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IMPLEMENTATION COMPLETION REPORT  
(PPFI-Q1080 IDA-32400 IDA-32401)

ON A

CREDIT

IN THE AMOUNT OF US\$ MILLION

TO THE

REPUBLIC OF TAJIKISTAN

FOR A

Farm Privatization Support Project

June 29, 2006

**Environmentally and Socially Sustainable Development  
Europe and Central Asia**

## CURRENCY EQUIVALENTS

(Exchange Rate Effective June 15, 2006)

Currency Unit = Tajikistan Somoni

Somoni 1 = US\$ 0.32

US\$ 1 = 3.2 Somoni

## FISCAL YEAR

January 1 – December 31

## ABBREVIATIONS AND ACRONYMS

CAS	Country Assistance Strategy
CAWMP	Community Agriculture & Watershed Management Project
CIS	Commonwealth of Independent States
CSF	Collective/ State Farms
EIRR	Economic Internal Rate of Return
FM	Financial Management
FPSP	Farm Privatization Support Project
GOT	Government of Tajikistan
LRCSP	Land Registration & Cadastre System for Sustainable Agriculture Project
IRR	Investment Rate of Return
ISR	Implementation Status Report
MIWR	Ministry of Irrigation and Water resources Management
MOA	Ministry of Agriculture
MOE	Ministry of Economy
NATC	National Agricultural Training Center
NBFO	Non Bank Financial Organization
NBT	National Bank of Tajikistan
NGO	Non Governmental Organization
NPV	Net Present Value
O&M	Operation and Maintenance
PMU/PIU	Project Management Unit, Project Implementation Unit
PSIA	Poverty and Social Impact Assessment
QAG	Quality Assurance Group
RIAS	Rural Information and Advisory Services
RIRP	Rural Infrastructure Rehabilitation Project
RSCA	Rural Savings and Credit Associations
SIDA	Swedish International Development Agency
SLC	State Land Committee
TTL	Task Team Leader
UPN	Universal Parcel Numbers
USAID	United States Agency for International Development
UTMS	Universal Transverse Mercator System
WGS	World Geodetic System

WUA

Water User Association

Vice President:	Shigeo Katsu
Country Director	Annette Dixon
Sector Manager	Juergen Voegele
Task Team Leader/Task Manager:	Daniel Gerber

**TAJIKISTAN**  
**Farm Privatization Support Project**

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<i>Project ID:</i> P049718	<i>Project Name:</i> Farm Privatization Support Project
<i>Team Leader:</i> Daniel P. Gerber	<i>TL Unit:</i> ECSSD
<i>ICR Type:</i> Core ICR	<i>Report Date:</i> June 29, 2006

## 1. Project Data

*Name:* Farm Privatization Support Project

*L/C/TF Number:* PPFI-Q1080; IDA-32400;  
IDA-32401

*Country/Department:* TAJIKISTAN

*Region:* Europe and Central Asia  
Region

*Sector/subsector:* Central government administration (41%); Irrigation and drainage (33%); Micro- and SME finance (26%)

*Theme:* Infrastructure services for private sector development (P); Rural services and infrastructure (P); Land administration and management (S); Other rural development (S)

### KEY DATES

	<i>Original</i>	<i>Revised/Actual</i>
<i>PCD:</i> 09/02/1998	<i>Effective:</i> 07/30/1999	02/28/2000
<i>Appraisal:</i> 02/03/1999	<i>MTR:</i> 01/31/2001	05/15/2004
<i>Approval:</i> 06/10/1999	<i>Closing:</i> 06/30/2004	11/30/2005

*Borrower/Implementing Agency:* GOVT. OF TAJIKISTAN/PROJECT DEVELOPMENT UNIT

*Other Partners:*

STAFF	Current	At Appraisal
<i>Vice President:</i>	Shigeo Katsu	Johannes Linn
<i>Country Director:</i>	Annette Dixon	Ishrat Husain
<i>Sector Manager:</i>	Juergen Voegele	Joseph R. Goldberg
<i>Team Leader at ICR:</i>	Daniel Gerber	T.V. Sampath
<i>ICR Primary Author:</i>	Daniel Gerber	

## 2. Principal Performance Ratings

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HL=Highly Likely, L=Likely, UN=Unlikely, HUN=Highly Unlikely, HU=Highly Unsatisfactory, H=High, SU=Substantial, M=Modest, N=Negligible)

*Outcome:* S  
*Sustainability:* L  
*Institutional Development Impact:* M  
*Bank Performance:* S  
*Borrower Performance:* S

*Quality at Entry:* S QAG (if available) ICR  
*Project at Risk at Any Time:* No S

### **3. Assessment of Development Objective and Design, and of Quality at Entry**

#### *3.1 Original Objective:*

The main objectives of the Farm Privatization Support Project were to assist the Government to: (i) develop procedures and institutional mechanisms at the state level and in selected regions to ensure fair, secure and equitable transfer of land and other farm assets to private individuals or groups; (ii) test and implement these procedures in ten selected former state and collective farms in order to provide representative models which could serve as a basis for wider geographical replicability; and (iii) create sustainable private family farming units and provide them with the enabling conditions to operate independently in a market economy.

These objectives were consistent with the Bank's Country Assistance Strategy (CAS) that saw growth recovery in the agricultural sector as a critical element. The project directly supported the Government's program to transform the agricultural sector into a competitive market oriented system, and the project complemented on-going Bank operations that had focused on creating an enabling policy environment and building institutional capacity in various sectors. The strategy recognized that only modest progress had been made in land privatization and farm restructuring under the adjustment credits that had been made prior to this project. However, the lack of progress could be partly attributable to civil conflict and uneven political commitment and resistance by vested interests, as well as to a lack of demonstrated successful models.

#### *3.2 Revised Objective:*

The revised objectives of the Farm Privatization Support Project included all of the original objectives, and added a fourth objective: (iv) mitigation of effects of severe drought of the year 2000 through provision of emergency inputs to about 96,000 farm families covering 52,000 ha of affected land.

#### *3.3 Original Components:*

##### **Component One: Farm Restructuring Services:**

I) *Land Use Rights Registration Services:* The Land Use Rights Registration Services component was designed to ensure that after the split up of collectives or state farms, farmland is allocated in a fair and transparent manner and that the ensuing land rights are recorded accurately, effectively, encouraging the emergence of a transparent, competitive and fair land-use-rights market in the future. The component concentrated on farm land for which the State Land Committee (SLC) is exclusively responsible for registration. The component included the following sub-components:

Survey/Mapping. Existing aerial maps in the scale of 1:20,000 and 1:10,000 were updated and enlarged to 1:5000 for each of the project farm areas to redefine the existing boundaries and other features of the farm, including buildings and infrastructure such as roads, canals, etc.

Land allocation. Each of the ten farms underwent an analysis of any privatization activity, simultaneously a public awareness campaign was implemented that helped establish workers' understanding of their rights and possible farm structures that they could choose from. The decision making by public consensus was expected to result in the acceptance of land distribution in an open and transparent manner. The last phase of the process involved a parcel survey, preparation of a parcel allocation plan and public display of the plan for general acceptance.

Land registration. A land registration system was established under the project that centrally records parcels or units of land with Universal Parcel Numbers that have been allocated using an internationally

recognized method. This includes a series of digits reflecting the various administrative territories starting from the country, to the oblast, to the raion, to the Jamoat down to the parcel number. The land registered includes garden plots (presidential land), and other land plots made available to the population by the raion administration.

Training. The training program commenced with a “training of trainers” program, in order to build the necessary training capacity needed for the project. In addition to training programs, the Tajik Agricultural University was refurbished and equipped to provide adequate facilities. The type of training provided not only serves the immediate needs of the project, but also for the future needs of an emerging national system.

(ii) *Rural Information and Advisory Services:* This component was developed to ensure improved knowledge by farmers and farm workers about their rights as land holders and introducing new farming techniques and crops and cropping patterns. It included the following main activities:

Strengthening MOA’s institutional capacity for provision of rural information and advisory services. This involved mostly the training of trainers that were located in the PIU offices in the six pilot regions. In addition, it provided training to local individuals in information dissemination techniques for both, farmer land rights, as well as support the former farm workers with decisions about applicable crops and farming techniques.

Field-level demonstrations in appropriate technologies. The PMU, together with the Agricultural Academy, set up field demonstrations of new crop types and varieties, and introduced improved cultivation and irrigation techniques.

Establishment of a farmers’ information services desk in the MOA and the National Training Center. This involved transforming a dedicated room at the entrance of the MOA building that had been largely off-limits to farmers into an information center, where farmers could obtain technical publications, and documentation and assistance related to the farm privatization process and agricultural practices.

### **Component Two: Rehabilitation of Critical Main and Field level Irrigation and Drainage Works:**

The main activities under this component were to rehabilitate critical on-farm irrigation and drainage structures in the selected farms, so as to sustain the newly privatized farms emerging under this project. The irrigation infrastructure was completely dilapidated from lack of maintenance or even theft, especially during the civil war. Infrastructure suffered further from the state's limited financial and institutional capacity to maintain or repair these structures after independence and to reconfigure the systems in such a way that water could be delivered to every new privately managed parcel. The component included supporting the establishment of water user associations (WUAs) that are financially self-sustaining and can effectively manage the rehabilitated irrigation facilities at the tertiary field level.

### **Component Three: Provision of One-time Privatization Grant and Creation of Rural Savings and Credit Association:**

*Provision of one-time privatization grant:* The project provided a one-time grant limited at US\$300.00/ha up to maximum of US\$ 600.00 to the private "family farms" to enable them to obtain a minimal amount of the most critical agricultural inputs to increase crop and or animal productivity as soon as they had obtained their land use certificate.

*Creation of pilot rural savings and credit associations (RSCA):* This component supported the establishment of farmer-owned credit institutions including the provision of start up capital and a credit line. These entities were initially registered as Non Bank Financial Institutions, under the company law with closed shareholdership limited at 50 individuals. This type of registration was chosen due to (i) minimal capital

requirements as set by the National Bank of Tajikistan (NBT), and (ii) because organizationally, at that time, this was the most suitable form of organization for small credit entities in Tajikistan. With the introduction of the micro credit law in 2004, these entities were re-registered as non deposit taking micro credit entities, still under the supervision authority of the NBT, but with minimal capital requirements.

**Component Four: Project Management Unit in Dushanbe and Project Implementation Units in six project raions:**

This component provided support for the establishment and operations of the Project Management Unit in Dushanbe and of the Project Implementation Units in each of the six project raions. The Project Management Unit was responsible for overall coordination of the project, preparation of annual work programs and budgets, design and implementation of project activities, and carrying out all the work related to procurement, disbursement, accounts, audit, monitoring and evaluation, and reporting. PIUs mostly focussed on solving technical problems at the field level covering all aspects of the project.

*3.4 Revised Components:*

Component; Cost; Rating

FARM RESTRUCTURING SERVICES; \$5,600,000.00; S

IRRIGATION AND DRAINAGE; \$5,500,000.00; S

PRIVATIZATION GRANT/RSCA; \$5,400,000.00; S

PROJECT MANAGEMENT UNIT; \$3,800,000.00; S

The above four components remained substantially the same throughout the project implementation.

