short, the MAWR and its departments are not fully able to strictly follow the established procedures and prepare good quality bidding documents in a timely fashion; (ii) knowledge of procurement rules are not fully adequate to handle procurement properly; (iii) there are no adequate independent audit systems in place; (iv) due to the fact that the DRWS is newly established entity, its project management and particularly procurement management capacity is very weak; (v) the bureaucratic system creates opportunities for informal interference in procurement process by the senior officials; and (vi) the Criminal Code and the Public Procurement Law contain the anti-corruption provisions, but the general perception is that there are no decisive actions to combat corruption efficiently.

The project design incorporated the above recommendation and made the PMU responsible for overall procurement activities, which will be assisted by PMC in the technical and commercial aspects of procurement. Procurement of works and capital goods through International Competitive Bidding (ICB) and National Competitive Bidding (NCB) and consulting and audit services will be conducted by the PMU. Smaller contracts and community level procurement will be handled by the CDWSA also with assistance from PMC. PMC will agree with each participating community if the CDWSA can be involved directly as a procurement agent. Weak CDWSAs shall not be involved directly in procurement activities until adequate capacity is developed. They should, however, be kept current on the progress of their own procurement to maximize the community ownership. In case the community is not ready to carry out procurement, PMC will act as the executing agency and carry out procurement on behalf of the community. The operational manual provides the detailed steps in procurement and sample procurement documents for smaller contracts and community level procurement.

Institutional capacity of communities is key to success for community participation in the procurement, therefore, capacity building is the very important task of the management contractor. Development of local markets is an important objective of the project. Simplified procurement procedures have been developed to enhance local procurement opportunities and capabilities. The management contractor will agree with each community if the community can be involved as a procurement agent. Weak community groups should not be involved directly in procurement activities until adequate capacity is developed. In case the community is not ready for carrying out procurement, the management contractor will act as the executing agency and carry out procurement on behalf of the community.

4.4 Financial management issues:

An assessment of the financial management capacity of the PMU has been completed with a 4-C certification. Based on an agreed action plan, the PMU has initiated corrective action to remedy the current

situation where there are no financial arrangements in place. The summary assessment is presented in Annex 6 and the full report is available in the project files.

5. Environmental: Environmental Category: F (Financial Intermediary Assessment)

5.1 Summarize the steps undertaken for environmental assessment and EMP preparation (including consultation and disclosure) and the significant issues and their treatment emerging from this analysis.

The Appraisal mission reviewed the Kyrgyz environmental laws and regulations and clarified the environmental assessment procedures applicable to the proposed project. The POM includes an environmental annex (#8) describing these procedures.

The subprojects will be screened according to the Kyrgyz procedures by the Oblast Offices of Ecology. Specific environmental management measures will be developed for each subproject and the roles and responsibilities for implementation defined before any subproject is approved.

The project will rely on the Kyrgyz environmental authorities for the environmental screening. Appropriate environmental management measures will be incorporated into the project by the DFID financed project management consultant who will work with the rural communities in project identification and preparation. Their responsibilities in addressing the environmental aspects of the proposed project will be included in their TORs. Close cooperation will be established with the State Agency for Geology and the Department of Water Resources in the assessment of quantity and quality of the potential water supply sources.

The capacity of the SES to carry out routine inspections of the water supply systems, enforce sanitary protection zones and monitor water quality during the operational phase will be strengthened through the DFID financed sanitation and health component. The project also finances improvement of sanitation facilities and health and hygiene promotion programs in the same villages targeted for water supply systems rehabilitation/reconstruction.

The need for a separate environmental specialist in the PMU is not foreseen, as the environmental measures needed for the project are integral to sound design and operation of any water and sanitation project and the water supply engineers in the PMU have sufficient technical capacity to handle these aspects.

The operations manual has been reviewed by Environmentally and Socially Sustainable Development Sector Unit (ECSSD) and their comments have been addressed in the final draft.

5.2 What are the main features of the EMP and are they adequate?

The project will have considerable positive impacts on public health. In most of the project area, water is being abstracted from 60-100m deep wells, therefore serious risk of groundwater contamination is not foreseen. However, activities such as stockpiling of cattle dung, use of agricultural chemicals, infiltration or seepage from sanitation systems, and location of livestock farms near the water supply sources may impair water quality. Excessive water abstraction rates may affect the recharge capacity of the groundwater sources and other competing uses for water in the project area. During the construction phase, there may be some minor traffic disruptions, noise and dust, generation of construction wastes, damage to trees and vegetative cover, and exposure of workers to asbestos dust from cutting and repairing old asbestos cement pipes. Liquid chlorination systems may pose a safety hazard to the operators.

Environmental measures will be incorporated into all sub-project activities to ensure that public health is protected and project activities do not harm the environment. All facilities will be designed, constructed and operated to meet the environmental standards of the Republic of Kyrgyzstan with respect to facility siting, construction, water source protection, drinking water quality, and waste-water disposal. Water quality test results will be obtained for each proposed source. Groundwater abstraction rates will be designed within safe aquifer yields and with due consideration to other competing uses. Wells will not be drilled in areas prone to landslides. Disinfection facilities and sanitary protection zones will be provided at water supply sources under risk from contamination. House connections will not be provided in households without a septic tank or connection to a functioning wastewater disposal facility. Sanitation systems (latrines) will be designed and built to minimize odors and access to flies and disease vectors, and avoid risk of contamination of subsurface waters. Chlorination systems will be subjected to the standard methods of protection and air control and structures housing these facilities will be built to standard specifications. Asbestos pipes will not be used, in extreme cases where no feasible alternative exists, exception will be sought from the World Bank on a case by case basis. Good construction practices as per Kyrgyz Construction Norms and Regulations will be followed when carrying out the civil works.

Community orientation and training in environmental issues and hygiene education will be provided to ensure effective use of facilities (especially water handling practices, hand-washing and use latrines, and maintenance of sanitary conditions around the water supply sources). Water quality will be assessed upon the completion of construction of all facilities and communities will be trained to safeguard their water source from contamination. They will be shown simple water disinfection techniques and residual chlorine testing and appropriate water handling practices.

The PMC and DRWS will keep the Ministry of Ecology's Environmental Impact Assessment (EIA) requirements in focus and sensitize communities to the environmental aspects of their proposed water and sanitation schemes. Sub-projects will abide by the environmental guidelines established by the Kyrgyz Ministry of Ecology as well as those established by the World Bank.

5.3 For Category A and B projects, timeline and status of EA:

Date of receipt of final draft: NA: as this project does not fall into category A or B

5.4 How have stakeholders been consulted at the stage of (a) environmental screening and (b) draft EA report on the environmental impacts and proposed environment management plan? Describe mechanisms of consultation that were used and which groups were consulted?

As part of the Social Assessment, several meetings were held with the beneficiaries. These consultations addressed public health, hygiene, and social issues. Consultations on the Kyrgyz environmental requirements for the project were held with the environmental authorities and the implementing agencies during the Appraisal mission.

During implementation, the project will use a community driven approach in which the subprojects will involve the beneficiary communities throughout the selection, design, construction and operation phases. Information on the environmental aspects of the subprojects, water quality and quantity issues, and proposed source protection measures will be incorporated into the overall community consultation and public information process.

5.5 What mechanisms have been established to monitor and evaluate the impact of the project on the environment? Do the indicators reflect the objectives and results of the EMP?

The M&E system established for the project will ensure prompt responses to problems and dissemination of information about corrective actions. Measures relevant to environment will include per capita availability of water; percentage of water samples in compliance with water quality standards; percentage of water samples in compliance with stipulated norms for residual chlorine; reduction of incidences of CDD and intestinal worm infections; and increases in safe hand-washing practices, clean household latrines, schools with sanitary surveillance programs, and safe storage and handling of drinking water. During review of the feasibility study/design documents and through periodic inspections in the operational phase, the concerned agencies (SES, Oblast Office of Ecology) will ensure that the agreed environmental mitigation and monitoring plans are complied with.

6. Social:

6.1 Summarize key social issues relevant to the project objectives, and specify the project's social development outcomes.

A key stakeholder for the project is the 750,000 households in the Oblasts of Talas, Issyk-Kul and Naryn. Although most households own their own homes, only 0.5 percent have in-door toilets and only 1/3 have latrines, which are usually 20-50 meters from dwellings. One-third of households have water connections, a third use stand posts or water tankers, and a third have no organized water service. Only half have electricity. Household stakeholders say that lack of drinking water is one of the top two biggest problems they face, about equal to low income. The average household has five children and three generations, and is very literate, with most members having secondary education and some also having technical and/or university education. Agriculture and animal husbandry dominate the lives of households in the three Oblasts and most households make a subsistence living.

Social issues related to the project are: the ability and willingness of households to pay for water services; differing desires to pay for water depending on differing access to alternative water sources and differing available income; the lack of knowledge by some about the link between hygiene and health problems; incorrect disposal of faeces, especially children's faeces; insufficient handwashing with soap following defecation/urination; some cultural practices that exacerbate health problems (washing, bathing and sleeping); and the ability to communicate health/hygiene messages to targeted populations, especially mothers and younger children.

Social development outcomes cover the provision of safe and affordable drinking water to most villages in the Issyk-Kul, Naryn and Talas Oblasts improved hygiene of individuals and families; participation of stakeholders in project implementation to steer the project toward community demands; establishment of community drinking water supply association boards to strengthen planning; and implementation and administration of water services at the local level.

6.2 Participatory Approach: How are key stakeholders participating in the project?

Stakeholders were studied intensively in September-November 2000 during the conduct of two separate social assessments of water supply and usage, and sanitation and hygiene issues. These assessments entailed household surveys, focus groups, in-situ observation, and interviews of experts. In addition, two national workshops were held with government officials, NGOs, and the donor community. The studies and workshops enabled the Project Team to tailor the project design to fit the needs of the stakeholders.

The project's goal is to create demand-driven development of water supply and sanitation in the project area. Consequently, stakeholders will participate in implementation of the project in several ways.

Communities will determine the type of water service they want and participate in the technical design of that service. They will also provide labor for construction and rehabilitation and be involved in procurement of certain types of goods and services that support the project. Communities will also own and manage their water facilities via CDWSA boards. CDWSAs will be responsible for setting and collecting usage fees, and maintaining and expanding their own systems. These boards will build on the existing efforts of village councils. Communities will also manage village-level hygiene promotion projects.

The project will also support an international management contractor to provide training to water management staffs and local private vendors to help them support management and expansion of water systems. During selection of villages to participate in the project, a social assessment to determine poverty levels, income and expenditure, willingness and ability of villagers to pay for service will be completed.

6.3 How does the project involve consultations or collaboration with NGOs or other civil society organizations?

NGOs have been consulted in the design of this project, including a national stakeholder workshop. Representatives of these organizations have played a significant role in project preparation during consultations on draft working papers. The project will utilize an international Management Consultant (MC) to provide training to water management staffs and local private vendors to help them support management and expansion of water systems.

6.4 What institutional arrangements have been provided to ensure the project achieves its social development outcomes?

The primary social development outcome is to provide safe and affordable drinking water and improved hygiene to most villages in the Issyk-Kul, Naryn and Talas oblasts based on village demands. The project has already utilized social assessments and stakeholder workshops to gauge village needs and prospects for sustainability. The preparation of subproject proposals by villages will help ensure achievement of project objectives - community determination of the type of service it wants; conduct of local social assessments to determine the suitability of water service with community needs; and local input in technical designs, budgets, procurement plans, financial projections, and tariff levels. To participate, villages will be required to contribute cash or in-kind goods and services, and establish a CDWSA.

In the national government, a new DRWS has been created to implement the project. It will have local offices at the oblast level to be responsive to local decision-making. International consultants will help organize and train staff of the DRWS, and help them to evaluate village proposals for project participation and monitor progress.

DFID will facilitate hygiene promotion projects developed by local villages and assist in refurbishing sanitation facilities. It will also assist the SES to improve its water quality monitoring and protection, and help build capacity for promoting sanitary hygiene at the NCHP.

