PROJECT INFORMATION DOCUMENT (PID)
CONCEPT STAGE

Report No.: AB1982

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Ferghana Valley Water Resources Management Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region</td>
<td>EUROPE AND CENTRAL ASIA</td>
</tr>
<tr>
<td>Sector</td>
<td>Irrigation and drainage (80%); General water, sanitation and flood protection sector (20%)</td>
</tr>
<tr>
<td>Project ID</td>
<td>P090105</td>
</tr>
<tr>
<td>Borrower(s)</td>
<td>REPUBLIC OF UZBEKISTAN</td>
</tr>
<tr>
<td></td>
<td>Ministry of Finance Uzbekistan</td>
</tr>
<tr>
<td>Implementing Agency</td>
<td>Ministry of Agriculture and Water Resources Uzbekistan, Project Implementation Unit for Water Infrastructure</td>
</tr>
<tr>
<td>Environment Category</td>
<td>[X] A [ ] B [ ] C [ ] FI [ ] TBD (to be determined)</td>
</tr>
<tr>
<td>Date PID Prepared</td>
<td>November 21, 2005</td>
</tr>
<tr>
<td>Estimated Date of Appraisal Authorization</td>
<td>May 31, 2007</td>
</tr>
<tr>
<td>Estimated Date of Board Approval</td>
<td>September 29, 2007</td>
</tr>
</tbody>
</table>

1. Key development issues and rationale for Bank involvement

Agriculture is totally dependent on irrigation in Uzbekistan. Because of its arid climate, the annual evaporation far exceeds the rainfall, making irrigation essential for growing crops. Irrigated agriculture is the backbone of the Uzbek economy, accounting for 35% of GDP, 60% of foreign exchange receipts, and 45% of employment. In the rural areas, irrigated agriculture and the processing of agricultural products is by far the main source of employment and incomes for the population. The most important crop is cotton which accounts for about 50% of export earnings. Much of Uzbekistan is desert. The irrigated areas are located in the valleys and plateaus of the Amu Darya and Syr Darya, covering about 4 million hectares.

Ferghana Valley (FV) has the most fertile soils in Central Asia and the highest population density. The Valley is spread over three countries of Tajikistan, Kyrgyzstan, and Uzbekistan. Presently, irrigated area in FV is about 1.4 million ha, about 66% in Uzbekistan, 24% in Kyrgyzstan and 10% in Tajikistan. The total population in the valley is about 10 million of which about 7 million are living in the Uzbek part of the FV. Therefore, FV is a very important area for Uzbekistan. Though it occupies only 4% of Uzbekistan’s territory, more than 28% of Uzbekistan’s population live there. About 37% of the arable land and five out of country’s ten largest cities are in the FV. The main crops in FV are cotton (0.6 million ha) and grain (mainly wheat about 0.5 million ha). The FV is plentiful in fruits and vegetables production, fodder and livestock activities which are very important income earners for the population. The FV has abundant surface water resources, as well as a significant amount of renewable ground water resource. In fact, the valley has excessive water resources and lack of drainage is a major problem constraining the agricultural production, degrading environment and public health conditions due to waterlogging and salinity.

Major issues constraining productivity and sustainability of irrigated agriculture are: (i) the lack of farmers’ incentives to improve production and productivity. The agriculture sector is heavily taxed and huge amounts are transferred out of the sector by fixing the prices of agricultural outputs; (ii) low water use efficiency; (iii) shallow groundwater levels, and lack of drainage leading to soil salinization; and (iv) deteriorating irrigation and drainage (I&D) infrastructure.
Massive investments are required to address these problems, and the constrained investment climate in Uzbekistan is the major obstacle in resolving these issues. However, significant progress can be made with the proposed project by introducing improved water management practices and development of groundwater resources. Irrigated lands in Uzbekistan are predominantly served by surface irrigation system owned and operated by the government. Government has been expanding and managing the surface irrigation systems over the last several decades and very limited attention has been paid to the development of groundwater resources. Hence, it is deemed convenient to use surface water and there is not a tradition to use groundwater resources properly. In recent years groundwater development has revolutionized irrigated agriculture in many river basins. Groundwater development mostly requires smaller investments affordable by individual farmers. The conjunctive use of surface and ground water resources will be highly effective for enhancing productivity of irrigated agriculture as it has been observed in many parts of the world. The project would introduce such a model which can be expanded to the rest of the Ferghana Valley through subsequent investments.