DROUGHT MITIGATION ACTIVITY; \$3,000,000.00; S

This component was added after several years of drought which culminated in 2000. It consisted of procurement of seeds and fertilizers, and of distributing them to the farm families that had been worst affected by the drought. The seeds and fertilizer were distributed in family packages to some 56,000 farm families through contracts the PMU concluded with international NGOs, as the government's capacity for transport and distribution was extremely limited. As an emergency intervention it was designed to avoid an extreme food crisis following several years of drought. This component also offered the opportunity to import new higher yielding wheat varieties into the country, which is thought to have contributed significantly to the extraordinary increase in wheat production in Tajikistan since 2001.

*3.5 Quality at Entry:*

At entry, the project was considered risky, mainly due to the lack of political stability, but also due to limited capacity of the various ministries and institutions involved, and the lack of accountability and transparency of the various government bodies. In spite of these constraints, the project at entry was considered satisfactory by a QAG review undertaken in September, 2004. As noted above, the project objectives were consistent with the CAS and the Government's strategy for the development of the sector. The project design took into account the political instability and reluctance towards privatization by initiating the project in pilot areas.

Project preparation was difficult and lengthy mainly because most Agricultural Engineers at the Ministry of Agriculture had a difficult time with the concept of private farmers being able to make their own cropping decisions without centralized production plans. While farmers did largely become advocates of land privatization, this achievement must be put in the context of a post-Soviet reality. Seventy years of top down decision making had muzzled individual initiative, and many farmers remained hesitant to embrace change, and had difficulty with making their own farm management decisions. Despite this, interviews with private farmers in the latter part of the project clearly demonstrated that when farmers began to make their

own decisions, they gradually adapted their production to align with local demand for quantity and variety. This is particularly well illustrated in areas where farmers had easy access to markets and where cotton production was limited due to climate such as in Varzob, where farmers very quickly begun supplying the food needs of the capital, Dushanbe.

It was understood from the beginning that the project would need intensive supervision and flexibility in its implementation, since the needs in Tajikistan were so overwhelming and the political situation still quite unstable in some areas. This very close supervision and the understanding of the need to address the very short-term needs of the government resulted in the supplemental credit in 2000 to help the country mitigate the devastating drought that had affected all of Central Asia.

## **4. Achievement of Objective and Outputs**

### *4.1 Outcome/achievement of objective:*

Overall, the Farm Privatization Support Project (FPSP) has met and even exceeded expectations of establishing a functioning privatization model. The project has helped Tajikistan to privatize land use rights in a way that improves agricultural efficiency and increased the agriculture sector's contribution to economic growth and welfare. A total of 10 Collective/State Farms (CSFs) were privatized under the project, and the land was transferred to farm families with land use certificates that clearly define the parcel boundaries, and coordinates, with use rights registered and coded with a Unified Parcel Number (UPN) in a central database. With this methodology the project established a model for privatizing state and collective farms that is transparent, equitable and generally acceptable to the population, and technically easy to implement by the government.

While the project achieved its objective of establishing a privatization model, it was hoped that this would set a precedent for rapid privatization on a national scale, following the experience in Azerbaijan with a similar privatization model. However, the truth has been that in the cotton areas of Tajikistan, very little "real" privatization -where farm workers obtain their land and the corresponding certification recorded in the central registry with the State Land Committee- has taken place. While there are a number of reasons for this, the most important remains the problem of vested interests involved in the cotton supply chain. With the collapse of the centralized planning system, local governments and marketing companies have disproportionately benefited from revenues generated by the cotton sector. As a result they have continuously attempted to keep control over land by opposing real privatization and have been enforcing an informal system of cotton growing quotas. Despite this difficulty, the methodology developed under the project has been adopted country-wide in varying forms, especially outside the cotton strongholds. The formalization of the land registration in those areas into the central computerized registry, and the harmonization of land policy is now being expanded under the follow-up Land Registration & Cadastre System for Sustainable Agriculture Project (LRCSP).

Similarly, the rehabilitation of critical irrigation infrastructure has been completed to ensure secure water supply to the newly established farms within the project area. These rehabilitated systems are being maintained and operated by nine water users associations that have assumed water distribution to members, collecting fees for their services within the project area. This has ensured reliable water supply, a crucial ingredient in Tajikistan's agriculture, in the territory of the 10 project farms of the project area.

The provision of the one-time start up grant was crucial to help the new farmers take foothold in a private sector led agricultural sector. The grant together with the six NBFOs that were established under the project has reduced financial precariousness, and has begun to remedy the dire lack of credit possibilities for small individual farmers in the project area. The methods used for credit evaluation focusing on cash

flow rather than collateral exclusively, made them suitable for small farmers who have no borrowing experience. However, due to the limited amounts made available, the reach under this component was insufficient to be considered at this stage as full fledged solution to the lack of credit in rural areas. These entities will need further capital and Technical Assistance to become sustainable and continue to provide rural credit services.

#### *4.2 Outputs by components:*

##### **Component One: Satisfactory**

***Land Use Rights Registration Services:*** The land registration component under this project was completed by June 2004 at which point around 5,872 individual family farms had been established, with an average farm size of 3.25 ha, and of which 75% are irrigated. Across the pilot area (the six raions), farm size varies between 2.30 ha in Shahrinaw and 6.90 ha in Yavan. This variation is the result of the different population densities and land qualities in the various project areas, with bigger land plots allocated to farmers in areas of lower land quality. The number of shareholders/members per family dehqan farm is highest at 11 in Leningrad and lowest in Kanz (Zafarobod) and Firdausi (Yavan) at 2.

Country wide, the official information with the State Land Committee (SLC) indicates that as much as 75% of all arable land is now privatized and has been converted into private farms. By the end of 2005, there were an estimated 24,000 private farms covering some 380,000 ha, of which some 30,000 ha are irrigated lands including the 18,000 ha under the Bank's 10 pilot farms. Rainfed highlands have experienced relatively more progress with conversion to family farms, although many of these farms still lack appropriate land use right certificates with clear parcel demarcation and UPN numbers, and registration in the computerized central registry.

The project did largely achieve its stated objective, however, apart from the FPSP project areas, most state and collective farms in the irrigated cotton growing areas were not divided into family farms but rather were converted into "private" joint stock companies or associations. Shareholders or members of these entities have little meaningful input in decision making and lack power to oppose management decisions. In much of the cotton growing areas, therefore, farmers are still not free to make their own decisions on crop types, irrigation frequency, marketing of outputs, etc. In the last few years, farm workers who pushed for privatization have been threatened by debt obligations, which they have been told, they would have to assume along with the land use rights. Scaling up effective land privatization in the cotton areas is constrained by a complex net of vested interests that see land privatization as a threat to their current stronghold. This stronghold is maintained by claims of high levels of debts on farms, by the monopsonic players of the cotton supply chain. This issue has however also affected the willingness of farmers to go through a fairly expensive registration process that will burden them with debt for which they played no role in assuming. This issue is now being addressed through combined efforts under the farm debt resolution process, and the Independent Commission set up for this purpose, and the Land Registration & Cadastre System for Sustainable Agriculture Project (LRCSP), as well as a strong commitment at the highest levels of government.

At the institutional level, this component served to create a digital land registry system based on parcel subdivision for the ten farms in the pilot area. The system is able to reproduce digital maps, using coordinates from the Universal Transverse Mercator System (UTMS) based on satellite data from the World Geodetic System (WGS). This process involved ties to some of the major block corners on parcels that have been allocated most recently, either to existing survey control points in the vicinity of the farms, or to newly-established GPS points. Using ties from GPS and least-square-based programs, the coordinates of all parcel corners were determined for all ten farms. Transformation parameters were developed for all

raions in the entire country, by transferring the Soviet era Krassovsky datum/Gauss-Kruger projection to the WGS84 datum/UTM projection. This transformation algorithm laid the foundations for all maps to be generated into one common mapping system.

These coordinates are used by land registry offices of the SLC at the national, oblast and raion levels to generate land-use certificates based on computerized parcel-based land records and modern mapping and parcel identification methods. While the SLC at the national level has gained increased competence, the regional and local registration offices remain very weak, and much of the registration undertaken in remote areas so far was undertaken by staff contracted by the PMU for this purpose. This arrangement was necessary to ensure that farmers would get their land registered in a reasonable amount of time, but it is understood to be unsustainable in the longer run, and that the capacity needs to be built at the level of regional SLC offices. The Bank's follow-up project is now concentrating its efforts in strengthening the regional offices, with extensive training on the equipment that already been acquired under the FPSP.

The blue print of this system is now being expanded under the LRCSP project to undertake agricultural land registry nationwide, with adequate capacity at the regional and local level. At the same time, donor support to the State Land Committee is working to establish a proper registry of urban and rural land in Tajikistan, by formalizing registration through a legal framework to ensure combined registry of land and immovable assets into a single database. These efforts are also serving as the basis for Swedish assistance to the SLC in establishing a national cadastre which would include all land and immovable property in rural as well as urban areas.

#### ***Farm Information and Advisory Services:***

*Establishment of a National Agricultural Training Center (NATC):* The NATC building has been renovated and fully equipped, the training halls, library and staff rooms have been renovated, and computers and other equipment have been furnished and installed. The center was inaugurated by the Deputy Prime Minister of the Republic of Tajikistan on August 6, 2002. These facilities, established under the umbrella of the Tajikistan Agricultural University, are used today for a variety of adult education programs organized by MoA, and are available to rent for conferences and workshops held by other Ministries.

*Program for Training of Trainers (ToT) of RIAS:* Under this component, international extension training experts assisted in the preparation of training materials in English and Russian, and organized six courses over a period of two months. A total of 150 participants from a variety of backgrounds, including academia, field officers and staff from the university, were selected to take part in RIAS classes, 25 participants each taking a sequence of six courses. These officers in turn trained some 3,600 farmers with direct hands-on field training and demonstrations at the grassroots in the project areas. While the efforts with field training cannot be substantiated in higher yields, this situation has to be at least partially attributed to the fact that availability of sufficient quality and quantity of inputs remains a problem in Tajikistan. However, where suitable, farmers did generally adopt higher cropping intensity, wider crop varieties which was also a concept advocated under the project, and has led to increased revenues per Ha.

*Establishment of an Agricultural Information Services and Communication Center:* The RIAS identified a location for an information center/unit, and after some repairs and renovation of the building and corridors, it was finally established in 2003. In addition, information panels were designed, and display boards and plans have been prepared for distribution to the various line offices of the MoA in each project raion. A public relations office and information desk was furnished with the necessary equipment. Despite this, the activity never really took off, due, in part, to the lack of resources at the MoA to sustain staffing

for such a unit. Agricultural engineers in the former soviet system are not trained to disseminate information to the grass root level. Their interaction was mostly with farm managers who were typically reasonably well educated, and for whom communication could remain technical, while practical application and field experimentation remained the farm management's responsibility. This disconnect to the farmers at the grassroots was not immediately recognized by the project, and subsequent efforts to make up for that shortcoming by bringing in foreign training specialists, were only marginally successful. To maintain what had been established, as an exit strategy, all assets under this activity, as well as the staff that had acquired basic field training experience, were transferred to the LRSCP, which also has a RIAS component.