6.5 How will the project monitor performance in terms of social development outcomes?

The M&E system established for the project will ensure prompt responses to problems and dissemination of information about corrective actions. Indicators relevant to social development outcomes will include the number of CDWSAs formed, acceptance of project rules by consumers; the willingness and success of communities in taking responsibility for their water and sanitation systems (number of systems transferred to users, financial health of locally-controlled water systems, and planned expansions); reduction of incidences of CDD and intestinal worm infections; and increases in safe hand-washing practices, clean household latrines, schools with sanitary surveillance programs, and safe storage and handling of drinking water.

7. Safeguard Policies:

7.1 Do any of the following safeguard policies apply to the project?

Policy	Applicability
Environmental Assessment (OP 4.01, BP 4.01, GP 4.01)	<input checked="" type="radio"/> Yes <input type="radio"/> No
Natural Habitats (OP 4.04, BP 4.04, GP 4.04)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Forestry (OP 4.36, GP 4.36)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Pest Management (OP 4.09)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Cultural Property (OPN 11.03)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Indigenous Peoples (OD 4.20)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Involuntary Resettlement (OD 4.30)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Safety of Dams (OP 4.37, BP 4.37)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Projects in International Waters (OP 7.50, BP 7.50, GP 7.50)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Projects in Disputed Areas (OP 7.60, BP 7.60, GP 7.60)*	<input type="radio"/> Yes <input checked="" type="radio"/> No

7.2 Describe provisions made by the project to ensure compliance with applicable safeguard policies.

See Section 5 Environmental.

F. Sustainability and Risks

1. Sustainability:

The sustainability of the water and sanitation facilities rests on the following elements:

A. Community willingness and capacity to manage and sustain services: Experience with community managed infrastructure services is limited but the Soviet legacy does have some aspects which are potentially positive for building participatory institutions. There was under the Soviet system an extensive infrastructure of schools and most farmers have more than the minimum 9 years of education. The participants will therefore be able to understand written materials on the logic and purpose of CDWSAs, their rights and responsibilities, and the content of contracts. There is also the practice of "Ashar" where communities come together and contribute labor for community infrastructure such as local roads. But since previous experience with community managed water services is lacking there is need for capacity building and expert advice.

Project sustainability will be achieved only by a combination of measures aimed at building community management capacity, providing long term technical support and assisting communities to understand and implement cost recovery measures. Teams fielded by the management contractor will work with sub-national DRWS units to build capacity for on-going support to communities for technical, procurement, and management issues. Involvement of CDWSAs in all aspects of the project cycle should further increase their sense of ownership and help prepare them for on-going O&M roles. To help communities manage their services in the long term, local capacity will be strengthened in community organization, procurement, operations and management, financial management, and hygiene education.

B. Availability of goods and services in the local markets, accessible by the communities: This will be achieved by developing local distribution networks in association with international manufacturers. The project includes innovative procurement methods to help develop the local market in provision of equipment and spare parts to be used in rural water systems, and looks at the longer term incentives to keep these agencies functioning, especially in selling spare parts and providing technical assistance to communities. The public sector will also have to play a supportive role, especially at the rayon level. Civil works will be

entirely subcontracted to the local private sector; a head start in creating local capacity for such work is provided by the availability of former KAS operators with a knowledge of the sector and rural water systems. Building private sector capacity for contracting and procurement is a specific responsibility for the management contractor.

2. Critical Risks (reflecting the failure of critical assumptions found in the fourth column of Annex 1):

Risk	Risk Rating	Risk Mitigation Measure
From Outputs to Objective		
1. Government does not provide adequate budget allocations for DRWS	S	The decree establishing DRWS includes provision for DRWS' budget.
2. KAS is not dissolved	M	An action plan for the dissolution of KAS was discussed and agreed at Appraisal, and will be confirmed at Negotiations.
3. DRWS interferes with the functioning of CDWSAs and private contractors	H	Sub-project preparation includes extensive training for CDWSAs, DRWS and contractors in their respective roles.
From Components to Outputs		
Communities are not able or willing to participate and community demand does not guide investment decisions.	S	Management contractor teams will verify selection process and affordability levels of communities. Ensure project rules are widely disseminated and enforced, and that political influences do not interfere with community expression of demand.
Private sector is unable to deliver goods and spare parts, or contract for civil works.	M	After sales service and spare parts distribution development will be part of goods procurement contracts. Local private sector contracting and distribution capacity building is part of the project. Former KAS employees with construction experience will be trained in community contracting and use of new construction techniques and materials.
DFID is unable to coordinate with villages participating in the water component	M	DFID funded PMC would ensure coordination between the water component and the DFID funded hygiene component.
Consultants are unable to implement the project as planned.	M	Detailed TOR have been developed jointly with IDA and DFID; the PMC is expected to be a firm/ international NGO with experience in implementing CDD projects.
Overall Risk Rating	S	

Risk Rating - H (High Risk), S (Substantial Risk), M (Modest Risk), N (Negligible or Low Risk)

3. Possible Controversial Aspects:

No significant controversies are foreseen. As this is a project that initiates a radically new approach to water provision in rural areas, the capacity for implementing such a project is absent. Consultant costs are proportionately high. There is resistance to spend more than a minimum amount for Technical Assistance funds. The willingness of the government to adequately address issues of project management rests on their awareness that without appropriate advice project investments will not be sustainable and rural water assets will continue to deteriorate. Additionally, the concept of community determination of investment levels based on affordability is something new in the Kyrgyz context. There may be attempts to interfere in the selection process and have the government choose sub-projects on a political basis. This would jeopardize economic and financial viability, and adversely impact the sustainability of investments. DRWS staff at all levels have to continue their commitment to changing the role of the consumer and the government in rural water provision.

G. Main Credit Conditions

1. Effectiveness Condition

- A rural hygiene and sanitation consultant, and a project management consultant, acceptable to the Association, are employed for the Rural Hygiene and Sanitation Improvements component, and for the provision of technical assistance to PMU, DRWS and Beneficiaries for the preparation, implementation, and administration of sub-projects.

2. Other [classify according to covenant types used in the Legal Agreements.]

Conditions for Negotiations:

- Finalized Operational Manual
- Preparation of draft final Project Implementation Plan (PIP)
- Completed preparation of 15 pilot sub-projects
- Agreement with GoKR on KAS closure action plan

Board Conditions

- Conclusion of the Grant funding agreement between DFID and GOK
- Appointment of the PMU Accountant

H. Readiness for Implementation

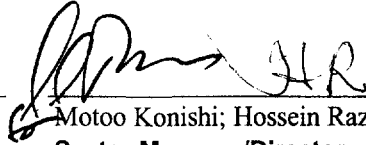
- ☒ 1. a) The engineering design documents for the first year's activities are complete and ready for the start of project implementation.
- ☐ 1. b) Not applicable.
- ☐ 2. The procurement documents for the first year's activities are complete and ready for the start of project implementation.
- ☐ 3. The Project Implementation Plan has been appraised and found to be realistic and of satisfactory quality.
- ☐ 4. The following items are lacking and are discussed under loan conditions (Section G):

I. Compliance with Bank Policies

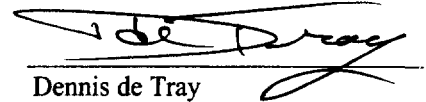
- ☒ 1. This project complies with all applicable Bank policies.
- ☐ 2. The following exceptions to Bank policies are recommended for approval. The project complies with all other applicable Bank policies.



Kavita S. Sethi
Team Leader



Motoo Konishi; Hossein Razavi
Sector Manager/Director



Dennis de Tray
Country Manager/Director

Annex 1: Project Design Summary
KYRGYZ REPUBLIC: Rural Water and Sanitation Project

Hierarchy of Objectives	Key Performance Indicators	Monitoring & Evaluation	Critical Assumptions
Sector-related CAS Goal: To reduce poverty through specific investments to improve basic social services, including rural water supply	Sector Indicators: number of households with h improved living conditions	Sector/ country reports: Various sector and country reports, prepared on a regular basis by different agencies; MAWR statistics	(from Goal to Bank Mission)
Project Development Objective: 1. To achieve improved access to potable water from water systems owned, operated and managed by rural communities; improve sanitation and hygiene practices in the villages of Issyk-kul, Naryn and Talas Oblasts.	Outcome / Impact Indicators: 1.1 at least 175 communities with renewed access to community water systems 1.2 More than 50% of CDWSAs collecting tariffs, operating and maintaining water systems after completion of rehabilitation/ construction works 1.3 percentage decrease in water and sanitation related diseases in project area	Project reports: 1.1.1 DRWS statistics Project MIS and impact surveys (including mid-term review) 1.2.1 CDWSA reports; 1.2.2 DRWS reports based on field information 1.3.1 Data from MOH, SES; DFID (UK) sanitation program	(from Objective to Goal) Improved living conditions (through provision of clean water) contribute to increased productivity and poverty reduction

Hierarchy of Objectives	Key Performance Indicators	Monitoring & Evaluation	Critical Assumptions
Output from each Component: 1. Functioning, community owned, operated, and managed water facilities	Output Indicators: 1.1 # of water facilities constructed /rehabilitated in eligible communities 1.2 Approximate population served with potable water facilities 1.3 Representation and participation of users in CDWSAs. 1.4 Tariff collection rates within two years after completion of works 1.5 Timely repairs to water facilities	Project reports: 1.1.1 PMU progress reports 1.1.2 DRWS reports based on field information 1.1.3 IDA progress and supervision reports 1.2.1 PMU progress reports 1.2.2 DRWS reports based on field information 1.2.3 IDA progress and supervision reports 1.3.1 PMU progress reports 1.3.2 DRWS reports based on field information 1.3.3 IDA progress and supervision reports 1.4.1 PMU progress reports 1.4.2 DRWS reports based on field information 1.4.3 IDA progress and supervision reports 1.5.1 PMU progress reports 1.5.2 DRWS reports based on field information 1.5.3 IDA progress and supervision reports	(from Outputs to Objective) Facilities owned and managed by communities lead to sustainable provision of water Government makes sufficient budget allocation for DRWS to continue in its support role for RWSS DRWS does not interfere with the functioning of the CDWSAs and private contractors KAS is dissolved.
2. Sanitation facilities in schools and medical posts, awareness campaigns for hygiene practices	2.1 # of institutional sanitation facilities completed	2.1.1 PMU progress reports 2.1.2 DRWS reports based on field information 2.1.3 DFID progress and supervision reports	
3. Established and	3.1 # of gender balanced	3.1.1 PMU progress reports	

functioning CDWSAs, DRWS capacity for sub-project support; and enhanced private sector contracting capacity	<p>CDWSA committees trained and functioning</p> <p>3.2 # of staff in Oblast DRWS trained and able to assist communities in sub-project cycle</p> <p>3.3 # of service providers (civil works contractors, suppliers, technical specialists, etc.) trained and/or operational at the Oblast/community level</p>	<p>3.1.2 DRWS reports based on field information</p> <p>3.1.3 IDA progress and supervision reports</p>	
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Hierarchy of Objectives	Key Performance Indicators	Monitoring & Evaluation	Critical Assumptions
Project Components / Sub-components:	Inputs: (budget for each component)	Project reports:	(from Components to Outputs)
Component 1: Sub-project grants/loans for Village water supply systems rehabilitation and construction	US\$16.25 million	Quarterly and Annual progress report; Annual planning report for the following year; Mid-term review; Supervision mission reports	Community able and willing to participate, and community demand guides investment decisions. Goods/materials can be procured and distributed; Private contractors are available and able to carry out the works in a satisfactory and cost-effective manner
2. Sanitation and hygiene promotion in project villages	US\$1.75 million	Quarterly and Annual progress report; Annual planning report for the following year; Mid-term review; Supervision mission reports	DFID is able to coordinate with the villages participating in the water component
3. Project management (Consulting services for Institutional strengthening, project management and sub-project preparation)	US\$4.50 million		Local/foreign consultants are effective in promoting project, planning, appraising, approving, and supervising projects.
4. Project implementation support: (i) Project Management and Supervision (ii) Incremental operating costs	US\$2.05 million (i) US\$ 1.50 million (ii) US\$ 0.55 million		Project staff are competent and dedicated

Annex 2: Detailed Project Description

KYRGYZ REPUBLIC: Rural Water and Sanitation Project

Project Size and Area

The project would be implemented in three Oblasts: Issyk-Kul, Naryn and Talas. The GoKR has selected these oblasts for inclusion in the project on the basis of their having problems of water availability or water quality, a relatively large population of poor and socially disadvantaged people, high community demand for improved services. The three oblasts selected for the project are mountainous and sparsely populated. They include the two poorest oblasts in the country (Tala and Naryn). About 200 villages would be included in the project adopting transparent eligibility and selection criteria. Many of the villages are located at high, isolated or distant locations very difficult to be accessed especially during winter season. Water supply schemes and their rehabilitation/upgrading would be supported under the project.