The project is fully consistent with the CAS and it is designed to address “basic needs” supporting two key goals of Uzbekistan’s Welfare Improvement Strategy i.e. reducing inter-regional disparities in living standards and improving the environment. The proposed Project would be the third of a set of water resources management investments in the Ferghana Valley, sequel to FV projects in Tajikistan and Kyrgyzstan conceptualized under the Ferghana Valley Water Resources Management Improvement Program (FWRMIP). The regional Ferghana Valley Program developed in 2002, based on the principle of “think regionally and act locally”, aims at improving water resources management in the Ferghana Valley and Syr Darya Basin through a series of investments over a period of ten to fifteen years. Under the FWRMIP, the projects are developed in three countries of the valley that are justified as stand alone investments but consistent with the overall plan for improving water resources management in the FV as well as in the Syr Darya Basin. The first set of FWRMIP interventions consists of a project in Tajikistan, already under implementation, to improve irrigation and drainage systems in eastern part of the Soghd Oblast (Kanibadam and Bobojon Gafurov raions) covering an area of about 30,000 ha, safety of Kayrakum dam and state of its management benefiting large part of the Ferghana valley. The project also includes development of groundwater resources additionally improving the drainage. The Kyrgyzstan project would include rehabilitation and modernization of irrigation infrastructure, better management of water resources, and organization of beneficiaries. Geographically, main emphasis under the Kyrgyz FV project would be given to three Oblasts of FV, Batken, Jalal-Abad and Osh and schemes adjacent to the Uzbekistan project area.

The proposed Project of FWRMIP will address major water resources management issues in the southwestern part of the valley in the Ferghana Oblast of Uzbekistan. The project would enhance farmers’ income, environment, public health and quality of private and public infrastructure threatened by waterlogging causing extensive damage to houses, buildings and roads. The fresh water returned back to the river through proper drainage system constructed under the project will improve the downstream environment that is currently experiencing severe shortages in summer due to winter mode operation of the Naryn Cascade and thus cause of tense relations among the riparian states of Syr Darya. Even with difficult broader socio-economic and political environment, better water resources management provides direct benefits to the people and improves living conditions, environment and public health. The government is committed to improving the water resources management particularly in the FV. The project would provide good economic returns and increase farmers income even without reforms in the agriculture sector, and more so with agricultural reforms.

Bank’s involvement is crucial for achieving the project objectives. The World Bank is a key player in the water sector in the region, and since early 1990s it has provided leadership in the Aral Sea Program as well as in programs for irrigation and drainage systems rehabilitation and environmental management. The Bank has a good relationship with Uzbekistan in the water resources management and irrigation and
Drainage, Irrigation and Wetlands Improvement Project (DIWIP) is one of the largest investments in Uzbekistan. Under DIWIP considerable work is being carried out to improve drainage and environmental conditions in South Karkalpakstan region situated adjacent to the Aral Sea. The Bank also developed the Karshi Pumping Cascade Rehabilitation Project by mobilizing financing from three sources including, the Government of France, Kuwait Fund and the OPEC Fund. The Bank is financing the Rural Enterprise Restructuring Project being implemented in several Oblasts with significant investment in improving irrigation and drainage systems and addressing other critical policy issues in the agriculture sector.

Most importantly, the Bank has played a fundamental role in the development of the Ferghana Valley Program (FVP), covering all three countries in the Valley. Bank’s involvement in the project is thus crucial for continued coherent design and implementation of the FVP, ensuring integrated water resource management in the Syr Darya Basin with proper consideration to national as well as regional perspectives. The Bank is recognized as adding value by providing technical excellence and thus the Government would like Bank’s involvement in project preparation and supervision, recognizing that such interaction can transfer knowledge and skills better than pure analytical work. Most importantly, the Bank support through this operation is essential for enhancing Uzbekistan’s capacity in irrigation and drainage management, and for strengthening the managerial and financial capabilities of its institutions to plan and implement large and complex infrastructure projects.

2. Proposed objective(s)

The Project’s main objectives would be to improve water resources management, specifically increase water use efficiency in irrigation and drainage sub-sector through drainage and irrigation systems rehabilitation, improved groundwater management, and community and agricultural support measures. This would lead to increased agricultural production, employment and incomes. The project would also improve reliability and quality of water flows as well as overall water resources management in the Syr Darya Basin. The project interventions are primarily to improve the drainage and off-farm irrigation systems that are largely “public goods”.