While building an effective farmers information service remains crucial for the development of Tajikistan's private farmers, the current structures of the Ministry of Agriculture and the associated academy and institutes are poorly equipped to deliver information to small private farmers. Research, for the most part, remains very academic, and suffers from funding shortages and focuses on techniques that are often obsolete, or inappropriate to small farming. The research for developing and maintaining the seed pool for cotton or any other crop is hopelessly under-funded and the laws regulating the import and distribution of seeds are highly restrictive, which is to a large part the reason why yields remain very low. For example, Tajikistan used to be one of the pioneering countries in controlling crop pests using biological control methods. While many of these production facilities remain, they have been dilapidated and only a skeleton crew of older staff are still employed. Tajikistan needs to focus its resources towards better reaching farmers at the grassroots, and focus its research on a few topics where it has a comparative advantage relative to the other countries of the region.

*Block Demonstrations:* Some 30 block demonstrations totaling some 300 ha over the life of the project were contracted, implemented and managed under the auspices of different participating agencies, in selected fields of participating farmers spread over the diverse agricultural zones of the project area. Details of cultivation practices, yield data, and comparison with the costs and yields of neighboring crops have been collected, and an economic analysis has been carried out. The cost-benefit analysis carried out on 83 hectares of wheat crop demonstrated that the farmers are able to clear an average of US\$236/ha, after the cost of cultivation and taxes on the crop. Returns on the crop averaged between US\$1.61 to 2.30/ha for every dollar invested. Taxes are as high as 25-30 percent of total output per hectare. Gross income per hectare was about US\$738, and gross cost per hectare (including tax) about US\$502, leaving an average margin of about US\$236/ha, significantly above the margin of neighboring fields. The case was similar for the potato crop, for which the block demonstrations obtained an average gross return of US\$2993/ha, with average gross cost of US\$2110/ha (including crop tax), clearing a return ranging between US\$1.30-1.70/ha per dollar invested. Block demonstration growing potatoes generated an average income of US\$298/ha. Educational programs such as field days, biweekly farmer discussion forums, and harvest meetings were organized at the site of each demonstration, involving the farmers owning the plots and a large number of neighboring farmers, even from outside the project areas.

## **Component Two: Satisfactory**

*Rehabilitation of Critical Main and field level Irrigation and Drainage Works:* Despite some initial delays because of basic capacity constraints, all scheduled works were completed by the end of the project. In addition, the project team was able to establish a bidding system within the country. At the outset of the project, Tajikistan's construction brigades remained largely under funded and in state control. The project helped to dismantle these brigades into a private contracting system. When these brigades were dismantled, the emerging contractors lacked the most basic bidding, contract management and quality assurance principles. The project provided a number of training courses to these new entities on the basics of

competitive bidding and contracting procedures. Obtaining a sufficient number of bids was a serious problem, especially since foreign contractors avoided partaking in local bidding due to the justified fear of insufficient legal protection offered by the contracts. As a result, a number of joint-ventures were established, which helped local companies gain the necessary administrative knowledge. The project leaves behind a system, through much trial and error, of a reasonable number of reliable contractors.

Ultimately the project cleaned some 396 km of supply canals. Another 387 km of drainage canals, of which some 81km were major new canals, were cleaned, or dug which permitted the recovery of some 548 ha of formerly salinized land. Approximately 16 km of supply canals were concrete lined using approximately 8,700m<sup>3</sup> of concrete. Two major headworks controlling the water supply to more than 30,000ha, and which in one case protects the city from major flooding, were rehabilitated back to functionality. These works included the rehabilitation of several hundred gates and control devices, 1600 m<sup>2</sup> of gabions to retain river banks and to protect intakes, 92 km of access roads, and numerous other items including siphons, pipes and large pump stations. The amount spent on irrigation and drainage works under this project is just under US\$ 8.5 million (including government contribution), equivalent to roughly US\$ 190.00per/ha, and a rehabilitated area of approximately 45,000 ha of which some 18,000 ha were directly in the project areas.

***Water Users Associations (WUAs):*** Nine WUAs have been established under the project using system boundaries of the former state and collective farms as the unit territory, and registered under the Civic Association Law of May 23, 1998. This law in combination with Article 43 of the Water Code which specifically mentions the creation of Water User Associations, forms the legal base for WUAs that aim to (i) operate and maintain on-farm land reclamation and irrigation systems ensuring fair, effective and timely distribution of water between dekhans; (ii) to collect payment for the supply of water; and (iii) to settle disputes. A formal WUA law has been drafted as part of the project and has been submitted for reading at Parliament. Currently, it is being withheld, since several relevant government agencies and ministries, together with donors and NGOs, are currently discussing a new Water Code that would regulate extraction, distribution, use and release of water.

The nine Water Users Associations formed under this project operate reasonably effectively, collecting around 90% of the billed fees from farmers and passing the money on to the Raion water authority (Raivodkhoze). However, WUAs are not charging enough to cover their own operations. In addition, in spite of doubling the price since the start of the project, the current water price mandated by government is only about 20% of the total operating costs (estimated to be around US\$30.00/ha) in case of lift irrigation, and only about 40% of operating costs (estimated to be around US\$18.00/ha) in the case of gravity irrigation. The issue of pricing irrigation water is currently being discussed as a part of the water code. Over the medium term, it must be acknowledged that when water pricing will also include payments for electricity, some form of cross subsidy from gravity to lift irrigation will likely be maintained, especially considering the current level of development of Tajikistan's agricultural sector and the low levels of income among rural families. There are broader agricultural, institutional and socioeconomic reforms that need to be pursued in order to secure expected and desired component benefits and long term sustainability of WUAs.

These issues, along with the clear legal determination about the responsibility for the maintenance and management of irrigation infrastructure remain unclear and are being addressed under the RIRP follow-up project. However, this component did successfully introduce the concept of stakeholder involvement in water management, and the "user pays" principle, thereby laying the cornerstone for the sector's sustainable evolution.

### **Component Three: Satisfactory**

***Provision of One-time Privatization Grant:*** The distribution of the grant was a fairly straight-forward process: some 5,643 eligible farmers obtained a one-time start-up grant to meet their initial investment and working capital needs. The total amount disbursed was US\$3,190,722 or about US\$565.00 per farm family. The grants were disbursed through a designated agent bank “Amonotbank” (formerly the Tajikistan Savings Bank (Sberbank)", at a reasonable cost of around 2%, considering the extensive branch network that Amanatbank maintains in the rural areas. To ensure that the resources would effectively reach the farmer, savings accounts were opened for each beneficiary, and the grant was directly deposited as soon as the bank obtained the tranche for disbursement from the PMU's Special account.

***Rural Savings and Credit Associations:*** The establishment of the RSCAs was fraught with difficulties. A main issue was with the fact that legislation to properly form such associations had not yet been developed. As such, an evaluation of the most suitable form of legal registration had to be undertaken first. Once the most suitable form was identified, it became clear very quickly that the prudential responsibilities of NBT had expanded since project inception and that the capital requirements necessary for the registration of deposit taking facility were beyond the resources available under this project. Eventually, six Non Bank Financial Organizations were registered under the company law as closed joint stock companies, which required a smaller capital requirement and provided several regulatory advantages. These NBFOs had reasonably sustainable operations in their first year of activity, the NBFOs made a total of 520 loans, or about 9% of the farm families living within the project area. From the roughly US\$1.2 million generated through a start-up grant and subordinated loans channeled through Amonotbank, the NBFOs have generated a turnover of about US\$1.45 million, or about US\$250,000 in additional funds that flow through the rural areas in little over a year. As of October 30, 2005, the total loan portfolio amounted to some US\$1.21 million. Gross income for the first year of operation was US\$215,000, of which US\$160,000 went to expenses (including loan loss provisions and interest payments) for a net profit of US\$55,000, or a 4.58% net return on the investment of US\$1.2 million.

However, these figures do of course not count the TA and monitoring support that has been provided so far, and these credit facilities will need continued supervision and assistance over time. At the moment, staff support is paid for through the management budget from the Community Agriculture and Watershed Management PMU, which plans to establish or work with credit entities to improve financial liquidity in rural areas. As discussions around the need for rural credit evolve, the six entities established under this project will provide valuable lessons in regards to TA resources as well as the legal and regulatory difficulties one faces in establishing legally registered rural credit facilities in Tajikistan.

### **Component Four: Satisfactory**

***Project Management:*** At project inception, there was no familiarity with standard Bank guidelines for financial and procurement management, resulting in a steep learning curve for the Project Management Unit (PMU) and Project Implementation Units (PIU). Despite this, the PMU played a key role in ensuring successful project implementation, thanks, in part, to the institutional independence from Ministries, and the strong leadership from PMU management that shielded daily operations from political influence.

At the national level in Dushanbe, the PMU was responsible for planning, procurement and financial management. Permanent PMU staff focused mostly on project administration and coordination between specific ministries and government agencies. Technical specialists were then drawn from the relevant ministries such as MoA, MIWR, and MoE under consulting assignments to provide the technical expertise necessary to implement the various project components. Financial decisions lay with the Project Director,

who was supported by a Steering Committee made up of relevant Ministers and Deputies.

PIUs were established in each of the six project raions. These were staffed by experts from line ministries, who were familiar with the local difficulties and challenges and who would bring the local context to an otherwise very centralized project implementation arrangement. Their role included technical work, but also administrative and coordination support.

Overall project management was good, however, it did come at a cost. The project management component costs ultimately were almost double of what had been originally planned, to a large extent due to the continuous support with procurement and intensive assistance with the establishment of a transparent and effective financial management system. However, the cost of this component was also affected by the delays of the project as a result of having to provide all the logistics and administrative support to the distribution of emergency seed and fertilizer packages under the drought supplemental credit in the fall of 2000 delaying project activities close to a year.

There were never significant issues related to financial management. Annual financial audits, and an extensive procurement review in 2004, only found minor posting mistakes, and in some cases misunderstanding of Bank procurement rules. Strengthening of training and ongoing support to procurement ensured a transparent and effective administration under very difficult and often changing rules. More recently, a review by the Internal Government Auditor, believed to have been politically motivated, found no irregularities. The independence of the PMU and the full authority of the PMU Director over financial accounts and the procurement process and staff appointments provided a transparent and verifiable system of administering funds against a backdrop of extreme graft and widespread corruption in Tajikistan.

#### *4.3 Net Present Value/Economic rate of return:*

The economic rate of return for the irrigation investments in the project was estimated at 26% at the time of project appraisal. This figure was estimated based on the results of increased agricultural productivity from privatized farms resulting in more efficient production than under the state-run command/control farming system. It was estimated that overall crop yields would increase by at least a quarter and even double, depending on the crop. Farm incomes were expected to increase between 25% and 50%, depending on efficiency and crop mix.

While crop production has increased on a national level during the project period, statistics collected at the farm-level do not conclusively indicate significantly higher yields in project farms compared to non-project farms. However, farmers may have understated crop yields out of fear of taxation; the taxes are comprised mostly of a land tax that is based on the productivity of land and assessed based on crop yields.