Project Components

The project would include five main components: (i) Village Water Supply Systems Rehabilitation and Construction; (ii) Rural Hygiene Promotion and Sanitation Improvements, (iii) Project Implementation and Village Capacity Building; (iv) Project Management and Supervision; and (v) Incremental Operating Cost.

By Component:

Project Component 1 - US\$16.25 million

Village Water Supply Systems Rehabilitation and Construction

This component will finance the rehabilitation/construction of about 250 drinking water schemes. While the typology of schemes to be adopted will emerge during project implementation, it is expected that a large number of the schemes will be piped water schemes with public standposts. Within the piped water schemes, the technology options will primarily vary in respect of the type of water source. The schemes will cover populations ranging from a few hundred to several thousand inhabitants each. Communities are expected to opt for local ground water sources like wells and springs. These schemes will involve construction of infiltration wells/galleries. Most schemes will involve pumping, storage tanks and piped distribution networks. All schemes will use a mechanism of disinfection. All sub-projects will respond to community demand and require a financial contributions, in cash and kind, from the communities. Subproject rules and procedures are detailed in the POM.

Project Component 2 - US\$1.75 million

Rural Hygiene Promotion and Sanitation Improvements.

This component, to be developed and funded by DFID, links rural water supply and health. The activities will be carried out at two levels. The first level will work in those villages that have been selected for water sub-projects by facilitating village level hygiene promotion and assisting the refurbishment of sanitation facilities. The second level will assist the SES to revisit their methods for water quality monitoring and protection, and will help to build capacity at the NCHP, specifically the capacity for promotion of sanitary hygiene. The sub-component activities would be:

Sub-Component A : Completion of an effective hygiene promotion program in the rural areas of the three oblasts. Initial research has shown that two key issues for hygiene promotion are the use of soap following defecation/urination and poor sanitation. The aim of this activity is to increase understanding

of the links between water, hygiene and health. By completing these hygiene promotion programs, the project will ensure maximum possible health benefits from the Bank water supply project.

Sub-Component B: Capacity building at the NCHP. It is envisaged that the NCHP will be established under the Bank's Second Health Project. The NCHP will report directly to the MOH. It will preferably replace, or be established on the basis of, (an) existing organization (s). Two thirds of the NCHP staff will be deployed at regional level. At national level, the NCHP will be a small center of expertise in effective evidence-based health promotion. It will become the link between the Kyrgyz Republic and international practice in the area of evidence-based health promotion. It will act as a resource and training center and it will develop materials, health promotion methods and guidelines. It will act as a resource and training center and it will develop materials, health promotion methods and guidelines. It will coordinate the activities of various organizations acting in the same field. It will also become a policy advisory organization for the government, through the MOH.

This activity will assist with the creation of the NCHP by placing hygiene promotion advisers within the NCHP at national and oblast level. The DFID-funded capacity building will relate specifically to sanitary hygiene techniques, which will also be applicable to other issues of hygiene promotion.

Sub-Component C: Improvement of sanitation facilities at village level (school and house latrines, concomitant handwashing facilities). Again, the sanitation improvements will link with the Bank project selection of villages for water supply. This activity seeks to motivate local populations to improve their household sanitation facilities by demonstrating the benefits of improved facilities at schools and medical posts. It also seeks to build capacity within rural areas so that household facilities can be improved to the level that individual householders desire.

Sub-Component D: Implementation of an efficient and cost effective system of water quality protection, integrating both laboratory and sanitary surveillance approaches. This activity aims to work with the SES in order to improve the way in which water quality monitoring is done and the procedures for which violations of water quality are acted upon. Again, this activity needs to work at two levels. Firstly, it will work directly at the rayon SES level in order that immediate changes to water quality monitoring might be seen. Secondly, the activity will work at national and oblast level in order to build sustainable capacity.

Project Component 3 - US\$ 4.50 million

Project Implementation and Village Capacity Building

This component will finance a Management Contractor to implement Component 1 and to provide technical assistance and community development activities to strengthen community's capacity to plan, implement, operate and maintain water and sanitation facilities in an effective and sustainable manner. Specifically, the Management Contractor will provide:

Upfront Technical Assistance through Proposal Stage: community mobilization, formation of CDWSA, technical financial and environmental guidance to assist communities make informed choice about preferred service level option; engineering services and technical design for small village water systems, assistance with organizing community contribution, design of follow-on training program (financial management, O&M etc.), and proposal completion, capacity building in DRWS, and design, establishment and maintenance of M&E system.

System Rehabilitation: assistance in subproject implementation (i.e. contracting, works supervision, procurement of goods, etc), CDWSA training in administration, operation and maintenance and other relevant training included in the subproject proposal.

Certification of Completion of Sub-Project: assist in certifying completion of works by contractor.

Project Component 4 - US\$1.50 million
Consultants Services and Training

This component will finance international and local consultants to assist with: (i) supervision of the project management consultant; (ii) review and approval of sub-project proposals; (iii) maintenance of project accounts as per the Financial Management requirements of IDA; (iv) environmental issues; (v) monitoring and evaluation reporting; (vi) auditing, and (vii) training.

Project Component 5 - US\$0.55 million
Incremental Operating Costs

This component will finance incremental operating cost of PMU. This includes financing of administrative support, office equipment, spare parts, communication charges, other operational costs, and project audits.

Annex 3: Estimated Project Costs
KYRGYZ REPUBLIC: Rural Water and Sanitation Project

Project Cost By Component	Local US \$million	Foreign US \$million	Total US \$million
A. Village Water Rehabilitation schemes	10.25	6.00	16.25
B. Rural Hygiene and Sanitation	0.00	1.75	1.75
C. Project Management and Supervision	0.60	5.40	6.00
D. Incremental Operating costs	0.55	0.00	0.55
Total Baseline Cost	11.40	13.15	24.55
Physical Contingencies			0.00
Price Contingencies			0.00
Total Project Costs¹	11.40	13.15	24.55
Total Financing Required	11.40	13.15	24.55

¹ Identifiable taxes and duties are 0 (US\$m) and the total project cost, net of taxes, is 24.56 (US\$m). Therefore, the project cost sharing ratio is 61.07% of total project cost net of taxes.

Annex 4: Cost Benefit Analysis Summary

KYRGYZ REPUBLIC: Rural Water and Sanitation Project

The main objective of the project is to increase the supply and coverage of potable water to rural communities, and to increase cost recovery for water services from beneficiaries. To achieve these objectives, the project will invest in rural water facilities that reach approximately 350,000 beneficiaries in rural communities. Communities will make up-front capital contributions of 20 percent, of which at least 5 percent will be in cash. Five percent of the investment costs are treated as a loan to the community, and have to be repaid over a 7 year period, with provision for a 4 year grace period. The government is offering this as an interest free loan, and will take the foreign exchange risk. Ownership of the completed facilities and the related operations and maintenance responsibilities will be transferred to the beneficiary communities.

The project requires communities to initiate their participation in the project, and validate their commitment through the above mentioned cash contribution to the sub-project capital costs. Communities are also required to organize themselves and form CDWSAs which represent and act on behalf of the community. To maximize coverage, the project limits per capita borrowings to US\$50. Should per capita investments exceed this limit, the community would be responsible for the additional capital required.

The self-selected communities will choose the preferred level of service from a menu of options. The selection of specific investments will be based on the technical options available to a given community and their income in relation to the total fixed and variable costs. The final size of the communities and the level of service that will be achieved is not known at this point, and will be determined during the implementation of the project. However, the project design attempts to ensure that investments will be economically viable. Agreement to project rules regarding cost recovery are a prerequisite for project participation. In particular, the rules require that user charges cover O&M, the 5 percent loan repayment, and 1 percent of capital contribution towards a replacement fund. Communities will have to confirm and demonstrate their willingness to adopt the charges resulting from these costs. The household survey, completed in November 2000, highlighted the widespread poverty in the project Oblasts and the low willingness to pay for improved services by the surveyed households. To ensure that sub-projects are and remain economically viable, subproject performance information will be collected on an on-going basis. For project benefits to be realized, the principle of self-selection for project participation needs to be stringently applied during implementation. There is a risk that this process would be captured by local authorities with considerable adverse impacts on the projected benefits stream.

Conceptual basis for quantifying economic benefits:

In rural areas, consumers use water for drinking, cooking, bathing, washing and productive uses, such as cooking for sales and construction. A distinction between residential and commercial uses is not made in the following analysis. The water quality required depends on the purpose or use -- brackish water might be acceptable for washing but not for drinking. Both the quality and (time-) price of water from these sources are different, and each water source serves different needs. People in rural areas rely on a variety of sources, specially since the publicly provided water systems have ceased to function or are available only intermittently. When alternative reliable sources, such as wells and boreholes become available, they are potential substitutes for water from other sources.

The incremental quantity of water supplied under a project can be divided into two parts: one part replaces the previous sources and quantity of water used, the other part is a net increase in water consumption. In this context, benefit of the first part is equal to the savings of economic costs of consumers who no longer use the former water sources. Benefit of the second part is equal to the area below the demand curve between the with-project and without-project use of each consumer. A household survey was completed during project preparation and provided information on the quantity of water used and the amount of time/money spent on water from different sources.

The investments in the improvement of the water supply systems are scaled to a level of service with affordable O&M costs for the beneficiaries. The project also focuses on creating capacity and service sustainability at the community level through, training of the CDWSA on effective use, administration and operation and maintenance. Major benefits from the community water and sanitation project are:

- (i) time savings due to greater proximity of water collection points;
- (ii) health benefits resulting from reduced incidence of water borne disease, lower infant mortality rates, lower medical costs, less income loss from sickness, etc.;
- (iii) increased capacity of the local communities to manage infrastructure services;
- (iv) increased institutional capacity of DRWS; and
- (v) increased capacity for construction, operations and management of the local private sector.

Summary of Benefits and Costs:

For the basis, the NPV for a handpump, at a 12% discount rate is US\$ 635 and internal rate of return 14.4%. For a piped system, the NPV is US\$4,200 with an internal rate of return (IRR) of 13.2%. A project rate of return is not calculated here as such a calculation would be based on an assumed distribution of community choices of capital investments. It is considered more important to establish that each of the possible choices generates acceptable returns. The returns from a given sub-project will depend on the costs and benefits of that investment, each sub-project must be carefully evaluated to ensure that it is economically viable.

Main Assumptions:

The analysis focuses on the community level sub-projects in the rural areas. It is assumed that water consumption from all sources is replaced by water from improved sources provided under the project. An increase in water demand is expected once improved sources are available to the community. The additional demand has not been valued separately; but has been subsumed under the valuation of replaced water consumption. This may lead to underestimation of the benefits from provision of an improved source. Health benefits have also not been included separately mainly due to lack of data supporting the existence of health related benefits. It is assumed that health benefits known to users are captured in their willingness to pay for potable water. The only benefits quantified under the present analysis are time savings. The returns on investments are therefore conservative and the sub-projects are expected to generate higher returns provided communities self-select their participation and investments, and the selection process is strictly adhered to. Political interference in the selection of sub-projects could well undermine the economic viability of the project.

The average time saved per bucket of water used is estimated from the household survey completed during project preparation. The time saved is valued at the unskilled minimum wage rate. Valuing the time savings at the unskilled wage rate may lead to an over-estimation of benefits if there is a difference between

the minimum wage and the unofficial rates prevalent. However, only half the time saved is monetized; it is assumed that only half the time saved can actually be spent in commercially productive uses. Economic theory tells us that in equilibrium, at the margin, time spent in commercially productive uses has the same value as time in commercially nonproductive uses. Since the labor market in the rural areas cannot be assumed to be perfect, only the time that may be commercially productive is actually valued for the analysis. These savings provide the base case returns for a sample piped surface water system and a borehole equipped with a handpump. The standpipe system evaluated is assumed to have an economic life of 20 years for civil works and pipes, and 10 years for mechanical parts. Handpumps are assumed to have an economic life of 10 years, at which point they are replaced.