3. Preliminary description

**Project Components.** The gross agricultural area in the three participating tumans (Rishtan, Baghdad and Altyrak) in the Ferghana Oblast of Uzbekistan is about 63,000 ha from which the project interventions would cover an area of about 30,000 ha. However, project benefits would extend to a much larger area. Improvements in the remaining parts of the FV would be covered under subsequent phases of the program. The project is likely to consist of the following components:

**Component A: Improvement of Irrigation and Drainage Systems.** This would consist of reconstruction and rehabilitation of the drainage system in the project area that would improve drainage conditions and intercept water coming from the higher lands, reducing waterlogging and soil salinization. The water intercepted would be of a good quality, and it can be discharged back into the river for reuse downstream. Selective improvements in the irrigation and drainage channels over an area of about 30,000 ha would be undertaken to improve crop yields and to reduce water losses. Drainage benefits may extend to a much larger area approximately 40,000 ha to 60,000 ha. Under this component technical assistance would also be provided to the local institutions in overall water resources management, irrigation and drainage systems designs, rehabilitation, and operation and management. The Oblast, Raion and project area level institutions would be strengthened including introduction of modern tools for irrigation scheduling, conjunctive use of surface and groundwater resources and management of drainage effluent.
Component B: Groundwater Development. The project area is underlain with fresh groundwater. Much of the area is under artesian pressure due to high water application on the adjacent higher lands. The groundwater aquifer beneath adjacent high lands appears to be connected to the low lands in the valley. The existing groundwater wells would be rehabilitated and additional wells would be installed to lower the groundwater level, thus improving conditions for cropping and reducing extensive damage to the private and public infrastructure. Many of these wells will operate with artesian pressure, however, on some wells pumps would be installed. The groundwater from these wells would be reused for irrigation in the project area/Ferghana Valley conjunctively with surface water and excess water would be discharged into the drainage system flowing back to the river for use further downstream. Groundwater development would not only provide drainage benefits but also improve the overall irrigation efficiency and timeliness in meeting crop water demand, hence considerably increasing the crop yields.

Component C: Community and Agricultural Development Support. The component would include development of effective Water Users’ Associations (WUAs) for improving operation and maintenance (O&M) and water management, and promotion of improved irrigation and agricultural practices. Necessary technical assistance and training would be provided for the development and effective operation of WUAs. The capacity of Oblast and Raion level irrigation institutions would be strengthened enabling them to develop and work with the WUAs. The component would also include training in improving irrigation practices, land leveling and establishment of demonstration plots, demonstrating improved agricultural and irrigation practices and crop husbandry. Moreover, the project would selectively include some income generating activities such as food processing, canning of fruits and other agricultural products, and sericulture and silk production to enhance the value of the commodities produced in the project area.

Component D, Project Management, and Monitoring and Evaluation. This would include: (a) support for project management, design and construction supervision; and (b) monitoring and evaluation of the project impact, covering physical, agricultural, social and economic impacts.

4. Safeguard policies that might apply

Environmental Category: B - Partial Assessment

Environmental Assessment. An Environmental Assessment (EA) will be carried out to ensure that the improvement and rehabilitation works will be environmentally acceptable and cause no or minimum damage to the environment. The EA will include an Environmental Management Plan (EMP) aimed at enhancing the environmental benefits of the project. In accordance with the Bank guidelines, the tasks under the EA will include: (i) analysis of policy, legal, and administrative framework relevant to the proposed project; (ii) collection and analysis of the baseline data on the environmental issues and their trends, including issues identified during the implementation; (iii) identification of possible negative and positive environmental impacts of the proposed project and propose mitigating measures as required; (iv) development of key criteria for environmental quality monitoring in the project implementation areas; and (v) review of the guidelines developed under project for environmentally sound construction practices, and making improvements as needed.

Projects on International Waterways. The Project triggers OP 7.50 as project area lies in Syr Darya Basin which is international waterway of which Uzbekistan is a riparian. The project works are of rehabilitation nature and would not result in changes in water quantity or quality, affecting interests of any other riparian. Also there is an existing Water Sharing Agreement among the riparian states that governs quantity and quality of the Syr Darya.
5. Tentative financing

Source: ($m.)

BORROWER/RECIPIENT 5
INTERNATIONAL DEVELOPMENT ASSOCIATION 30
FOREIGN MULTILATERAL INSTITUTIONS (UNIDENTIFIED) 15

Total 50

6. Contact point

Contact: Masood Ahmad
Title: Lead Water Resources Specialist
Tel: (202) 458-2013
Fax:
Email: Mahmad2@worldbank.org