The primary economic benefit from the project is the increased incomes of farm families as a result of owning land. This allows the families some independence in crop choices away from cotton production, for which they generally receive low, late, or even no payments at all for the raw cotton beyond the cotton stalks, and a few liters of poorly processed cotton seed oil. A second important economic benefit stems from the rehabilitation of infrastructure in the project area, which has improved timely water delivery, and ensured proper drainage which has allowed for more reliable crop yields, more crop alternatives and rotations, as well as cropping intensity.

The results presented in Annex 3 show that the gross margin per hectare increased by three to fivefold, as was anticipated for the main crops analyzed as a part of the monitoring survey. That said, it is important to note that a lack of reliable data makes it difficult to attribute these gains to the project, especially since

the increases in margins are potentially much less the result of higher yields as opposed to an increase in cropping intensity, crop diversity, and replacing machinery with cheap labour. Despite this, the crop model within the project as presented in the SAR has been updated to the extent possible using data from pilot farms. Many of the benefits from the project, such as rehabilitated irrigation structures, WUAs, RIAs services, demonstrations and trainings), did not accrue exclusively to the project area, but it was clear from informal assessments that the impact was positive.

It is important to note that the primary objective of the project was not only to increase agricultural production, but rather to establish a sustainable model of privatization acceptable to beneficiaries as well as to the government, and to provide the basic investments necessary to ensure that the emerging privatized farms would have reasonable chances at sustainability.

#### *4.4 Financial rate of return:*

The financial rate of return had been estimated at 21% for the irrigation investments at time of appraisal. Given the fact that crop margins have indeed increased by the factors estimated at appraisal, this value has been largely achieved. The analysis was undertaken by establishing crop budgets and determining crop gross margins and including a factor to account for the higher cropping intensity. Because the project had a broad range of activities related to institutional capacity building and of which most did not generate direct financial returns, no aggregate analysis of project benefits and costs was attempted. Funds under the RSCAs lending were only provided for investments that generated at least 10 percent in real terms after payment of interests. At closing this small component had achieved good recovery rates, indicating that the investments generated adequate returns to allow for timely repayments.

#### *4.5 Institutional development impact:*

The project has established a successful land privatization model that, with some variations, is being adopted throughout the country, although only in a limited fashion in cotton areas where vested cotton interests are stalling the spread. The model is considered fair, transparent and acceptable to the government, and has provided a foundation for a systematic mapping and registration of Tajikistan's land resources. However, regional offices of the SLC remain weak partially as a result of the need for expediency to ensure that farmers effectively obtain the land use rights in an environment where local governments were often opposed. Strengthening the regional registration offices will be necessary to ensure that the ongoing privatization process can be sustained and future land records can be properly maintained and updated. Current efforts underway on the part of USAID, SIDA, and the Bank's LRCSP are based on the groundwork laid by the project and effectively supporting regional offices in fulfilling their mandate. These programs are all working to contribute to the ultimate goal of a fully functional land registration system for efficient land transactions.

Despite the difficult environment, the project has succeeded in setting up six credit institutions that exclusively serve rural residents, where access to credit is the most limited. These six NBFOs were the first foreign-funded credit facilities registered entirely under Tajikistan's legislation. To achieve this status, a lot of work had to go into researching an adequate model for legally registered entities. Since these efforts took place before the current legislation on micro-credit, the organizations are now being re-registered under the new law, which offers advantages such as lower capital requirements, fewer reporting requirements to NBT and a more suitable legal environment. However, continued supervision under parallel projects means that these entities have the potential, with additional funding in the future, to develop into a sustainable rural credit system.

Overall, the development of institutional capacity has been limited to the project area where a lot of efforts went into ensuring that farmers are allowed to make their own management choices supported by timely

and practical in-the-field advice and demonstration. Still, few officers at the Ministry of Agriculture understand the potential positive impacts of a privatized agricultural sector; numerous information and training sessions and workshops have failed to convince Soviet-trained officers of potential efficiency gains from market forces. For them, the lack of a production plan means that nothing will be produced. In addition, they lack trust in the ability of the farmer to judge what is best for himself and his land and that this would result in the most efficient allocation of resources in the sector.

This skepticism is enshrined in the institutional structures that have maintained the Soviet-era agencies set up for centralized production and the command economy. At the same time, market economy institutions remain weak, and fail to provide a level playing field for producers and consumers. Additional efforts will be required to help various Ministries to evolve into structures favoring policies and regulations that promote individual decision-making and limiting state control. These changes however, also relate to how local government and other players in the economy see their role, not simply of providers to a production system of which they automatically receive a share, but to allow the evolution of marketing chains from which the farmer will ultimately be able to choose and react to by adjusting his operations.

## **5. Major Factors Affecting Implementation and Outcome**

### *5.1 Factors outside the control of government or implementing agency:*

The project design took into account the extremely difficult conditions on the ground, including severe capacity constraints, damage to infrastructure through neglect during the Soviet era and subsequent civil war. The damages were not only physical but also included a significant knowledge drain where the most qualified personnel, often of Russian origin, were forced to flee. The remaining staff, who had been accustomed to receiving orders, are often at a loss as to how to keep services maintained under a dramatically reduced budget environment and lacking adequately qualified staff. While some of these challenges improved during the course of the project, new challenges emerged. Regional security issues and the overall working environment for farmers improved, yet the large outflow of migratory workers to Russia for better wages means that much of the farm-work is now done exclusively by women and children. This is true in the mountain areas but also particularly in cotton area, where farm workers have not been receiving their wages or payment for delivered cotton.

A major unforeseen factor in the implementation of the project was a drought in 2000, which necessitated an emergency intervention to provide seed and fertilizer packages to some 56,000 affected families in the mountainous areas. The logistical challenge of distribution challenged the government's capacity, and the PMU stepped in to coordinate and contract NGOs and other aid agencies to import and to fairly distribute the goods. As a result, the project suffered from considerably delayed implementation.

### *5.2 Factors generally subject to government control:*

The Government's enormous financial pressures in the initial stages of the project resulted in a negative effect on the implementation schedule. Over the course of the project, the situation improved gradually, and the Government has always made sure that adequate funds for the project were available.

This problem was resolved, in large part, because the Government established a competent PMU with a well-connected Project Director, who was willing to apply the necessary pressure on respective Ministries in order to resolve issues. In addition, the Steering Committee, led by the Deputy Prime Minister, provided an effective outlet for Ministers to air their differences and to come to constructive solutions.

The strong PMU and effective Steering Committee were not enough, however, to push through the necessary reforms, or to achieve institutional decisions that would have helped to achieve all the project

goals by the closing date. To date, the Parliament has not been able to agree on a clear arrangement to define the role of WUAs in the ownership and management of structures on the tertiary canals rehabilitated under the project. In addition, the draft WUA law that would provide a clear legal and institutional framework has yet to be signed. Instead, a roundtable with various Ministries and stakeholders has been convened to discuss these and other relevant issues in an attempt to incorporate them into a draft Water Code.

### *5.3 Factors generally subject to implementing agency control:*

Following a steep learning curve, the PMU has shown a great deal of dedication in implementing the project. The staff has gone beyond their duties to ensure timely and effective execution of tasks, and have continuously tried to learn and acquire more proficiency. The PMU has learned a great deal from an active training program, and seminars on topics ranging from Water User Association formation, the establishment of credit facilities, the effective delivery of farm information services, to project management for procurement, financial management, and contract management.

### *5.4 Costs and financing:*

During project implementation, there were no serious financial management issues. Rigorous training up front combined with the technical assistance of an expatriate Financial Management Specialist ensured the establishment of a transparent and effective financial management system.

As mentioned above, the project suffered from some initial delays due ultimately to the drought emergency and spring floods in several later years. These natural occurrences not only destroyed some of the completed works, but they also highlighted the problem of a weak contracting system: Tajikistan lacked competent firms able to undertake works under the project, delaying disbursement and execution.

Several minor financial reallocations occurred during the course of the project. The PMU had difficulty in managing currency conversions and updating the internal project balances across categories. This problem was addressed through the acquisition of new software that included a currency management module which helped improve the situation. At project conclusion, some US\$25 million in IDA funding were disbursed, and an amount of about US\$30,000 was cancelled from credit 32400 and some US\$220,000 were cancelled from the supplemental credit 32401. Total project expenditures had tallied up to almost US\$29 million including the government's contribution, mainly as a result of significant currency gains.

## **6. Sustainability**

### *6.1 Rationale for sustainability rating:*

While difficulties did arise, and delays were encountered during implementation, overall the project has achieved expectations set out at project design. These achievements have a high likelihood of sustainability in the long run: farmers within the project areas work independently to choose their own cropping patterns (outside of the cotton quotas) and, as indicated in a recent PSIA, live significantly better than farmers on “reorganized” or state-owned farms. While these achievements cannot be considered as evidence of a sector-wide reform, it does provide the government with a basis for comparison between privatized small-scale farming and the larger “reorganized” farms. The suitability and acceptance of the model is demonstrated by the fact that the privatization model developed under the project has begun to be widely adopted outside of the cotton areas, although without yet the capacity to electronically register and map parcels. This demonstrates the potential feasibility and general acceptance viability of the model, provided cotton interests are not interfering.

The weakest aspect of the project has been the inability to institutionalize more effectively the delivery of farm information services. That is mostly due to the fact that the current structure of the MoA is under

funded to effectively fulfill its mandate and is poorly suited for the delivery of farm information to the grassroots. The Government needs to revisit its agricultural policy and the institutional instruments through which it will develop the sector. Its institutions should be reorganized to better be able to serve the emerging private sector, and shift from a command and control structure focusing on production targets to a regulatory and policy body which lays the proper incentives to foster the development of the agricultural sector.

#### *6.2 Transition arrangement to regular operations:*

##### **Farm Restructuring Services:**

A registry of rural lands has been established effectively, and could be scaled up into a national cadastre system. A follow up project financed by the Bank, together with other donor efforts with land tenure legislation and the establishment of a single land and building registry, could provide the basis for a national cadastre and real estate registry.

The structures rehabilitated under the FIAS component are used on a regular basis for conventions and workshops. The Ministry of Agriculture makes use of the training center to train its staff, as well as for a course at the Agricultural University. Because of financial difficulties at the Ministry of Agriculture, the Farm Information and Advisory Services office, staff and associated equipment has been transferred to the LRCSP, which has a farm information component of its own.

**Rehabilitation of irrigation and drainage works:** Rehabilitation of the irrigation and drainage works has improved water delivery within the privatized farms and also in surrounding areas. Water Users Associations within the project areas are effectively managing water distribution services and charging water fees to their members. The rehabilitated systems are managed by WUAs, but their ownership remains unclear. This issue is to be addressed under the RIRP project, along with efforts to clarify and finalize WUA legislation.

**Grant Distribution and Credit facilities:** The success of the six credit entities under this project show that providing agricultural credit to small farmers in rural areas can be sustainable, and even profitable in Tajikistan. However, these entities will need further support, and, as such, have been integrated for supervision and TA support under the CAWMP. This support should continue until the credit entities have reached a size and capitalization that will allow them to hire, or establish their own in-house technical capacity for monitoring of the loan portfolio and undertake risk analysis.