Sensitivity analysis / Switching values of critical items:

The IRR is equally sensitive to changes in time savings and the hourly wage rate for the cases considered above. Since a project wide IRR is not attempted here, a sensitivity analysis is not presented. Sub-projects have to be evaluated on an individual basis. Depending on the topographical and hydro-geological specificity of the village, strong variations in required investment per capita may occur for similar service levels. There is a very wide variation of the proximity of alternative water sources throughout the villages in the project area; in villages where these sources are close the IRR may well become negative.

Annex 5: Financial Summary
KYRGYZ REPUBLIC: Rural Water and Sanitation Project
Years Ending

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Total Financing Required							
Project Costs							
Investment Costs	3.3	5.1	5.1	5.1	3.6	1.8	
Recurrent Costs	0.1	0.1	0.1	0.1	0.1	0.1	
Total Project Costs	3.4	5.2	5.2	5.2	3.7	1.9	0.0
Total Financing	3.4	5.2	5.2	5.2	3.7	1.9	0.0
Financing							
IBRD/IDA	1.5	3.0	3.0	3.0	3.0	1.5	
Government							
Central	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Provincial	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Co-financiersDFID	1.6	1.6	1.6	1.6			
User Fees/Beneficiaries	0.3	0.6	0.6	0.6	0.7	0.3	0.0
Others	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Project Financing	3.4	5.2	5.2	5.2	3.7	1.8	0.0

Main assumptions:

- All costs net of taxes and duties
- Central government financing numbers show as zero because the tables display only one decimal point.
- The discrepancy in the total financing required and available is due to the automatic rounding of numbers.

Financial Management

The Project is part of the GoKR's development program implemented by the MAWR Program activities are carried out by several of the Ministry's line units.

Project activities will be implemented by the PMU. Accounts and records for the Project will be maintained by the PMU, which will procure and implement a FMS, as prescribed by World Bank policy, capable of producing PMRs. The PMU will also recruit a suitable financial manager, and procure and implement a financial management manual (FM manual) and an Internal Control Procedures Handbook. The FM manual will describe the appropriate procedures, and include --among other sections that the PCU may deem necessary-- information on: (i) the project's financial management system, with special emphasis on accounting and auditing policies, standards and internal controls; (ii) role of the financial management system in project management and implementation; (iii) accounting arrangements required for project management, including the format and content of project financial reports; and (iv) the auditing arrangements that will be in place during project implementation.

Proposed system

Accounts and records for the Project should be maintained using a FMS, as prescribed by World Bank policy, capable of producing PMRs. Based on prior experience with other projects, it has been determined that development of a satisfactory financial management and accounting system will require consulting assistance. The FMS will be structured as a computerized relational database which will provide information on accounting, physical project progress, and procurement management. The system should be able to maintain detailed data on project activities, and summary data on the Program's other activities (those fully financed by the GoKR and other sources). The detailed project data will be obtained from the transactions processed by the PCU. Details concerning the system's requirements are stated in the PIP. The PMU should complete setting up of the system within three months of effectiveness.

Project Accounting

The Financial Manager will be in place within four weeks of effectiveness, and would be responsible for overall project financial management, maintenance of books of accounts for the project, preparation and dissemination of financial statements and PMRs, and ensure timely audit of the project. The overall principles for project accounting are outlined below:

(a) **Project Books and Records.** Project-specific books and record will be designed and set up for the project, based on International Accounting Standards (IAS). At a minimum there will be a general ledger and cash receipt and disbursement journal, with account distribution headings corresponding to the project's specific chart of accounts. Other accounting books and records will also be prepared. For example, a fixed asset register for identifying and controlling equipment purchased under the project; and various contract and procurement records necessary for the control and periodic analysis of project purchases of goods, services and civil works.

Such project books and records will be part of the computerized FMS to be developed and implemented under the project.

(b) **Project accounting** would cover all sources and uses of project funds. Disbursements made directly by the World Bank would also be included in the project accounts. Funds received from various sources should be identified separately and reflected in the project accounts and financial statements.

(c) **Chart of Accounts.** An appropriate chart of accounts specific to the project will be designed to classify and record expenditures, and to enable project expenditures to be reported in a way that is meaningful to the management of the project and the World Bank.

The chart of accounts will follow the same logical framework or work breakdown structure used for activity scheduling, work product definition, procurement planning, loan disbursement planning and cost estimating on the project. In other words, project costs will be classified and reported in a way that allows them to be directly related to specific work activities and outputs of the project.

(d) **Project financial statements and PMRs** should be fully based on the project books of accounts and substantially generated using the accounting software.

(e) Physical information on key performance indicators which can be readily linked to financial costs would be maintained as part of the project FMS.

Financial Reporting

The system will be able to prepare quarterly PMRs, annual financial statements to be audited, and other periodic reports necessary for decision making and control of project activities.

Annual Financial Statements

At the end of every calendar year the PCU will prepare the following project financial statements which will be provided to the auditor for its professional opinion and later sent to the World Bank:

- Statement of Sources and Uses of Funds;
- Statement of Detailed Project Expenditures;
- Schedule of Requests for Reimbursement (SOE Statement) or Summary Financial PMR for the Year, as appropriate; and
- Statement of the SA.

These statements will be prepared in accordance with the models provided in the World Bank's Financial Accounting, Reporting and Auditing Handbook (FARAH) or other guidelines that may be provided by the Bank.

Audit Arrangements

The PCU will engage audits of the project financial statements and the activities performed under the Rural Projects component. Those audits will be carried out by auditors acceptable to the World Bank, in accordance with international standards on auditing and the World Bank's guidelines on auditing as stated in the FARAH Handbook and other guidance that might be provided by the Bank. The audit report will be in a format in accordance with the ISA promulgated by the International Federation of Accountants and with Bank guidelines. In case of private sector auditors, it is expected that they will be appointed for a three-year term, with its continued engagement from year to year subject to satisfactory performance.

Annual audit of the Project financial statements. The annual project financial statements will be audited by an independent auditor acceptable to the Bank, and the audits will be performed in accordance with audit TORs prepared by the PCU and cleared by the World Bank before the engagement of the auditor. If the audit is to be performed by the Board, it will be requested to provide evidence of acceptance of those TORs. The TORs will be an integral part of the audit contract, and the auditor will be engaged before the beginning of the year to be audited. In any event, the PCU will request the Bank's no objection of the TORs before the beginning of each year to be audited.

As a minimum the audit will include:

- An assessment of the adequacy of the accounting and internal control systems for expenditures and other financial transactions to ensure safe custody of project-financed assets.
- A determination as to whether adequate documentation has been maintained to support project expenditures and Bank disbursements.

- Verification that expenditures submitted to the Bank are eligible for financing.

The annual audit report will include separate opinions on the project financial statements, the SA, the SOEs or the PMRs against which disbursements have been made or are due to be made under the loan. Each annual audit report will be submitted to the World Bank within six months following the end of the GoT's fiscal year audited. The audit report for the first year will cover the period from the date of project inception through December 31 of the same year, and will be submitted to the Bank as stated above.

Audit of the rural projects activities. The PMU will engage a private sector auditor acceptable to the Bank to carry out performance audits of the activities under the Rural Projects component. The audits will be performed throughout the year in accordance with TORs prepared by the PMU and cleared with the World Bank before the engagement of the auditor. Interim audit reports detailing the auditor's findings will be prepared quarterly. The auditors would be contracted no later than November 30 of the year prior to the one to be audited.

Administrative arrangements for disbursement

The Credit would be disbursed over a period of six years. Credit funds will flow to the Project via direct payments to suppliers and disbursements to a SA. It is expected that during the first year of the project the GoKR will request replenishment of the Special through SOEs for eligible expenses, and thereafter will request advances of funds to the SA through PMRs.

Withdrawals from the Loan Account will be requested in accordance with the guidance provided in the Bank's Disbursement Handbook. Two signatures will be formally authorized with the World Bank: the PMU Director and the DRWS Director. All withdrawal applications will be signed by one of the two. They will sign only after the PMU's Financial Manager has signed the application to evidence its completeness and accuracy. The signature of the Financial Manager is an internal control and considered informal with respect to the World Bank.

Special Account. The GoKR will open and maintain a SA in US dollars at the Central Bank or a commercial bank acceptable to the Bank. The SA will be used following procedures to be agreed with the Bank, and will have an authorized allocation of US\$0.8 million. Both the PMU Director and the DRWS Director will be authorized to sign withdrawal applications, with only one signature required. At the start of the project, the initial deposit will be limited to US\$0.4 million, and the remaining portion of the authorized allocation will be requested only after cumulative disbursements from the loan reach a level of SDR2.5 million. The minimum application size for payments directly from the Credit Account for issuance of Special Commitments is 25 percent of the SA authorized allocation.

During the first year of the project, applications for replenishment of the SA will be submitted to the Bank on a monthly basis, or when the balance of the SA is equal to about half of the initial deposit or the authorized allocation, whichever comes first, and will include a reconciled bank statement as well as other appropriate supporting documents. During the second and third year, funds sufficient to cover the Project's needs for six months will be advanced to the SA, provided the PMU has established the requisite financial management system and prepares and submits to the Bank the appropriate PMRs.

Use of statements of expenditure (SOEs). During the first year of the Project, or as agreed between the GoKR and the Bank, disbursements will be made against SOEs for: (a) rural project works costing less than US\$200,000 equivalent per contract; (b) goods costing less than US\$100,000 equivalent per contract; (c) consulting contracts with firms, costing less than US\$100,000 equivalent each; (d) consulting contracts

with individual, costing less than US\$50,000 equivalent each; and (e) training and operating costs, under such terms and conditions as the Association shall specify by notice to the Borrower. Full documentation in support of SOEs would be retained by the PCU for at least one year after the Bank has received the audit report for the fiscal year in which the last withdrawal from the Loan Account was made. This information will be made available for review during supervision by Bank staff and for annual audits which will be required to specifically comment on the propriety of SOE disbursements and the quality of the associated record-keeping.

Use of Project Management Reports (PMRs). After the first year of the Project, or as agreed between the GoKR and the Bank, disbursements from the Credit Account will be made against PMRs. Under this mechanism, the Bank shall advance to the SA the funds necessary to meet the Project needs for six months of payments related to expenses under the thresholds originally established for the use of SOEs. PMRs will be prepared by the PCU using the financial management system, and submitted to the Bank quarterly. Full documentation supporting the PMRs would be retained by the PCU for at least one year after the Bank has received the audit report for the fiscal year in which the last withdrawal from the Loan Account was made. This information will be made available for review during supervision by Bank staff and for annual audits which will be required to specifically comment on the propriety of the PMRs and the quality of the associated record-keeping.

Direct Payments. All special commitments and expenses in excess of the thresholds established for the use of SOEs or PMRs will be paid directly by the Bank, based on requests supported by full documentation from the PCU and in accordance with the Bank's Disbursement Handbook.

Annex 6: Procurement and Disbursement Arrangements

KYRGYZ REPUBLIC: Rural Water and Sanitation Project

Procurement

The components of the proposed project, their estimated cost and procurement methods are summarized in Table A of this annex. The procurement methods and prior review thresholds are presented in Table B of this annex. Table B1 summarizes the capacity of the PMU in procurement and the proposed arrangements for procurement and monitoring. Table B2 presents a procurement plan for the packaging and estimated schedule of the major procurement actions.

The project will be financed from the proceeds of the proposed US\$15 million credit and the local expenditure contributions from the Government and the participating communities (US\$3.31 million) and a grant from DFID (US\$6.25 million). The total cost of the project would be US\$24.56 million.

Procurement methods (Table A)

Village Water Supply Systems Rehabilitation and Construction Component

This component will involve community participation. A management contractor who will be grant-funded and hired by DFID will provide technical and procurement assistance to the community. Nature and requirement of community participation will be determined only during implementation, thus, it is impossible to determine ex-ante what is procured. Therefore, aggregate ceiling amount for each procurement method is not predetermined under this project, but the types of procurement are discussed below.