**Project Management:** The PMU established under this project is implementing two more rural development projects. The capacity that has been built in project management, procurement, and financial management has been maintained and it is serving the RIRP and CAWMP. As one of the oldest PMUs in Tajikistan, it is providing regular advice to other implementation entities.

## **7. Bank and Borrower Performance**

### **Bank**

#### *7.1 Lending:*

The Banks' performance during project preparation was satisfactory, which led to a successful implementation in an unusually difficult environment. The preparation team worked to meet the Government's priorities, and took into account its expertise and recommendations, building trust which was crucial in a sector where reforms are difficult and which were undertaken during a politically sensitive period. It is thanks to this close cooperation that the preparation team was able to introduce the concept of land privatization, even while government initially was only interested in rehabilitation of irrigation infrastructure. In order to bring the Government on board, the project financed several study tours for top

officials to countries that had undergone the privatization process, and designed a pilot approach from which Government could learn. The areas to be privatized were chosen in conjunction with Government officials. This partnership was crucial to the success of the process, since local administration officials may not have issued and implemented the dissolution order without the necessary pressure from the top levels of government.

The project objectives were in line with the CAS and other sector strategies for the privatization of agricultural land, and the bolstering of agricultural productivity.

#### *7.2 Supervision:*

The Bank's supervision performance was satisfactory. The project benefited from very close supervision with a TTL who spoke Russian, which was essential in the initial stages of the project, when the technical staff did not speak English, and good translators were very hard to find. Thanks to the close supervision, problems were identified and addressed early on. Progress on the project was reported realistically, and resulted in interventions on several occasions to assist the Government in solving problems particular to Tajikistan (such as providing training to newly established contractors on the basic principles of bidding and contracting).

The team benefited from experience from other countries, and was able to provide the Government with concrete examples and capable staff from other contexts. Much time was allocated to building procurement capacity, since the country has inherited many of the old Soviet institutions. As a result, accounting rules- such as depreciation of inventories- had to be introduced; on several occasions, the supervision team had to reject equipment that had been stored for decades, but never used, and was listed as new. Similar issues arose around quality standards for construction works: little attention was given to fit and finish or even quality, the supervision teams on several occasions forced to tear down and reconstruction/replacement of poorly built works.

The close supervision, numerous field visits and the continuity of the task team leader throughout from preparation to closing were also important factors in the success of the project.

#### *7.3 Overall Bank performance:*

The Banks' overall performance was satisfactory. In general, supervision budgets were sufficient. The Bank's country and regional offices were, in most cases, very helpful in resolving difficult issues related to procurement, or project management, and most notably in the numerous reallocations of credit.

#### **Borrower**

#### *7.4 Preparation:*

Borrower performance was satisfactory. This was one of the first sector investment projects in the country after the civil war ended. After the war, many civil servants had left and were replaced with administrators loyal to the President. In practice this meant that many new managers often unfamiliar with the entity to which they were appointed, and inexperienced with the rules and procedures of international organizations, became the Bank's counterpart. As a result, in addition to a dire financial situation, the Government also lacked the necessary capacity to interface with the Bank. Issues such as the appointment of a PMU Director, identifying the legal form of the PMU, and determining the location for the PMU offices became a time consuming process caught up in political negotiations. Nevertheless, once appointed, the PMU Director and his team developed trust towards the Bank staff and with each other, and became dynamic participants in the project design. Working with Bank staff, the Government had understood the need (i) to undertake sustainable land reforms using a transparent and fair mechanism that could be enforced; (ii) delineated the conditions required to make the process work and (iii) supported it through the completion of

the project.

#### *7.5 Government implementation performance:*

The Government's overall implementation performance is considered satisfactory. While government knew that changes in land privatization and administration were necessary, it was initially not convinced that land privatization to individual farmers would result in higher agricultural productivity and investment. Nevertheless, it was agreed to undertake a pilot privatization of ten state farms with the objective of acquiring experience, particularly given the mixed experiences world wide. Once the outlines of the project were defined, the various Ministries cooperated and worked well together under the strong leadership of the steering committee chaired by the Deputy Prime Minister. The support at the President's office was equally important; in cases where local government administrators were reluctant to implement privatization, the Economic Advisor to the President himself intervened and solved the problem, often with a single phone call.

Although there was strong support throughout the life of the project at the highest levels, several legal and regulatory issues were held up in Parliament, such as the legislation and regulation of water users associations, and the ownership of rehabilitated infrastructure. Many of the difficulties stemmed from the changing role of the Government in general, from actual service provider to becoming a regulator. As a result, several pieces of legislation remain backlogged, as various Ministries and agencies are working to figure out their new role and responsibilities. In spite of these difficulties, the various supervision teams were always impressed with the government's willingness to support the project.

#### *7.6 Implementing Agency:*

Implementation of the project was undertaken by a fully independent PMU located at the Ministry of Agriculture. Its overall performance has been satisfactory. Once it was established, the PMU was quickly staffed with competent technical specialists, and the Director as well as the personnel did their best to achieve the project objectives and implement a complex project in a very dynamic environment. The PMU was prompt in hiring the international technical expertise it required for fulfilling project requirements, and in spite of considerable political pressure for "favors", the staff of the PMU remained relatively small and competent. The project director provided the Bank team with considerable political guidance and advice from the "Tajik perspective" whenever difficulties appeared. In many cases, the PMU had to take on an advocacy role on reforms undertaken under this project, often advising Ministers and agency heads on the proper course of action. Without this single minded dedication by all involved at the PMU, the project would have fallen much shorter on achieving its development objective.

From the beginning, Financial Management had received particularly close attention to ensure that records would be transparent and easily verifiable, and the PMU's FM capacity evolved to a fully satisfactory level. Procurement was almost permanently supported by an international procurement specialist. However, the PMU's difficulty in retaining qualified procurement staff prevented it from ever acquiring the type of proficiency that would allow it to manage the process without international assistance. This ongoing support, provided for a reasonably transparent and effective procurement process in a country without any experience in "enforced" contracting. Under the centralized system all activities were budgeted, and any complaints concerning quality and timeliness, were ironed out over a meeting between counterparts where problems were discussed, pay-offs and accommodations were made, and the issue set aside without much repercussions or assigning responsibility. This history made contract enforcement an extremely difficult activity as contractors, who mostly had emerged from the dismantled "construction brigades", had a very steep learning curve in understanding the meaning of a contract.

#### *7.7 Overall Borrower performance:*

The overall borrower performance is satisfactory. In spite of great financial difficulties and the need for the Bank to mention the issue on occasion, the Government made great strides to make sure that implementation was never hampered by shortages of counterpart funding. During implementation the Government generally appreciated the Bank's advice and acted upon it, and top government officials often used their political capital to advance the objective of the project, despite the fact that this sometimes created turf wars between government agencies.

## 8. Lessons Learned

***Use of a Dedicated Project Management Unit*** When the project was negotiated in 1999, the civil war had for the most part ended, but it left the country in disarray. Many of the top Russian educated technical specialists had left, and there was a distinct vacuum in the administrative hierarchy with a complete lack of sense of direction. In that environment, the decision to establish a fully independent PMU to implement the project was, without a doubt, the right one. It permitted implementation with a relative sense of continuity, and shielded the staff and management of the PMU from fickle politicians and politics, especially since the political changes meant *de facto* that it was often the only stable entity dealing with agriculture. It should also be noted that the project, as a whole, provided no incentives to government officials who had benefited from the convoluted administrative practices and controlled most public resources, and had benefited from a number of "kickback" schemes. Under such circumstances, even if Tajikistan had been reasonably stable, a PMU may have been necessary to go against the interests of a number of government agencies and even ministries in the initial stages.

On the other hand, as often reflected in the case against the establishment of PMUs, the PMU absorbed many of the best people from Government entities, leaving these with limited capacity to fulfill their mandates. Ultimately, very little implementation capacity is being absorbed back into the government's administrative structure.

With the stabilization of Tajikistan's security situation and the current efforts undertaken to improve governance and transparency within the government by Bank projects and those of other donors, in future rural operations, attempts at better integration of operations into the line ministry would be desirable.

***With government identifying opportunities for feasible reforms, the Bank can support significant changes in a very tough and often unsuitable environment.*** Even with strong preparation and design, this project required active intervention by Ministers and high level officials to push through changes that were not popular at the lower echelons of government. Unless the Bank staff are able to cultivate that close relationship and build trust and respect with top level officials, many aspects of such a project will never be fully implemented.

***Establishing Credit facilities:*** The project took a significant risk by moving ahead with the credit sub-component even though the legal and regulatory had not yet sufficiently evolved. The legal framework for "Rural Savings and Credit Associations" had not been established by the time these entities had been registered. The decision to proceed with the registration of NBFOs was less than ideal in many ways, especially considering the shareholdership restrictions and high registration capital requirements. However, it was quite clear that the new farmers had no opportunity to access credit, even the numerous MCOs that evolved in the country would never lend beyond 90 days which is simply too short for agriculture where only the very fastest maturing crops can be harvested in such a short time. Although, the interest rate at just under 30% p.a. seems high, the money available under the activity was fully on lent in less than 60 days after becoming available, and timely recovery rates are above 95%. Retrospectively, considering the very small amount, the good recovery rate, and the considerable political "goodwill" from government

authorities these entities now enjoy, this risk largely paid off. It also encouraged all the other MCO programs run by NGOs to undertake serious efforts towards becoming legally registered under Tajikistan's law.

***Demonstration value of the land registration component:*** The project concept was rooted in the belief that demonstrating a sustainable privatization model with functioning private farms would be enough to sway the overall opinion of the country's residents towards privatization. As indicated earlier that only took place in a limited fashion in cotton areas, while it proved largely true with land of lesser agricultural value. However, the institutional infrastructure set up by the project for the registration of land, regardless of remaining problems with conflicting legislation to ensure tenure rights, and other administrative difficulties, has led to the emergence of a platform from which several donors could contribute to the evolving land registration process. It is this high risk approach pioneered by the Bank that now forms much of the institutional basis from where other donors can contribute to the evolution of a land registration and cadastre system in Tajikistan.

***Difficulties in adapting former soviet administrative structures to serve private clients at the grass roots:*** The weakest aspect of the project has been the inability to institutionalize more effectively the delivery of farm information services. That is mostly due to the fact that the current structure of the MoA is on the one hand underfunded to effectively fulfill its mandate and, not suited for the delivery of farm information to the grassroots. The Government needs to revisit its agricultural policy and the institutional instruments through which it will develop the sector. Its institutions should be reorganized to better be able to serve the emerging private sector, and shift from a command and control structure focusing on production targets to a regulatory and policy body which lays the proper incentives to foster the development of the agricultural sector. Such a structure would concentrate more efforts on its ability to deliver information and guidance to the producer at the grassroots and involve consultation with the private sector in forming policies and guidelines.

## **9. Partner Comments**

### *(a) Borrower/implementing agency:*

We appreciate your providing the draft Implementation Completion Report for the Farm Privatization Support Project. The Government agrees with the assessment of Project effectiveness presented in the ICR. The report objectively reflects both positive aspects and problematic issues that arose in the course of the project implementation.