One of the objectives of the project is to develop local markets and local capacity to be involved in all aspects of the project cycle. Simplified procurement procedures for items such as pumps will be developed under paragraph 3.15 of the Guidelines. Procurement under ICB methods will be carried out by the international management contractor. For smaller contracts involving community participation, the Bank's simplified sample bidding documents for NCB, International Shopping (IS), National Shopping (NS), and Minor Works would be used.

Procurement of Works. Civil works contracts estimated to cost less than US\$200,000 may be procured using NCB procedures. Minor works contracts estimated to cost each less than US\$25,000 may be procured using three quotations. The provision for Minor Works contracts is designed to meet the urgent needs of the communities and facilitate the local participation in the project.

Procurement of Goods. Contracts for the supply of goods valued at more than US\$100,000 will be procured under ICB by the management contractor. The management contractor will help and supervise the procurement by the villages for the following: IS may be used for goods required on an urgent basis valued at US\$100,000 or less per contract. NS may be used for goods valued at US\$50,000 or less per contract.

Project Management and Supervision Component

Procurement of Consulting Services. Recruitment of consulting firms to assist in the supervision of technical and financial performance of the management contractor and other consulting services estimated to cost more than US\$50,000 will be carried out under the Quality and Cost Based Selection method

(QCBS) in accordance with the Bank Guidelines. For financial audits the Least Cost Selection (LCS) method will apply. Individual Consultants for assistance to DRWS will be selected based on qualifications in accordance with the Guidelines of the Bank (Section V-IC). Services for environmental monitoring may be procured based on qualifications of consultants (CQ).

Table A: Project Costs by Procurement Arrangements
(US\$ million equivalent)

Expenditure Category	Procurement Method			N.B.F.	Total Cost
	ICB	NCB	Other		
I. Village Water Supply Rehabilitation and Construction	16.25 (13.00) Community Participation Procurement			0.00 (0.00)	16.25 (13.00)
2. Village Sanitation and Hygiene				1.75 (0.00)	1.75 (0.00)
II. DRWS Component					
1. Services	0.00 (0.00)	0.00 (0.00)	1.50 (1.50)	4.50 (0.00)	6.00 (1.50)
2. Recurrent costs	0.00 (0.00)	0.00 (0.00)	0.55 (0.50)	0.00 (0.00)	0.55 (0.50)
3. Front-end fee	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
III. Total	18.30 (15.00)			6.25 (0.00)	24.55 (15.00)

1/ Figures in parenthesis are the amounts to be financed by the IDA Credit. All costs include contingencies

2/ Includes civil works and goods to be procured through national shopping, consulting services, services of contracted staff of the DRWS project management office, training, technical assistance services, and incremental operating costs related to: (i) managing the project, and (ii) re-lending project funds to each villages.

Prior review thresholds (Table B)

All contracts awarded through ICB will be subject to prior review by the Bank. For works, the first two NCB and the first three minor works packages will be subject to prior review. For goods, the first two IS and NS packages will be subject to prior review. With respect to services, prior Bank review will be required of all TORs, irrespective of the contract value. The management contractor will be grant funded and selected by DFID. For each contract with a consulting firm estimated to cost US\$100,000 or more, the technical evaluation report will be submitted to the Bank for its review prior to the opening of the priced proposals. For contracts with individual consultants costing US\$50,000 or more the qualifications, experience, terms of reference and terms of employment shall be furnished to the Bank for review prior to contract signature. All other contracts will be subject to ex-post review by the Bank.

Table B. Thresholds for Procurement Methods and Prior Review						
Category	ICB	NCB	IS	NS	Other Methods	Notes
1. Civil Works						
1.1 Procurement Thresholds/contract	>\$200,000	<\$200,000	N/A	N/A	<\$25,000	
1.2 Prior Review	All contracts	First two	N/A	N/A	First three	
2. Goods						
2.1 Procurement Thresholds/contract	>\$100,000	N/A	<\$100,000	<\$20,000	N/A	
2.2 Prior Review	All contracts	N/A	First two	First two	N/A	
3. Consultants	QCBS	LCS	CQ	Individuals		
Prior Review	>\$100,000 otherwise TOR	>\$100,000 otherwise TOR	All contracts and TOR	>\$50,000 otherwise TOR		
Ex-post Review will be conducted on 1 in 10 contracts during supervision mission.						

**Table B1: Capacity of the Project Coordination Unit in Procurement
and Assistance Requirements in Procurement Monitoring System**

<p>A Capacity Assessment of the Borrower was completed in May 2001. The PMU has no past experience in Bank procurement. The PMU will hire a Procurement and Contract Coordination consultants with adequate qualifications who will provide assistance and training on procurement matters. The management contractor will be required to bring an international qualified specialist for procurement activities, as part of its management team.</p>				
<p>Country Procurement Assessment Report status:</p> <p>A Country Procurement Assessment Report has not been conducted for Kyrgyz Republic</p>		<p>Are the bidding documents for the procurement actions for the first year ready by negotiations:</p> <p>Procurement actions related to the Village Water Supply component will be initiated only after mobilization of a management contractor.</p>		
TRAINING INFORMATION AND DEVELOPMENT ON PROCUREMENT				
<p>Estimated Date of Project Launch Workshop:</p> <p>02/02</p>	<p>Date of publication of General Procurement Notice:</p> <p>April 16, 2001</p>	<p>Indicate if there is procurement subject to mandatory SPN in Development Business:</p> <p>Yes</p>	<p>Domestic Preference for Goods:</p> <p>yes</p>	<p>Domestic Preference for Works, if applicable:</p> <p>yes</p>
<p>Retroactive Financing: Yes Project Preparation Facility: No</p> <p>Explain:</p>			<p>Advance Procurement:</p> <p>No</p>	
<p>Explain briefly the Procurement Monitoring System:</p> <p>The management contractor will have the responsibility to advise and supervise the procurement by communities. The management contractor is responsible for installation and management of the procurement monitoring system. The PMU will have a supervisory role and will be supported by technical and financial consultants that will monitor the management contractor's performance under the Service Contract. All project documentation which requires prior review will be cleared by a PAS and the relevant technical staff. Procurement information will be collected and recorded by the management contractor, transmitted to the PMU and submitted to the Bank in the quarterly progress reports. This information would include: (a) revised cost estimates for individual contracts; (b) revised timing of procurement actions including advertising, bidding, contract award and completion time for individual contracts; and (c) compliance with the thresholds on specific methods of procurement.</p>				
<p>Cofinancing: Explain briefly the Procurement arrangements under co-financing:</p> <p>Department for International Development (DFID) of United Kingdom government will provide US\$6.25 million equivalent grant fund.</p>				
PROCUREMENT STAFFING				
<p>Indicate name of Procurement Staff or Bank's staff part of Task Team responsible for the procurement in the Project:</p> <p>Name: Takao Ikegami (PAS), Sr. Sanitary Engineer, (202) 473-2334; tikegami@worldbank.org</p>				
<p>Explain briefly the expected role of the Field Office in Procurement:</p> <p>No procurement service support is currently envisioned from the Resident Mission. Since the procurement staff in the Resident Mission has a fair amount of procurement experience in WB financed projects, he is expected to take on an advisory role and initial review of procurement documents.</p>				

Table B2: Procurement plan

Component	Type	Estimated Number of Contracts	Estimated Cost US\$million	Procurement Methods	Invitation to bid	Submission of Bids	Contract Signing	Contract Completion
1. Village Water Supply Rehabilitation and Construction	CPP	Multiple	Total:16.25	ICB/NCB/IS/NS/Minor Works	to be procured under different schedules between January 2002 and December 2006			
2. Village Sanitation and hygiene Promotion	Consultant	1	1.75	DFID's own rule	Sep.-01	Nov.-01	Dec.-01	Dec-06
3. Capacity Building & Institutional Strengthening	Service Contract	1	4.50	DFID's own rule	Sep.-01	Nov.-01	Dec.-01	Dec-06
4. Project Supervision and Management	Consultant	Multiple	1.30	QCBS/IC	to be procured under different schedules between January 2002 and December 2006			
5. Environmental Monitoring	Consultant	1	0.02	CQ	Apr-02	June-02	July-02	Dec.-06
6. Auditor	Consultant	Multiple	0.18	LCS	to be procured under different schedules between January 2002 and December 2006			
7. Incremental Operation Cost			0.63					

CPP = Community Participation in Procurement

ICB=International Competitive Bidding, NCB=National Competitive Bidding, IS=International Shopping, NS=National Shopping, IC=Individual Consultant

CQ=Consultant Qualifications LCS=Least Cost Selection, QCBS=Quality and Cost-Based Selection

Disbursement

Allocation of credit proceeds (Table C)

Table C: Allocation of Credit Proceeds

Expenditure Category	Amount in US\$million	Financing Percentage
Works and Goods through CPP	10.40	100
Consultant Services and training	1.20	100
Incremental Operation Cost	0.40	90
Unallocated	3.00	
	0.00	
		0.00
Total Project Costs	15.00	
Total	15.00	

Note: For Works and Goods through CPP, the project will fund 100% of 80% of total sub-project costs.

Use of statements of expenditures (SOEs):

Project funds will be initially disbursed under the Bank's established procedures, including SOEs. Disbursements made on the basis of SOEs will be as follows for each expenditure category: (a) goods under contracts costing less than US\$100,000 each; (b) works under contracts costing less than US\$200,000 each; (c) services under contracts less than US\$ 100,000 each for consulting firms, and less than US\$50,000 each for individual consultants; (d) training; and (e) operating costs, under such terms and conditions as the Bank shall specify. Supporting documentation for SOEs will be retained by the Borrower, be made available to the Bank during project supervision, and be audited annually by independent auditors acceptable to the Bank. Disbursements for expenditures above these thresholds will be made against presentation of full documentation relating to those expenditures.

The management contractor, as part of the Services to be provided under the Service Contract, will consolidate project information for all components and prepare quarterly PMRs including financial report, project progress report and procurement management report, for project monitoring and reporting for submission to the Bank. The reporting system would support the application of the PMR-based disbursements, to be made at the mutual agreement of the Government and the Bank.

Special account:

To facilitate disbursements against eligible expenditures, a SA will be established in a commercial bank to be maintained and operated by the PMU under terms and conditions satisfactory to the Bank. The Bank would, upon request, make an authorized allocation of US\$800,000. Initially the allocation would be limited to US\$0.4 million, until disbursements have reached SDR 2.5 million, at which time the full authorized allocation could be claimed. Applications for the replenishment of the SA would be submitted on a monthly basis, or when about 30 percent of the initial deposit has been used, whichever comes first. The replenishment applications will be supported by the necessary documentation, in accordance with Bank guidelines, including the SA bank statement and a reconciliation of the bank statement to the project's accounting records. The PMU, with the support of the management contractor, will be responsible for the appropriate accounting of project funds provided under the Credit, for reporting on the use of these funds, and for ensuring that audits of the financial statements are submitted to the Bank. Accounting for SA

transactions and for all other project-related accounts will be maintained in accordance with the FARAH, January 1995. The SA would be audited annually by independent auditors acceptable to the Bank.

Financial Management:

A review of the PMU capacity in financial management was completed by a FMS specialist from the Bank and an action plan for strengthening this capacity was agreed. An accountant for the PMU has been hired -- The accounting staff of the PMU would be responsible for maintaining the financial management arrangements of the project.

The PMU will recruit independent auditors under terms of reference acceptable to Bank. The audits of the Project Financial Statements, SA, and SOE, and a separate opinion by the auditor on disbursements made against certified statement of expenditures will be submitted to the Bank with the audit report six months after the end of each year audited. Cost of the audit will be financed through the Loan.

Annex 7: Project Processing Schedule
KYRGYZ REPUBLIC: Rural Water and Sanitation Project

Project Schedule	Planned	Actual
Time taken to prepare the project (months)		
First Bank mission (identification)		05/09/2000
Appraisal mission departure	03/19/2001	03/19/2001
Negotiations	08/27/2001	08/27/2001
Planned Date of Effectiveness	02/15/2002	

Prepared by:

Ministry of Agriculture and Water Resources, Department of Rural Water Supply

Preparation assistance:

Fichtner Consultant

Bank staff who worked on the project included:

Name	Speciality
Walter Stottmann	Manager, Water and Sanitation Program
Motoo Konishi	Water Sector Manager
Takao Ikegami	Sr. Sanitary Engineer
Kavita Sethi	Task Team Leader - Economist
Ben Verbeke	Engineer Consultant
Claudio Purificato	Engineer Consultant
Hermine De Soto	Sr. Social Scientist
Roque Ardon	Financial Management Specialist
Nirmala Saraswat	Environmental Engineer
Natalia Charkova	Operations Officer
Asyl Undeland	Operations Officer
Erkin Sadykov	Operations Officer
Tamara Noel	Program Assistant
Daniyar Aitimbetov	Team Assistant
Nikolai Soubotin	Sr. Counsel
Hannah Koilpillai	Disbursement Officer
Jennifer Sara	Sr. Water and Sanitation Specialist
Alexander Bakalian	Sr. Water Supply Specialist
Jan Janssens	Lead Specialist
Kirsten Hommann	Economist
Peter Kolsky	Sr. Water and Sanitation Specialist
Heinrich Unger	Consultant

Annex 8: Documents in the Project File*
KYRGYZ REPUBLIC: Rural Water and Sanitation Project

A. Project Implementation Plan

B. Bank Staff Assessments

Procurement Capacity Assessment, prepared by Takao Ikegami, May 2001

C. Other

Law on drinking water, September 29, 2000

Procedure of Kyrgyz Ail-Suu (KAS), Ministry of Agriculture Water Resources, May 23, 2001

Supporting Rural Water Sector State Owned Enterprise (SOE) Reform: Primer for External Support Agencies (Draft), by Matthew Vincette, January 2001

Operational Manual, July 2001

*Including electronic files

Annex 9: Statement of Loans and Credits
KYRGYZ REPUBLIC: Rural Water and Sanitation Project
07-Nov-2001

Project ID	FY	Purpose	Original Amount in US\$ Millions		Cancel.	Undisb.	Difference between expected and actual disbursements*	
			IBRD	IDA			Orig	Frm Rev'd
P035810	2001	CONSD SAC	0.00	35.00	0.00	23.30	25.28	0.00
P050719	2001	URBAN TRANS/MAINT.	0.00	22.00	0.00	17.37	-3.74	0.00
P051372	2001	HEALTH 2	0.00	15.00	0.00	14.97	0.00	0.00
P069814	2000	CONSLD TA	0.00	5.00	0.00	4.08	0.60	0.00
P049723	2000	ON-FARM IRRIGATION	0.00	20.00	0.00	18.70	1.80	0.00
P049719	2000	LAND REGISTRATION	0.00	9.42	0.00	7.80	1.80	0.00
P064585	1999	RUR FIN 2	0.00	15.00	0.00	13.73	4.29	0.00
P062682	1999	FLOOD EMERGENCY	0.00	10.00	0.00	4.71	5.17	0.07
P040721	1998	ASSP	0.00	14.98	0.00	9.90	4.10	0.00
P048042	1998	IRRIGATION REHAB	0.00	35.00	0.00	21.40	6.00	0.00
P008513	1996	SHEEP & WOOL IMPROV.	0.00	11.60	2.54	2.32	4.09	0.00
P045631	1996	FIN SECT TA	0.00	3.40	0.00	0.65	0.80	0.00
P008519	1996	POWER & DIST HEAT	0.00	35.00	0.00	14.83	2.30	18.17
P008524	1995	PRIV. ENTERP. SUPP.	0.00	15.00	0.00	10.35	12.18	0.00
Total:			0.00	246.40	2.54	164.12	64.67	18.24

KYRGYZ REPUBLIC
STATEMENT OF IFC's
Held and Disbursed Portfolio
MAY-2001
In Millions US Dollars

FY Approval	Company	Committed				Disbursed			
		IFC				IFC			
		Loan	Equity	Quasi	Partic	Loan	Equity	Quasi	Partic
1995	Kumtor Gold	15.00	0.00	10.00	0.00	15.00	0.00	10.00	0.00
1999	SEF Altyn-Ajydar	0.30	0.00	0.00	0.00	0.30	0.00	0.00	0.00
2000	SEF KICB	0.00	1.40	0.00	0.00	0.00	1.40	0.00	0.00
1996	Demirbank Kyrgyz	0.00	0.45	0.00	0.00	0.00	0.45	0.00	0.00
	Total Portfolio:	15.30	1.85	10.00	0.00	15.30	1.85	10.00	0.00

FY Approval	Company	Approvals Pending Commitment			
		Loan	Equity	Quasi	Partic
2001	SEF Akun	1.40	0.00	1.00	0.00
2001	FINCA	0.00	1.00	0.00	0.00
	Total Pending Commitment:	1.40	1.00	1.00	0.00

KYRGYZ REPUBLIC: Rural Water and Sanitation Project

A development diamond chart comparing the Kyrgyz Republic (solid line) and a Low-income group (dashed line) across four indicators: Life expectancy, Gross primary enrollment, Access to improved water source, and GNI per capita. The Kyrgyz Republic shows higher scores in Life expectancy and Gross primary enrollment, while the Low-income group shows higher scores in Access to improved water source and GNI per capita.

Indicator	Kyrgyz Republic (Solid Line)	Low-income group (Dashed Line)
Life expectancy	High	Medium
Gross primary enrollment	High	Medium
Access to improved water source	Medium	High
GNI per capita	Medium	High

Economic ratios*

Trade

Domestic savings

Investment

Indebtedness

— Kyrgyz Republic

- - - Low-income group

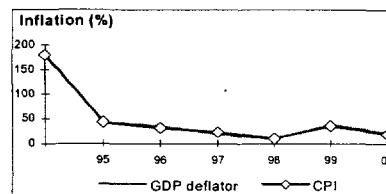
Year	GDP (%)	GDI (%)
94	-25	-10
95	95	100
96	10	10
97	10	10
98	-25	-15
99	10	10
00	10	10

Year	Exports (%)	Imports (%)
95	-20	-20
96	-18	5
97	-22	20
98	-15	5
99	-12	-5
00	-10	-10

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

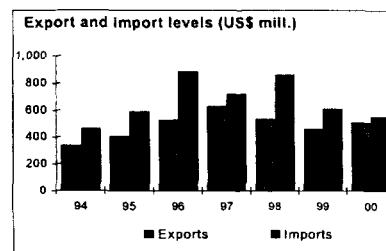
PRICES and GOVERNMENT FINANCE

	1980	1990	1999	2000
Domestic prices				
(% change)				
Consumer prices	35.9	18.7
Implicit GDP deflator	..	7.9	37.6	21.5
Government finance (incl. social security contribution by non-government)				
(% of GDP, includes current grants)				
Current revenue	21.0	19.4
Current budget balance	-2.7	-2.3
Overall surplus/deficit	-12.5	-10.2



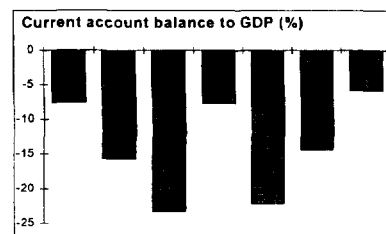
TRADE

	1980	1990	1999	2000
(US\$ millions)				
Total exports (fob)	463	511
Electricity	52	80
Gold	184	197
Manufactures	100	104
Total imports (cif)	614	559
Food	53	61
Fuel and energy	123	129
Capital goods	160	107
Export price index (1995=100)	107	119
Import price index (1995=100)	125	128
Terms of trade (1995=100)	85	93



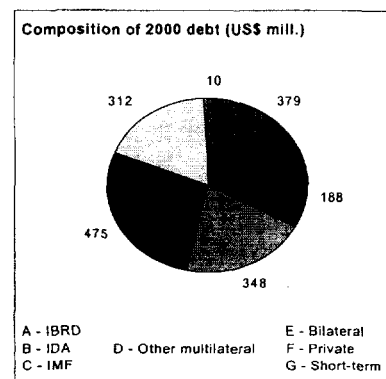
BALANCE of PAYMENTS

	1980	1990	1999	2000
(US\$ millions)				
Exports of goods and services	528	573
Imports of goods and services	701	651
Resource balance	-174	-78
Net income	-74	-80
Net current transfers	68	82
Current account balance	-180	-77
Financing items (net)	222	83
Changes in net reserves	-42	-7
Memo:				
Reserves including gold (US\$ millions)	249	263
Conversion rate (DEC, local/US\$)	39.0	47.7



EXTERNAL DEBT and RESOURCE FLOWS

	1980	1990	1999	2000
(US\$ millions)				
Total debt outstanding and disbursed	..	0	1,667	1,700
IBRD	..	0	0	0
IDA	..	0	342	379
Total debt service	..	0	108	131
IBRD	..	0	0	0
IDA	..	0	2	3
Composition of net resource flows				
Official grants (current and capital)	..	0	75	92
Official creditors	..	0	181	118
Private creditors	..	0	-42	-47
Foreign direct investment	0	0	44	-2
Portfolio equity	..	0	26	24
World Bank program				
Commitments	0	0	25	75
Disbursements	..	0	25	34
Principal repayments	..	0	0	0
Net flows	..	0	25	34
Interest payments	..	0	2	3
Net transfers	..	0	22	32



**Additional
Annex 11**

Health and Sanitation

1. Background

Sanitary conditions are very poor in rural areas of Kyrgyz Republic. There is little tradition of having toilets or at least ventilated pit latrines. Most latrines are simple holes or ditches covered with a few boards of wood and are far from the house. Second comes the lack of bathing facilities. During the time of the Soviet Union there were public bathhouses in most of the villages. Today, the majority of them are out of operation owing to lack of piped water, heating systems and maintenance. It is quite unnecessary to mention the third problem: insufficient drinking water supply. The fourth problem is that, although there were well established health services, and health education is a key part of their work, information on water hygiene does not appropriately reach the households. People do not hesitate to drink water from arys if this is easier than getting their water from a standpipe a certain distance away. As a consequence, many diseases occur that are related to poor sanitary conditions.

A research conducted by DFID (Formative Hygiene and Sanitation Research Project: Kyrgyzstan Task No.500 - WELL) and aimed, among other things, to establish the extent to which hygiene and sanitation-related diseases can be regarded as a problem in rural Kyrgyz Republic was carried out in the preparation phase of this project. The arguments stated in this section are mainly based on the results produced by the above mentioned research project.

Latrines

Almost all families have a latrine. The quality of construction of latrines varies considerably between households. Most are constructed out of poor quality materials and are not structurally sound. Latrines are constructed by male householders and are relocated when full. Men said that they lacked materials to build better quality latrines and that designs or instructions might also be helpful. However, it was also pointed out that if building materials were available priority would probably be given to improving houses rather than improving latrines.

Latrines are constructed far from the house because of their smell. They are used by adults but are difficult and potentially dangerous for children to use and are difficult to use at night and in the winter. For these reasons young children generally defecate somewhere in the grounds of their house and they begin to use the latrine around the age they start school, around six years of age. Some adults, especially the elderly, are also reported to defecate in the grounds of their houses, particularly in the winter or at night. Latrines are universally disliked because of their smell and because they offer little protection from the elements. However, the privacy afforded by the latrines is valued by older children and adults, particularly women.

The condition of latrines varies but many are clearly difficult to clean. Latrines are usually cleaned by women or girls. In soviet times chlorine was provided for this purpose on occasions. Respondents regretted the fact that affordable chlorine was not currently available. Cleaning of school latrines is not always included in the school budget. Children dislike school latrines because they are dirty, smelly and seen as a potential source of disease. For these reasons children prefer to use the latrine at home. Children reported using the school latrine rather than making use of open space around the school; however, fouling of areas close to schools has also been reported.

Feces

Infants and young children do not use the latrine. Sometimes they defecate in a pot that is then emptied by their mother or an older sibling. In rural areas nappies are not used but many families use a traditional cradle (*beshtik*) which incorporates a pot. Young children sometimes defecate beside their house or somewhere in the garden. The disposal of their feces is therefore an important issue.