As the Implementing agency for the Government of Tajikistan, The Republican Center for Farm Privatization FPSP has, by and large, succeeded in realizing the objective set out at project design, namely to establish a viable model for farm privatization in Tajikistan. Under the territory covered by the project more 5,800 land certificates have been distributed to families. As a result there has been an overall improvement in Agriculture with increased cropping intensity, higher yields and increased incomes to farmers. While improvements have been country wide, they have been more accentuated in project areas.

The project delivered land use certificates to all eligible families in the project area, established 9 successfully functioning Water Users Associations, and undertook rehabilitation works to re-establish water distribution and drainage at the tertiary level on some 15,000 ha which permitted the re-cultivation of an additional 1,300 ha, and rehabilitation of two major intakes at the Dushanbinskaya and Karatag rivers serving more than 30,000 ha.

The project rehabilitated several buildings of the agricultural academy of sciences and has introduced the

concept of Training of Trainers (ToT) as a means to deliver agronomic information to the farmers at the grassroots. In project areas, several new crops have been successfully reintroduced among which peanuts, a variety of beans, and sunflowers are now commonly found crops.

The project furthermore effectively distributed start up grants to over 5,600 qualifying families and successfully established 6 NBFOs, one in each project rayon. These 6 entities have made over 600 loans in less than 2 year, on-lending more than US\$ 1.2 million.

The Government rates the project effectiveness as satisfactory. Overall, the project has been completed in a satisfactory manner and its main objectives can be considered as accomplished. In fact, this complex project has a great importance for the country in terms of poverty reduction and development of agricultural sector which is a key sector of the economy. The projects' achievements to date are likely to be sustainable.

Despite some delays and problems encountered at the start-up phase, the project has made sufficient progress to implement all the stated activities.

In spite the fact that several legal issues could not be resolved under the project, it should be noted that the project had played an important role in developing legal and regulatory framework for Water Users Associations, and the establishment of farmer owned Non-Bank Financial Institutions. In particular, licensing rules and procedures and prudential norms developed under the project have considerably contributed to credit union institutional framework.

In general, the Ministry is satisfied with the Bank's supervision over the implementation of the project. The reasons hampering the Project execution were identified, and recommendations on resolution of the arising problems were developed. The World Bank used to regularly inform the respective state bodies of the country on the outcomes of the supervisions conducted.

Experience accrued during the project was crucial for setting up priorities of the follow-up project focusing on land registration. Many problems remain to be solved especially in relation to the production of cotton and the related farm debt, however, the Government expresses its deep interest in continuing a fruitful cooperation with the Bank to proceed with reforms in the agricultural sector.

*(b) Cofinanciers:*

None

*(c) Other partners (NGOs/private sector):*

None

## **10. Additional Information**

None

## Annex 1. Key Performance Indicators/Log Frame Matrix

### Outcome / Impact Indicators:

Indicator/Matrix	Projected in last PSR <sup>1</sup>	Actual/Latest Estimate
Number of land use right certificates issued in accordance with agreed project standards: (a) number of farm members to possess the land certificates and (b) Number of Dekhan farms registered in the selected raions; Number of family farms established beyond project boundaries	(a) No estimate (b) 5000-6000 certificates  5000-6000 certificates	Some 5800 certificates have been distributed within the project areas  A total of 27,000 land use certificate have been handed out nationwide - meaning about 22,000 private farms have been established outside the project areas.
Increase in water use efficiency at farm level; Number of Water User Associations (WUA):	9 Water User Associations formed Irrigation volume at 12,500	9 Water User Associations formed, serving some 70% of new farmers in project areas, 45-60% from main canal hydro-post. Standard irrigation volume within project farms reduced to 12,000 m <sup>3</sup> and, in some areas, to as low as 5,000 m <sup>3</sup>
Initiation of O & M cost recovery of irrigation and drainage system services in the privatized farms.	9 WUAs formed, began charging water fees to new private farmers	9 WUAs formed serving 100% of the farmers within their respective areas (former state or collective farm boundary) collecting 95% of billed water fees. On-farm cost recovery at 10-40% depending on whether on-farm irrigation is gravity-fed or pumped
Number of water user's associations formed.	9 WUAs formed.	9 formed serving 100% of their members in the second irrigation season. Hakikat and Leningrad farms formed one WUA covering their joint area
Utilization of rural information and advisory services (RIAS); (a) Information Booklets on topics; (b) Number of Dekhan farmers Participatory Trainings conducted (c) Number of Demonstrations Conducted for Advance Technology Dissemination; Changes in cropping intensity and productivity represented by wheat and cotton yields. Changes in agricultural income per capita	(a).. 50 (b).. 50 (c) ..40  (a) cropping Intensity 120% (b) Yield of Wheat 2.2 Tons/ha; cotton 1.8 Tons/ha; 25-50% increase on baseline (\$800) consumption	(a) Some 20 different publications on a variety of topics from land legislation to agricultural practices for new farmers. (b) 85% of private farmers have received extension advice (c) 72 crop demos have been held under various agro-climatic areas (a) cropping intensity 120% (b) average yields of wheat 2.5 tons/ha; cotton 2.0 tons/ha in privatized project farms About \$1250 based on household consumption survey
Extent to which farmers have sufficient financing to operate commercially	Working capital requirements provided by one-time start-up grant for farm families to access credit	6 Non-farm Banking Organizations established and operational

### Output Indicators:

Indicator/Matrix	Projected in last PSR <sup>1</sup>	Actual/Latest Estimate
Changes in cultivable agricultural area under private and public ownership according to the main land use types.	18000 ha	15,150 ha of irrigated land being cultivated by 5,800 farm families
Number of former state and collective farms restructured.	10 farms in pilot areas plus 40 farms of SACII	10 in pilot areas completed 48 state/ collective farms restructured into 21,000 family farms. Land-use right certificates issued and other 38 state and collective farms are being privatized
Changes in cultivable agricultural area under private and public ownership according to the main land use types.	18000 ha	15,150 ha of irrigated land and 3,000 ha of rainfed land being cultivated by 5,800 farm families
Establishment of land use rights registration services	One national, two oblast and six raion land registries established using computerized parcel-based records and modern mapping methods	Completed.
Rehabilitate on-farm irrigation and drainage works	12 subprojects in the project areas	Completed

Project Management	To establish a project management system rated satisfactory by the Bank with good procurement and financial management compliance, effective monitoring and on-going problem-solving	Completed.
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<sup>1</sup> End of project

## Annex 2. Project Costs and Financing

### Project Cost by Component (in US\$ million equivalent)

Component	Appraisal Estimate US\$ million	Actual/Latest Estimate US\$ million	Percentage of Appraisal
Farm Restructuring Services	5.45	4.60	84.4
Rehabilitation of Critical Main and Field Level Irrigation and Drainage Works	6.55	6.48	98.9
Privatization Grants and Establishment of RSCAs	5.20	4.45	85.6
Project Management Unit/Project Implementation Units	2.80	6.38	227.9
Drought Mitigation Supplemental Credit	3.00	3.08	102.6
<b>Total Baseline Cost</b>	23.00	24.99	
Physical Contingencies	0.00	0.00	
Price Contingencies	0.00	0.00	
<b>Total Project Costs</b>	23.00	24.99	
<b>Total Financing Required</b>	23.00	24.99	

Note: Over the course of the project, the currency in Tajikistan was changed twice, first from the Russian Rouble to the Tajik Rouble, and then to the Tajik Somoni in 2001. The majority of the project was disbursed between 2003 and 2004, when the USD was unusually strong, resulting in considerable currency gains.

The Drought mitigation supplemental component was not part of the originally appraised project. This component was added upon request for assistance by government to support it in mitigating the effects of persistent drought in 2000 especially in areas that were not supplied with irrigation. The supplemental credit of US\$ 3.00 million was approved by the board on February 22, 2001.

### Project Costs by Procurement Arrangements (Appraisal Estimate) (US\$ million equivalent)

Expenditure Category	Procurement Method <sup>1</sup>			N.B.F.	Total Cost
	ICB	NCB	Other <sup>2</sup>		
<b>1. Works</b>	5.60 (4.50)	0.00 (0.00)	0.28 (0.22)	0.00 (0.00)	5.88 (4.72)
<b>2. Goods</b>	4.35 (3.70)	0.00 (0.00)	0.37 (0.31)	0.00 (0.00)	4.72 (4.01)
<b>3. Services</b>	0.00 (0.00)	0.00 (0.00)	5.10 (4.33)	0.00 (0.00)	5.10 (4.33)
<b>4. One time Grants</b>	0.00 (0.00)	0.00 (0.00)	3.70 (3.70)	0.00 (0.00)	3.70 (3.70)
<b>5. On-lent to RSCAs</b>	0.00 (0.00)	0.00 (0.00)	0.84 (0.67)	0.00 (0.00)	0.84 (0.67)
<b>6. Recurrent Costs</b>	0.00 (0.00)	0.00 (0.00)	3.21 (2.57)	0.00 (0.00)	3.21 (2.57)
<b>Total</b>	9.95 (8.20)	0.00 (0.00)	13.50 (11.80)	0.00 (0.00)	23.45 (20.00)

Does not reflect supplemental Credit 32401 of 3.5 million for drought intervention

**Project Costs by Procurement Arrangements (Actual/Latest Estimate) (US\$ million equivalent)**

Expenditure Category	Procurement Method <sup>1</sup>			N.B.F.	Total Cost
	ICB	NCB	Other <sup>2</sup>		
<b>1. Works</b>	5.01 (3.79)	0.00 (0.00)	3.40 (2.70)	0.00 (0.00)	8.41 (6.49)
<b>2. Goods</b>	3.13 (2.72)	0.00 (0.00)	3.70 (3.35)	0.00 (0.00)	6.83 (6.07)
<b>3. Services</b>	0.00 (0.00)	0.00 (0.00)	5.75 (4.85)	0.00 (0.00)	5.75 (4.85)
<b>4. One time Grants</b>	0.00 (0.00)	0.00 (0.00)	3.25 (3.25)	0.00 (0.00)	3.25 (3.25)
<b>5. On-lent to RSCAs</b>	0.00 (0.00)	0.00 (0.00)	1.20 (1.20)	0.00 (0.00)	1.20 (1.20)
<b>6. Recurrent Costs</b>	0.00 (0.00)	0.00 (0.00)	3.55 (2.90)	0.00 (0.00)	3.55 (2.90)
<b>Total</b>	8.14 (6.51)	0.00 (0.00)	20.85 (18.25)	0.00 (0.00)	28.99 (24.76)

Includes Credit 32401 of 3.5 million

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

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

**Project Financing by Component (in US\$ million equivalent)**

Component	Appraisal Estimate			Actual/Latest Estimate			Percentage of Appraisal		
	IDA	Govt.	CoF.	IDA	Govt.	CoF.	IDA	Govt.	CoF.
<b>Farm Restructuring Services</b>	5.45	0.20		4.60	0.20		84.4	100.0	
<b>Rehabilitation of Critical Main and Field Level Irrigation and Drainage Works</b>	6.55	1.98		6.48	1.98		98.9	100.0	
<b>Privatization Grants and Establishment of RSCAs</b>	5.20	0.26		4.45	0.26		85.6	100.0	
<b>Project Management Unit/Project Implementation Units</b>	2.80	1.06		6.38	1.06		227.9	100.0	
<b>Drought mitigation Supplemental Credit</b>	3.00	0.50		3.08	0.50		102.7	100.0	

Note: The PMU/PIU costs exceeded what was originally envisioned because of costs associated with extensive TA for Procurement, Financial Management, and the logistics the PMU provided for the activities under the drought supplemental credit. During the course of the project, substantial currency gains in SDR were achieved.

### Annex 3. Economic Costs and Benefits

#### *Background:*

Several studies of the agricultural sector in former CIS countries have demonstrated that the Value Added per hectare of privatized farms is considerably greater than that of large collectively held, or state, farms. This fact and the evidence that has been accumulated in regards of small farm productivity was the basic economic reasoning behind the design of this project. Since small farmers produce more per unit of land than do larger farmers, land privatization and reform has the potential to enhance land efficiency. In the case of Tajikistan, privatization to farm workers would also equalize the size distribution of land holdings and reach the great majority of the rural population thus it would also have a significant element of equity, and as a result poverty alleviation. This was confirmed by the PSIA designated "Welfare Implication of Cotton Farmland Privatization" that was published in June 2004.

The main benefits to the project were to occur through an increased value added of agricultural activities by broadly enabling access to land to the farm workers of the former state and collective farming entities. For this to take place, the project investments addressed the key short comings that prevented the emergence, and affected the viability of the new small private family farms. Detailed calculations of ERR and IRR were not made for the entire project at appraisal, but were estimated at 26% and 21% respectively for investments in irrigation.

#### *Project Costs:*

<b>Farm Restructuring Services</b>	US\$ million	4.8	This component focused on building the necessary institutions and capacity to allow for proper land allocation, mapping and registration, and supporting farmers with adequate farm information. Although the component will greatly contribute to the development of the country's agriculture and set the foundations, along with current activities lead by different donors, for the emergence of effective land use transactions, its economic benefit, is difficult to capture in figures and has not been calculated.
<b>Drought mitigation</b>	US\$ million	3.58	This activity had not been part of the originally designed project and was only introduced after the devastating effects of the 2000 drought that resulted in the failure of one third of crops. Under this component new higher yielding seeds, that were more resilient, as well as winter varieties were introduced. The widespread distribution of these seeds have helped with dramatically improving national wheat production. Economic benefits of this component were not quantified.
<b>Project Management</b>	US\$ million	7.4	Very significant resources went into the management of the project, more than twice than what had been budgeted at project design. This was mostly due to the very limited administrative and technical capacity especially related to Financial, Procurement and Contract management, requiring almost permanent International Technical Assistance. The increased cost was also due to drought mitigation intervention which required a lot of logistical and coordination support to the PMU and government. While the costs of project management are admittedly high, the flip side is that there have never been any significant issues raised in the yearly financial audits, nor on the procurement audit conducted in 2004, and distributions of

			goods and cash to farm families (a high risk activity) took place without problems. No economic rate of return was calculated for this component.
<b>Privatization Grants and RSCAs</b>	US\$ million	4.71	The grant was provided to help new private farmers to purchase the basic inputs for the first year of farming. In retrospect, this grant significantly helped private farmers of the pilot farms to remain outside of the clutches of the cotton traders. The private farms under the project area have relatively little or no debt. The RSCAs, have closed their first year of lending with a net profit of US\$ 55,000 and a 95% recovery rate. The economic benefit of the grant and the lending of RSCAs were not quantified.
<b>Rehabilitation and Drainage Works</b>	US\$ million	8.5	This component involved the rehabilitation of all three levels of irrigation infrastructure serving private farmers on about 15,000 ha. The rehabilitation of main intakes structures in Karatag, and Dushanbinska serve around 20,000 ha total, and the rehabilitation of pumping stations in Zafarabad, serves about 25,000 ha, of which the majority is well beyond the project area. If the component cost is subdivided over the project area, exclusively, this corresponds to an investment of some US\$ 566.00/ha, if it is subdivided over the total area that the system can now again effectively irrigate, the amount invested comes to US\$ 190.00/ha. The more reliable delivery of water largely responsible for the slightly increased yields but mostly for the increased cropping intensity with the possibility of an early crop and land preparation for a second crop in fall within irrigated areas. The IRR of this component is has been calculated at 21%.

The gross margins per hectare at the time of project preparation were very low; without improvements to enhance productivity, crop production would not improve. The project economic analysis therefore produced crop budgets based on the production realities on farms “without” the project as compared to “with” the project where yields would be increased as a result of increased, and improved inputs, including water supply and labor replacing agro chemicals (fertilizers, weeding & pest control).

***Yields:***

The yield data collected in the field shows crop yields, in general, have increased throughout the country by approximately 30 percent, with significant variations by crop type, but with only marginally higher yields within the project areas. Calculations made during the design stages of the project expected increases in yields by twofold or more. In retrospect, that estimate was overly ambitious, since these figures assumed large increases in use of inputs (fertilization/tilling practices/pest control). Input use remains very low since the supply market of inputs remains largely tied to cotton production. Farmers and farm workers, however, typically make some inputs they have received for cotton available for their own gardens and fields, by short changing the allocations made for cotton. The gains in yields nationwide for field crops were mostly due to relatively clement weather, with plentiful rains in spring which especially had an impact on rainfed areas (grains), and with the return of peace one can observe improved tending and care of fields and crops, as well as, of course, the rehabilitated irrigation infrastructure financed under this project, and the Rural Infrastructure Rehabilitation Project (RIRP), but also from investments from other bilateral donors, the Asian Development Bank in particular.

**Table 1: Nationwide yield increases during the project period**

Crop			Wheat		Maize		Rice		Cotton		Potato		Vegetables		Lucerne	
			2004	1999	2004	1999	2004	1999	2004	1999	2004	1999	2004	1999	2004	1999
Yield	main prod.	kg/ha	1850	1120	3770	2810	3600	2480	1930	1264	17700	11700	16200	7300	13500	7500

### ***Cropping Intensity:***

Cropping Intensity has increased nationwide from around 90% in 1999 to around 100% in 2004 which explains the increase in production and improvements in per/ha margins in spite of continued relatively low yields. In project areas, on private family farms, the M&E survey found cropping intensity to be a bit higher than on Dehkan associations. This is mostly attributed to the fact that the small plots of private farmers are somewhat more intensively held, with higher cropping intensity of around 115% compared to around a 100% for non-project areas, and a larger variety of complementary shorter maturing crops such as winter wheat in spring, vegetables until the fall, rotated with pulses or peanuts the following year to save on nitrogen fertilizer. These patterns are particularly visible in areas where water is less dependent on pumping stations and therefore available more evenly throughout the year, and where markets for fresh vegetables are readily available. The provision of the cash grant is considered to have had a significant effect on this since it permitted beneficiary farmers to go out and purchase different seeds for a variety of crops from the market which were not available to them without cash.

### ***Project Effect on gross margins per ha:***

Nationwide, the very low average gross margins for the main 7 crops of around US\$110/ha at project design, have dramatically improved to US\$503/ha per the most recent farm data available for this set of 7 common crops found on farms. The increased cropping intensity on private farms has raised their gross margins by an additional US\$ 75/ha to US\$578.00/ha assuming that high and low cost crops are rotated equally. The biggest gains for farmers as indicated above, are not to be attributed to the higher crop yields but much more from gains by replacing inputs with family labor and increased cropping intensity. Greater labor effort has effectively displaced the use of machinery and off farm inputs leading to generation of the greater value added per hectare (or farm labor and net profits). The calculation therefore reflects a corresponding reduction of machinery input from 1999 to 2004.

This increase in the gross margin is largely in line with the three to fivefold increase that was proposed in the SAR. However, it should be noted that farmers are more likely to rotate in favor of higher margin crops which would significantly improve that figure and with improvements in the input supply chain, and basic transport and the marketing links for agricultural products improve, that figure again would further grow dramatically.

### ***Economic and Financial Analysis:***

#### ***Irrigation investments***

If one conservatively assumes this figure of US\$ 75 per ha, and multiplies it per the 18,000 ha that were privatized exclusively under this project we obtain a figure of some US\$ 1.35 million that is generated in additional output exclusively within the project area per year from irrigation investments. Attributing this figure as benefit generated mostly from investments in improved irrigation, with benefits accounted for within project areas exclusively, one arrives at a Investment Rate of Return of 21%, largely in line with initial estimates, and a Net Present Value of some US\$ 1,883,835.

**Table 2: Crop Gross Margin in Tajikistan (including 15% higher cropping intensity)**

Crop			Wheat		Maize		Rice		Cotton		Potato		Vegetables		Lucerne	
			2004	1999	2004	1999	2004	1999	2004	1999	2004	1999	2004	1999	2004	1999
Yield	main prod.	kg/ha	1850	1120	3770	2810	3600	2480	1930	1264	17700	11700	16200	7300	13500	7500
	bi-product	kg/ha	1200	750	3300	2600	3600	2480	2230	1460	0		0		0	0
inputs																
	seed/seedlings	kg/ha	160	220	50	70	167	170	80	80	2676	3220	10	15	6	9
	fert N	kg/ha	110	110	150	150	350	350	140	140	140	140	500	0	0	0
	fert P	kg/ha	49	49	67	67	0	0	17	17	120	120	0	0	50	50
	fert K	kg/ha	3	3	0	0	0	0	0	0	17	17	0	0	0	0
	manure	kg/ha	750	0	1300	900	0	0	0	0	3067	2400	2200	1500	1000	0
	tractor+impl	h/ha	1	2	1	2	3	4	5	6	2	3	2	2	1	2
	herbicide	kg(l)/ha	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	insecticide	kg(l)/ha	0	0	0	0	1	1	1	1	1	1	1	1	0	0
	fungicide	kg(l)/ha	0	0	0	0	1	1	0	0	0	0	0	0	0	0
	labour	md/ha	40	25	90	50	74	50	180	100	80	60	50	50	65	35
	water	tcn/ha	7	11	3	3	62	62	8	12	8	17	16	30	8	12
Input/output prices																
	Crop price	TJS/kg	0.60	0.60	0.30	0.30	0.74	0.74	1.00	1.00	0.26	0.26	0.30	0.30	0.10	0.10
	Crop bi-product	TJS/kg	0.07	0.07	0.10	0.10	0.00	0.00	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00
	seed	TJS/kg	0.60	0.45	0.36	0.25	1.43	1.00	0.22	0.12	0.45	0.45	110.00	61.00	17.14	13.00
	fert N	TJS/kg	1.30	1.20	1.30	1.20	1.30	1.20	1.30	1.20	1.30	1.20	1.30	1.20	1.30	1.20
	fert P	TJS/kg	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
	fert K	TJS/kg	0.90	0.70	0.90	0.70	0.90	0.70	0.90	0.70	0.90	0.70	0.90	0.70	0.90	0.70
	manure	TJS/kg	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	tractor+impl	TJS/h	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
	herbicide	TJS/kg(l)	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
	insecticide	TJS/kg(l)	3.00	2.70	3.00	2.70	3.00	2.70	3.00	2.70	3.00	2.70	3.00	2.70	3.00	2.70
	fungicide	TJS/kg(l)	3.00	2.50	3.00	2.50	3.00	2.50	3.00	2.50	3.00	2.50	3.00	2.50	3.00	2.50
	labour	TJS/md	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	water	TJS/tcn	7.00	0.00	7.00	0.00	7.00	0.00	7.00	0.00	7.00	0.00	7.00	0.00	7.00	0.00
Gross output																
	main prod.	TJS/ha	1110	672	1131	843	2672	1841	1930	1264	4673	3089	4860	2190	1350	750
	bi-product	TJS/ha	84	53	330	260	0	0	223	146	0	0	0	0	0	0
	subtotal	TJS/ha	1194	725	1461	1103	2672	1841	2153	1410	4673	3089	4860	2190	1350	750
Cropping Intensity 15%																
	Subtotal		394		394		394		394		394		394		394	
Subtotal			1588		1855		3066		2547		5066		5254		1744	
Costs																
	seed	TJS/ha	96	99	18	18	238	170	18	10	1202	1446	1100	915	103	117
	fert N	TJS/ha	143	132	195	180	455	420	182	168	182	168	650	0	0	0
	fert P	TJS/ha	39	39	54	54	0	0	14	14	96	96	0	0	40	40
	fert K	TJS/ha	3	2	0	0	0	0	0	0	15	12	0	0	0	0
	manure	TJS/ha	23	0	39	27	0	0	0	0	92	72	66	45	30	0
	tractor+impl	TJS/ha	45	68	45	90	135	180	225	270	90	135	90	90	45	90
	herbicide	TJS/ha	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	insecticide	TJS/ha	0	0	0	0	3	3	3	3	3	3	3	3	0	0
	fungicide	TJS/ha	0	0	0	0	3	3	0	0	0	0	0	0	0	0
	labour	TJS/ha	200	125	450	250	370	250	900	500	400	300	250	250	325	175
	water	TJS/ha	49	0	21	0	434	0	56	0	56	0	112	0	56	0
	rent	TJS/ha	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	subtotal	TJS/ha	597	465	822	618	1638	1025	1397	964	2136	2232	2271	1303	599	422
Cropping Intensity 15%																
	Subtotal		157		157		157		157		157		157		157	
Subtotal			754		979		1795		1554		2293		2428		756	
Gross margin																
	TJS/ha		833	151	876	319	1,270	540	992	235	2,773	394	2,826	559	988	216
	1\$=TJ	3.15 \$/ha	265	48	278	101	403	171	315	74	880	125	897	177	314	68
Average																
	Crop	109	1999													
	Margins	578	2004													