It is reported as important to keep the area in front of the house clean from human feces. The presence of feces here could be regarded as shameful. However, feces were seen on the ground directly in front of some houses visited and some respondents explained that it would only be shameful if the feces were seen by important guests rather than friends or neighbors. One woman said *'People are used to seeing feces and it is not uncomfortable for them'*. Feces are sometimes left in the belief that they will be eaten by dogs or chickens and this was observed on occasions. Feces are also removed from in front of houses because of the unpleasant smell and to avoid children standing in them and bringing them into the house. *'I don't know if it is dangerous or not but it smells bad and should not go into the house'* said one woman.

The presence of children's feces in other areas around the house and garden is not regarded as a problem as long as the feces are out of sight and somewhere that people will not stand in them. For this reason feces which are cleaned away from the front of a house are often not disposed of in a latrine. Lack of time, laziness and the distance to the latrine were cited as reasons for not using a latrine for the disposal of children's feces. Latrines are also often not found convenient for emptying feces from pots or basins. Instead, since children's feces are not generally regarded as dangerous or as unpleasant as adult feces, they are often disposed of in the garden or orchard, in the rubbish heap or by the side of the street.

Two groups of men in Talas raised a series of beliefs concerning the disposal of infant's feces. They said they do not mix it with adult's feces because this might lead the child to be less successful in adulthood. They said *'Infant's feces are sacred'* and that they should not be mixed with ash, otherwise the child might be sick, *'if children's feces are disposed with ash, the child will be as ash, it is very bad. So people say, let the child be like a flower but not as ash. Feces must not burn'*. It was also said that children's feces should be disposed in places where people could not step because the child might then suffer from disease as a result of the Evil Eye. It is not clear how widespread these beliefs are. They were not mentioned by women or children, who are more often those involved actively in disposing of feces. Nor were such beliefs evident from direct observation of feces disposal. None of the women who took part in the behavior trial raised these objections to disposing of feces in the latrine.

Girls reported a variety of medical uses for infant's feces. These included treatment of warts, ear infections, eye infections, coughs and hepatitis. Again it is not clear how widely held these beliefs are. They were not mentioned by adults and were strongly denied when asked about directly.

Although some respondents said that children's feces were *'good for the garden'* there was no evidence that human feces are a widely used fertilizer. In the questionnaire survey only one respondent out of 255 reported the use of human feces as a fertilizer.

Water

People from all villages are concerned over water quality and availability. Most pumps are not functioning and there is a fear that water from other sources is causing disease. Women and children are usually responsible for collecting water for domestic use. Most men said that there is enough water for domestic

needs, but people are concerned by the lack of water for irrigation. However, during the winter it is reported that many water sources are frozen and water availability for domestic use becomes a problem.

2. Water and Sanitation Related Diseases

Diseases fall basically into two categories: infectious intestinal diseases (including worms) and skin infections (including scabies). These diseases exist alongside a number of other health problems attributed to a variety of causes. Also there is a substantial difference between the local perceptions of the diseases that are related to water and sanitation practices and western medical and public health perception.

Of the perceived symptoms reported, those that are most likely to be related to water, hygiene and sanitation are diarrhea, hepatitis, stomach problems, worms, scabies, and sores. Although TB and brucellosis were most frequently identified as the top health problems faced by communities, diarrhea disease and hepatitis were identified as problems for adults and as important health problems for children. Skin conditions too, though not the top health priority, were widely reported as a problem. Children themselves identified flu and diarrhea as their most frequent health problems.

Hygiene and sanitation are not always regarded as the cause of gastrointestinal and skin diseases. Poor water quality and infrequent washing are seen as possible causes of diarrhea and scabies respectively. It is believed that worms can be caused by eating unwashed fruit and sitting in cold places. Scabies and other skin complaints have been attributed to poor water quality, and to using poor quality Chinese soap. Water quality has a particular salience. In addition to diarrhea, stomach problems worms, scabies and skin complaints, TB, coughs, bronchitis, tonsillitis and flu are attributed by some to poor water quality. TB, bronchitis, flu and colds were also blamed on a lack of water and TB was attributed to poor hygiene and sanitation.

On the other hand the collection of accurate data on the actual incidence or prevalence of water, sanitation and hygiene related symptoms is difficult. The majority of available data is based on reported cases and is therefore likely to vastly underestimate actual disease. The data do not represent the actual incidence or prevalence of these infections since they do not include cases that were not reported to the health workers or doctors. The possibility of misdiagnosis and of under or over reporting of particular diseases by health staff would also affect the accuracy of the data. Previous reports attribute 8 percent of infant deaths in 1997 to diarrhea (based on figures from the National Statistical Committee) and state that parasites account for 40 percent of all reported infectious disease, with diarrhea and typhoid making up 16 percent and 1.3 percent respectively (based on figures from the Sanitary and Epidemiology Service in Kyrgyzstan). The country has a high infant death rate (estimated at 77.08 per 1000 live births in 2000 (CIA 2000)). In the absence of malaria and in view of the sanitary conditions observed it is highly probable that diarrhea diseases are a major problem.

Cholera outbreaks were reported in southern Kyrgyzstan in 1998 and in December 2000 the press carried reports of a hepatitis A outbreak in Talas affecting 2,900 people. The social and economic survey carried out in all 3 *oblasts* by Fichtner GmbH asked respondents about illness in their households during the 3 months prior to questioning. Diarrhea was reported among adults in 8 percent of households and among children in 13 percent of households. Hepatitis was reported among adults in 3 percent of households and among children in 6 percent of households. Skin complaints were reported among adults in 3 percent of households and among children in 4 percent of households. It is also apparent from the qualitative data that, although they may not be universally regarded as the most important health problems, gastrointestinal infections and skin complaints are health issues for many people.

The following data were taken from the Kyrgyzstan Common Country Assessment (UN 1999). They are based on cases reported to the health services and may not reflect actual incidence rates. Changes and differences in reported rates may reflect changes in access to and use of the health service or changes in the reporting practices of health service staff as well as changes in the incidence rate of particular infections. This may go a long way towards explaining the apparent decrease in infectious disease incidence that has accompanied a worsening of living conditions for the majority.

Incidence rates per 100,000 of population

	Yssyk-Kul	Naryn	Talas
Typhoid			
1991	4.7	4.6	6.0
1992	2.3	8.2	5.0
1993	5.4	2.6	5.9
1994	1.1	2.9	1.4
1995	1.6	2.6	3.3
1996	1.6	2.8	2.9
1997	5.7	1.5	6.5
1998	0.0	2.3	0.5
Hepatitis A			
1991	316.8	218.9	362.5
1992	165.6	139.8	266.6
1993	317.8	208.9	462.6
1994	434.4	251.8	399.7
1995	256.9	133.8	406.1
1996	208.3	126.6	217.1
1997	383.9	177.0	477.5
1998	178.1	300.0	261.4
Acute Intestine Infection			
1991	436.7	254.3	639.5
1992	341.6	440.0	575.8
1993	388.3	321.4	499.0
1994	275.5	183.1	354.9
1995	310.5	310.4	423.2
1996	180.4	183.8	281.9
1997	104.5	348.1	517.5
1998	191.1	237.1	336.9

Table : Incidence rates of infectious intestinal diseases

3. Possible causes of diseases

Among the behaviors that most likely can lead to the water and sanitation related diseases (gastrointestinal and skin infections) recognized in the villages there are:

- water quality at source
- water handling
- water storage
- lack of hand-washing after using latrines, after cleaning children's feces, before food preparation and before eating
- defecation in sites other than the latrine
- disposal of infant's feces in sites other than the latrine

Of the behaviors observed, the most important in the transmission of gastrointestinal infections are probably lack of hand-washing with soap after contact with feces and lack of safe disposal of feces. It was therefore important to gain an understanding of the frequency with which these high-risk practices occur. This was done using structured observation in sixty-five households. The results are described below.

Hand-washing after potential fecal contact

Of 231 instances of urination/defecation observed 49% (113) were followed by hand-washing. Eighteen percent (41) were followed by hand-washing with soap.

There were 17 observations of a child being cleaned after defecation. None of these was followed by hand-washing. Children were cleaned by their mothers or by a sibling on all but one occasion (on this occasion cleaning was done by the father).

Fifteen observations were made of feces being cleaned from a pot or *beshtik* (always by a woman or child). Only 1 of these was followed by hand-washing and soap was not used on this occasion.

Observations were also made of hand-washing before eating or preparing food, although these behaviors are of secondary importance to hand-washing after contact with feces.

Of 41 occasions on which food preparation was observed, prior hand-washing occurred on 42 percent (17). Hands were washed with soap on 17% of occasions (7 occasions). Food was always prepared by a woman.

Of 297 observations of individuals eating, hands were washed first on 47% (141). Soap was used on 15 percent of occasions (45 occasions).

Hand-washing with soap appears to be the exception rather than the rule. Observations took place in the early morning. This is a time of day when many Kyrgyz wash their hands and face and when reported soap use is frequent. It is therefore likely that our observations of hand-washing are more associated with habitual morning ablutions than with hand-washing habits after latrine use and before food preparation and eating. The findings may therefore overestimate of hand-washing and overestimate the extent of soap use. It is also likely that the presence of the observer served to increase the frequency of hand-washing and soap use.

Soap was seen in 57 percent of households (37 households). Fifty-two percent of households (34 households) had a washstand and 74 percent of these (25 households) were seen to use it for hand-washing. Having a washstand was associated with a higher rate of hand-washing after urination/defecation (means of 0.6 hand-washes per observation of urination/defecation for households with a washstand and 0.3 for households with no washstand). It may be that having a washstand makes hand washing easier or it may be that having a washstand is associated with some other variable such as wealth or concern for hygiene that makes hand-washing more likely.

Disposal of feces

Feces (thought to be human) were seen in the yards or gardens of 43 percent of households (28 households). The position of these feces (by the side of the house and often close to the door) suggests that they were of human origin, however some may have originated from dogs.

On the 17 occasions when cleaning feces from a child was observed the feces were disposed of in the following ways:

In the yard or garden	10
In the latrine	1
In the washstand	1
Left in clothes	1
Unknown	4

On the 15 occasions when cleaning children's feces from a pot or *beshik* was observed the feces were disposed of in the following ways:

In the yard or garden	8
In the latrine	3
In the washstand	2
In the rubbish heap	1
In the street	1

On the 7 occasions when cleaning children's feces from soiled clothes was observed the feces were disposed of in the following ways:

In the yard or garden	4
In the rubbish heap	2
In the latrine	1

Thus, of 39 occasions on which children's feces were disposed of the latrine was used for disposal on only 13 percent (five occasions). All other methods of feces disposal (87 percent) increase the risk of fecal contamination of the domestic environment.

A question on the disposal of infant's feces was included in the questionnaire survey administered to 255 respondents (see methods section above). Questionnaires are thought to be more likely to produce answers close to the perceived ideal than observation (Cousens et al 1996). Nevertheless, 44 percent of respondents did not cite the latrine as the place where infant's feces are disposed of.

Quality of drinking water, although of lesser importance in the control of endemic gastrointestinal disease than water availability and use, may contribute to gastrointestinal infection in some circumstances. In addition, as noted above, water quality is believed by villagers to have an important influence on health.

With these points in mind, a note was made of water storage practices in the observation households and a question on usual water source was included in the questionnaire.

Seventy-six percent of households (46 households) stored their water in covered containers. The means by which water was taken from the storage container varied between households. Some had a dedicated scoop kept on top of the storage container. Others used a variety of pans, some of which were kept on the ground. More than half of respondents in the questionnaire survey reported that their usual source of water was a river, stream or open channel.

The most likely risk-practices for scabies and skin infections that were observed are infrequent bathing, crowded sleeping conditions and infrequent laundry. Scratching of irritated, dirty skin with dirty fingers probably leads to secondary skin infections.

Bathing frequency

The frequency of bathing reported during interviews and focus groups varies from weekly to once every few months. The most widely reported for schoolchildren is a two-week cycle of washing the head on one week and the body the next. A question about bathing-frequency was included in the questionnaire. Twenty-three percent of children, 41 percent of men and 40 percent of women report bathing less frequently than once per week. Children wash in preparation for school and although not all wash every week, bathing is most frequent among school-age children. Teachers expect children to be clean and to have clean hands, heads and faces. It is a source of shame for children and parents if teachers see that a child is dirty.