## Annex 4. Bank Inputs

(a) Missions:

Stage of Project Cycle	No. of Persons and Specialty (e.g. 2 Economists, 1 FMS, etc.)		Performance Rating	
	Month/Year	Count	Specialty	Implementation Progress
<b>Identification/Preparation</b> Apr. 27, 1998	5	AGRICULTURIST (1); ECONOMIST (1); LAND REGISTRATION SPECIALIST (1); RURAL INFORMATION SPECIALIST (1)		
<b>Appraisal/Negotiation</b> Oct. 15, 1998	6	AGRICULTURIST (1); ECONOMIST (1); LAND REGISTRATION SPECIALIST (1); RURAL INFORMATION SPECIALIST (1); IRRIGATION SPECIALIST (1) PROCUREMENT SPECIALIST		
May 25, 1999	5	AGRICULTURIST (1); RURAL INFORMATION SPECIALIST (1); PROCUREMENT SPECIALIST (1); INFORMATION TECHNOLOGY/ACCOUNTS SPECIALIST (1); SOCIAL ANALYST (NGO)		
<b>Supervision</b> 08/29/2000	7	SOCIAL DEVELOPMENT (1); PROCUREMENT (1); RURAL CREDIT (1); AGRICULTURE, (1); WATER USER'S ASSN. (1); IRRIGATION ENGINEER (1); WATER MANAGEMENT (1)	S	S
03/28/2001	6	SOCIAL DEVELOPMENT (1); WATER USERS' ASSOCIATI (1); LAND CADASTRE AND (1); GIS AND GPS SPECIALIST (1); SCIALOGIST (1); AGRICULTURE DEVELOPMEN (1)	S	S
08/28/2001	7	ENVIRONMENTAL & PROJEC (1); QUALITY CONTROL (1); AGRICULTURE DEVELOPMEN (1); IRRIGATION MANAGEMENT (1); LAND REGISTRATION	S	S

		(1); ACCOUNTS AND FINANCE (1); PROCUREMENT (1)		
10/28/2001	1	AGRICULTURE, LAND REG (1)	S	S
02/27/2002	4	IRRIGATION MANAGEMENT (1); FIANCNAIAL MANAGEMENT (1); LOCAL INSTITUTIONS (1); LAND REGISTRATION (1)	S	S
02/27/2002	4	IRRIGATION MANAGEMENT (1); LOCAL INSTITUTIONS (1); FINANCIAL MANAGEMENT (1); LAND REGISTRATION (1)	S	S
10/08/2002	7	IRRIGATION MANAGEMENT (1); FINANCIAL MANAGEMENT (1); RURALINST/ORGANIZATION (1); AGRIC. CREDIT (1); EXTENSION & TRAINING (1); SOCIO ECONOMIST (1); LAND REGISTRATION (1)	S	S
02/07/2003	8	WATER MANAGEMENT (1); RURAL INSTITUTIONS (1); CREDIT INSTITUTIONS (1); AGRICULTURAL EXTENSION (1); ORGANIZATION DEVELOPME (1); SOCIAL DEVELOPMENT (1); FINANCIAL MANAGEMENT (1); PRIVATIZATION & IRRIGA (1)	S	S
05/24/2003	9	INSTITUTIONAL SPL (1); CREDIT & ORGANIZATION (1); M & E, STATISTICS (1); FMS (1); PROCUREMENT (1); LAND MANAGEMENT (1); HORTICULTURE & CROPS (1); FARM PRIVATIZATION (1); ENVIRONMENTAL (1)	S	S
10/20/2003	9	SOLCIAL ECONOMIST (1); SOCIAL DEVELEPMENT (1); FINANCIAL MANANAGEMENT (1); PROCUREMNET (1); ORGANIZATIONAL LOCAL (1); INSTITUTIONAL SPECIALI (1); COSTA AND ACCOUNTING (1); AGRICUTURE &LAND ADMIN (1); ECONOMIST (1)	S	S
11/05/2004	4	SENIOR AGRICULTURALIST	S	S

<b>ICR</b>	10/12/2004	4	(1); INSTITUTIONALIST (1); SENIOR ECONOMIST (1); RURAL OPERATIONS SP. (1) SENIOR AGRICULTURIST (1); INSTITUTIONAL SPECIALIST (1); SENIOR ECONOMIST (1); RURAL DEVELOPMENT SPECIALIST (1);	S	S
	Apr. 9-25, 2005	5	SENIOR AGRICULTURIST (1); INSTITUTIONAL SPECIALIST (1); RURAL DEVELOPMENT SPECIALIST (1); IRRIGATION SPECIALIST (1); SOCIAL SCIENTIST (1)	S	S
	Nov.07-24, 2005	4	SENIOR AGRICULTURIST (1); INSTITUTIONAL SPECIALIST (1); RURAL DEVELOPMENT SPECIALIST (1);CREDIT SPECIALIST (1)		

(b) Staff:

Stage of Project Cycle	Actual/Latest Estimate	
	No. Staff weeks	US\$ ('000)
Identification/Preparation	112	375,000
Appraisal/Negotiation	70	236,000
Supervision	190	655,000
ICR	25	74,500
Total	395	1,340,500

Includes Trust Funds for project preparation and supervision

## Annex 5. Ratings for Achievement of Objectives/Outputs of Components

(H=High, SU=Substantial, M=Modest, N=Negligible, NA=Not Applicable)

	<u>Rating</u>				
<input checked="" type="checkbox"/> <i>Macro policies</i>	<input type="radio"/> H	<input type="radio"/> SU	<input checked="" type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input checked="" type="checkbox"/> <i>Sector Policies</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input checked="" type="checkbox"/> <i>Physical</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input checked="" type="checkbox"/> <i>Financial</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input checked="" type="checkbox"/> <i>Institutional Development</i>	<input type="radio"/> H	<input type="radio"/> SU	<input checked="" type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input checked="" type="checkbox"/> <i>Environmental</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA

### Social

<input checked="" type="checkbox"/> <i>Poverty Reduction</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Gender</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input checked="" type="checkbox"/> <i>Other (Please specify)</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<i>Addressing rural poverty</i>					
<input checked="" type="checkbox"/> <i>Private sector development</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Public sector management</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Other (Please specify)</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA

While the project achieved significant insitutional changes at the grassroots, at the level of the farmer, especially related to land privatization/registration, and user involvement in irrigation water management at the field level, the legal changes that are required to formalise these improvements remain pending.

## Annex 6. Ratings of Bank and Borrower Performance

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HU=Highly Unsatisfactory)

### 6.1 Bank performance

#### Rating

- |   |                          |                                    |                         |                          |
|---|--------------------------|------------------------------------|-------------------------|--------------------------|
| <input checked="" type="checkbox"/> Lending     | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input checked="" type="checkbox"/> Supervision | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input checked="" type="checkbox"/> Overall     | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |

### 6.2 Borrower performance

#### Rating

- |   |                          |                                    |                         |                          |
|---|--------------------------|------------------------------------|-------------------------|--------------------------|
| <input checked="" type="checkbox"/> Preparation                           | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input checked="" type="checkbox"/> Government implementation performance | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input checked="" type="checkbox"/> Implementation agency performance     | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input checked="" type="checkbox"/> Overall                               | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |

## **Annex 7. List of Supporting Documents**

"Final Baseline Update Survey Report, April - May 2005," Monitoring and Evaluation Unit of the Rural Information and Advisory Services for the Farm Privatisation and Support Project and Rural Infrastructure Rehabilitation Project.

"Baseline Update Survey Report, September 2003-January 2004," Monitoring and Evaluation Unit of the Rural Information and Advisory Services for the Farm Privatisation and Support Project and Rural Infrastructure Rehabilitation Project.

Patel, Amritkumar. "A Report on the Review of Current Functioning of Six NBFOS in Tajikistan and Organizing Training for Elected Representatives, Executive Staff, shareholders & Borrowers," Farm Privatization Support Project, The World Bank, 2005.

Schulze, Ernst, Irrigation Specialist, Farm Privatization Support Project, Mission Report

World Bank, "Memorandum and Recommendation of the President of the International Development Association to the Executive Directors on a Proposed Supplemental Credit in an Amount of 2.4 SDR Million (US\$3 million equivalent) to Republic of Tajikistan for the Farm Privatization Support Project," ESSD, Europe and Central Asia, January 31, 2001.

World Bank, "Project Appraisal Document" Farm Privatization Support Project, May 19, 1999.

World Bank, "Tajikistan: Welfare Implications of Cotton Farmland Privatization," A Poverty and Social Impact Assessment, PREM, ESSD, ECA, June 24, 2004.

Mission Aide Memoires

Mission PSRs and ISRs

Mission Back-to-Office Reports