Cold weather and cold water make bathing difficult. Often there is no access to a working bath-house. Public bath-houses are not functioning. Frequently they have been destroyed, however availability of fuel and water for bath houses is also a problem. A few families have their own bath-house. Eight percent of households observed (5 households) had their own bath-house. From the questionnaire survey 18 percent of respondents (46 respondents) said they had their own bath-house. Some families have access to the bath-houses of neighbors or relations. A charge is often made for use of a private bath-house and again the availability of fuel and water remains a problem whether the bath-house is private or public. The desire for access to a functioning bathhouse was nearly universally expressed. Bathing frequency is said to increase in the summer when outdoor water sources are warm enough to be used for this purpose.

Laundry frequency

Laundry, including bed linen, is washed as necessary. Often this equates to every few days for clothes and every couple of weeks for bed linen. However, poor families often have no sheets and report cleaning their bedding by airing it when the weather is fine. Women complain of having no washing machines and having to do laundry by hand. Drying laundry in the winter is difficult. These problems reduce frequency of laundry and may contribute to the spread of scabies.

4. Conclusion

A considerable synergy between the RWSS and the Hygiene Promotion Program to be developed by DFID is expected.

The hygiene promotion project will promote behaviors that require water. The problem of collecting water for washing hands was raised by local people during the research project. If hygiene messages are

accepted, demand for water will increase and concern to establish and maintain water supplies should also increase. This may be particularly true in the event of communities electing to re-establish bath-houses for public use. The Rural Water Supply and Sanitation Project in combination with the Hygiene Promotion Program will bring health benefits that neither could produce alone. Perceived water quality appears to have a particular salience and poor quality water is thought to cause a variety of illnesses. It is likely that the health benefits of improved hygiene will be attributed to the water supply and this could provide further motivation for maintaining the rehabilitated water sources.

The use of child to child and active learning in schools will allow the opportunity for children to learn about the importance of using and maintaining clean water sources and about simple methods for effective environmental monitoring of water sources. The provision of hand-washing facilities within schools will also increase the demand for water and raise awareness of the importance of an adequate and convenient water supply. The use of participatory approaches in rural communities will provide experience of identifying and responding to environmental health problems at the community level. The lessons learned and confidence gained in this way will leave communities better placed to manage their own water supplies.

Work with the Sanitation Supervisors in the CDWSA Union would provide a direct link with the RWSS. This could be used as a means of introducing ideas and ways of working which would strengthen the ability of local committees to manage their water supplies. It could also help to ensure that the committees remain aware of the hygiene and health implications of their work.

One problem facing the RWSS is how to increase willingness to pay for water supplies. In the villages visited there were many water sources. Most of these were open streams or drainage channels and not all houses were close to a water source. However, people may be unwilling to pay for water which is already freely available (the situation may change seasonally; in the winter when sources are liable to freeze and in the summer, when they are liable to dry up or be diverted to irrigation). Two possible approaches, not mutually exclusive, are 1) that people will be willing to pay for a water supply if they see it as giving them something that they want and as addressing a need that they have identified 2) that people will be willing to pay for something that they want and that the money thus raised can be used as a water tariff.

Participatory work around environmental health issues within communities, as part of the hygiene promotion project, would allow the possibility for communities to identify their water problems and contribute to the design of appropriate systems (both technical and social) to address these problems (approach 1). It may be that in some villages low-cost improvements to household wells will meet local needs more effectively than rehabilitation or provision of standpipes. Water supplies could also be presented as part of a package that addresses other needs identified by communities and which they are willing to pay for (approach 2). These might include training of individuals in hygiene promotion, latrine construction, bath-house construction, solid waste management, rewarding school-children or others for their efforts in promoting better hygiene, or some other environmental health issues. With regards to training in hygiene promotion, a community might prove willing to contribute towards the training of an individual of their choosing (perhaps the Sanitation Supervisor). They may be less willing to contribute towards the training of teachers and *felchers* who are part of a state system that is believed to have a duty to provide these services.

These issues need to be addressed urgently in the community selected as a pilot for the water supply project. It seems that this community has been chosen to receive a water supply for which it will be expected to pay. The extent to which this is answering an expressed need in the community is unclear and it is possible that the community was selected for political reasons. The problem of willingness to pay is seen as acute in this community and is made more so by the abundance of surface water including wells attached to individual households.

It was evident during the formative work that villages are not single entities with regards to water supply. One feature of potential importance is the development of 'new neighborhoods' on the periphery of villages. These tend to consist of young families, often among the poorest in the village. They are often situated furthest from the existing water supply system, although they may have reasonably good access to surface water. Rehabilitation of existing water supply systems would often fail to reach these neighborhoods.

**Additional
Annex 12**

Project Cycle, Procurement Cycle and Control Mechanism

Key Stakeholders and Responsibilities

Village Water Supply Systems Rehabilitation	
Key Agencies and Stakeholders	Responsibilities and Actions
The Community	<ul style="list-style-type: none"> • with the assistance of the PMC, define the project and prepare a formal sub-project proposal to be transmitted to the Rayon DRWS. • provide up-front cash contribution. • legally register the CDWSA • Conclude a sub-project agreement with the DRWS • Create and maintain the administrative structure needed to prepare and implement the project and ensure proper operation and maintenance • with the assistance of MC manage, supervise and participate in the construction of the water supply system • Charge, bill, and collect the tariffs needed to meet the financial obligations spelled out in the sub-project agreement. • maintain and operate the water supply system
Project Management Consultant working with local NGOs	<ul style="list-style-type: none"> • promote the project at the community level in coordination with the Rayon DRWS • assist the community in preparing a formal sub-project proposal. • assist the community in building and maintaining the administrative structure needed for facilities administration and operations • assist the community to manage and supervise the construction of the water supply system and procure all goods and services necessary for the construction • report monitor progress in the execution of the project, keep records and submit them to the Oblast DRWS to be consolidated • assist the community in maintenance and operation once the project is completed • Provide training for local contractors in the use of new techniques of materials and techniques in the water sector.
Department of Rural Water Supply - Rayon administration	<ul style="list-style-type: none"> • collect data concerning the water and sanitation situation in the Rayon • be the focal point of all water and sanitation activities in the Rayon. • organize and coordinate the promotion of the project at the community level • make a preselection amongst the communities that apply for assistance to develop a formal sub-project proposal • participate in the preparation of a formal sub-project proposal at the community level • transmit the sub-project proposal to the Oblast DRWS and give an opinion concerning the

	<ul style="list-style-type: none"> sustainability of the proposal. monitor the implementation of the of the sub-project proposal, and provide progress reports to the Oblast DRWS.
Department of Rural Water Supply - Oblast Level	<ul style="list-style-type: none"> evaluate sub-project proposals submitted by the community and make a final decision (subject to IDA approval) whether or not a sub-project proposal receives funding. package and submit the approved sub-project proposals to the National - DRWS Consolidate project progress reports from all Rayons Evaluate the sub-project upon completion.
PMU within Department of Rural Water Supply - National Level	<ul style="list-style-type: none"> allocate credit funding to Oblast offices of the DRWS in Talas, Issyk-kul, and Naryn for specific sub-project proposals acceptable to IDA package and present sub-project proposals to IDA for review and approval keep consolidated project accounts in a format agreed with IDA produce consolidated project progress reports IDA and submit them these to IDA define policy in the Kyrgyz Rural Water sector, provide policy guidance to the Oblast DRWS maintain the Management Information System
Project Management Consultant	<ul style="list-style-type: none"> provide training to the DRWS officials at national and Oblast levels provide technical assistance to the National DRWS for the MIS, Project accounting and reporting provide technical assistance to the Oblast DRWS for sub-project proposal evaluation and evaluation of the sub-projects at completion. provide technical assistance to Oblast DRWS for accounting and reporting
Ministry of Finance	<ul style="list-style-type: none"> receive the IDA Credit and repay it to IDA appoint a project executing agency, the Department of Rural Water Supply (DRWS) transfer the IDA credit to the DRWS

Brief Description of the Sub-Project Cycle

The Rayon DRWS, assisted by the management contractor together with the DRWS representative, will visit rural communities, promote and explain the principles of the project. Communities that express a strong interest in administering, building, operating and maintaining their own water supply system, can apply to the Rayon DRWS for assistance in developing a formal sub-project proposal. The Rayon DRWS will make a preselection amongst the communities that apply based on the following criteria:

- the available resources to finance sub-projects in the Rayon;
- the extent the application is supported by the entire community;
- social cohesion of the community;
- the success of previous community organized works/projects (Ashar);
- the extent to which the public health situation in the village is threatened by water borne diseases.

Once a community is preselected, the PMC will help the community prepare a formal sub-project proposal. The preparation of the sub-project proposal will include the following:

- the community will match the service and technology levels it wants with those it can afford and is willing to pay for;
- the mini social assessment will be completed to determine the poverty level, income and expenditure, willingness and ability to pay of the community;
- with substantial input from the community, the PMC will prepare a technical design for the construction/rehabilitation of the water supply system;
- the community, assisted by the PMC, will draw up a budget and a procurement & implementation plan for the construction/rehabilitation of the water supply system;
- the community, assisted by the PMC, will design an O&M plan, make a financial projections, and determine tariff levels that cover O&M costs and financial contributions to a investment/replacement fund;
- the PMC will help the community set-up a CDWSA and explain its statutes and modus operandi (no legal registration at this point); and
- the community provides an up-front cash contribution, and commits itself to contribute in kind during the construction / rehabilitation phase.

The community submits the proposal to the Rayon DRWS; the Rayon DRWS writes an opinion concerning the sustainability of the project and transmits the proposal to the Oblast DRWS. The Oblast DRWS, assisted by the PMC makes the decision (subject to no objection from IDA) whether or not a sub-project will receive funding. The decision will be based on evaluation of the following:

- presence of an up-front in cash contribution;
- establishment of the Community Drinking Water Association;
- technical feasibility, cost effective technical solutions adapted to local realities;
- financial and tariff projections demonstrating how the community will meet its financial obligations;
- socioeconomic analysis that demonstrates that the community is prepared and capable of meeting its financial obligations;
- budget, implementation and procurement plan for the construction/rehabilitation of the water supply system; and
- operation an maintenance plan.

The sub-project proposals will be submitted to the PMU, which in turn will obtain IDA's no objection.

When a sub-project receives the final go ahead, the community will legally register the CDWSA and enter into a sub-project agreement with the Oblast DRWS. The project's budget, implementation schedule, procurement and financing plan, as well as present and future financial obligations will be recorded in the sub-project agreement. The agreement becomes the basis for implementation monitoring. Communities not complying with the conditions of the agreement will be subject to sanctions, including loss of the credit. Likewise, Oblast DRWSs not complying with their obligations under the sub-project agreement will be subject to sanctions including loss access to IDA funds.

At this point, the PMC will initiate assistance to the CDWSA with the implementation phase of the sub-project:

- The PMC will provide training for the executive committee of the CDWSA in basic skills (procurement, accounting, financial planning, O&M planning. etc. required to run and administer the water supply system.
- The PMC will assist the CDWSA to manage and supervise the construction phase.
- The PMC will assist in the procurement of goods and services necessary for the construction of the water supply system.

Throughout the implementation phase, the sub-project will be monitored on a regular basis by the Rayon DRWS. At completion, the CDWSA, assisted by the PMC, will submit a completion report to the Rayon DRWS, who will comment on the report and transmit it to the Oblast DRWS. The Oblast DRWS, assisted by the PMC, will make an evaluation (technical, institutional, and financial/procurement aspects) of the sub-project. If all is satisfactory, the water supply system will be officially handed over to the CDWSA.

During the first 12 to 18 months after the completion of the implementation, the PMC will continue to provide technical assistance to help the CDWSA run and administer the water supply system. Over the next decade the Rayon DRWS will carefully monitor the manner in which the CDWSA manages and operates the system.

MAP SECTION

KYRGYZ REPUBLIC RURAL WATER SUPPLY AND SANITATION PROJECT

- TALAS** PROJECT OBLASTS
- +—+— RAILROADS
 - MAIN ROADS
 - - - OTHER ROADS
 - SELECTED CITIES
 - ⊙ OBLAST CAPITALS
 - ★ NATIONAL CAPITAL
 - · - · - OBLAST BOUNDARIES
 - - - - - INTERNATIONAL BOUNDARIES



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0 50 100 150 Kilometers
0 25 50 75 100 Miles