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Report No: 72293-TJ

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED IDA GRANT
IN THE AMOUNT OF SDR 11.70 MILLION (USD 18.0 MILLION EQUIVALENT)

AND

A PROPOSED GRANT
FROM THE GLOBAL AGRICULTURE AND FOOD SECURITY
MULTI DONOR TRUST FUND (GAFSP MDTF)
IN AN AMOUNT OF USD 27.9 MILLION

TO THE

REPUBLIC OF TAJIKISTAN

FOR A

TAJIKISTAN SECOND PUBLIC EMPLOYMENT FOR SUSTAINABLE AGRICULTURE AND WATER RESOURCES MANAGEMENT PROJECT

October 25, 2012

CURRENCY EQUIVALENTS

(Exchange Rate Effective September 30, 2012)

Currency Unit	=	TJS
4.85 TJS	=	US$1
US$	=	SDR 1.542

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

ADB – Asian Development Bank
Amonatbank - State Savings Bank of the Republic of Tajikistan
CGAC – Country-level Governance and Anti-Corruption Strategy
DRS – The Districts of Republican Subordination
EA – Environmental Assessment
EBRD – European Bank for Reconstruction and Development
EIA – Environmental Impact Assessment
EIRR – Economic Internal Rate of Return
EMP – Environmental Management Plan
ENPV – Economic Net Present Value
EU – European Union
FAO – Food and Agricultural Organization
FFP – USAID Family Farming Program
GAFSP – Global Agriculture and Food Security Program
GDP – Gross Domestic Product
GEMP – Generic Environmental Management Program
GIZ – Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
GoT – Government of Tajikistan
IBRD – International Bank for Reconstruction and Development
IDA – International Development Association
I&D – Irrigation and Drainage Infrastructure
ISP – Implementation Support Plan
IWRM – Integrated Water Resource Management
Jamoat – Village level state administration unit
Hukumat –Region and district levels state administration office
M&E – Monitoring and Evaluation
Mahalla – A traditional community structure, a local neighborhood council
MAWRM – Ministry of Amelioration and Water Resources Management
Mirob – Public agency responsible for water delivery and maintenance of off-farm irrigation and drainage infrastructure.
MWR – Ministry of Water Resources
NDS – National Development Strategy
NGO – Non-government Organization

NEWC – National Energy and Water Council
PAMP – Public Employment for Sustainable Agriculture and Water Management Project
PAMP II – Second Public Employment for Sustainable Agriculture and Water Management Project
PMU – Project Management Unit
POM – Project Operations Manual
PRS – Poverty Reduction Strategy
RBM – River Basin Management
RBMP – River Basin Management Plan
RBO – River Basin Organization
SDC – Swiss Agency for Development and Cooperation
TJS – Tajik Somoni (national currency)
TTL – Task Team Leader
USAID –United States Agency for International Development
WFP – World Food Program
WUA – Water User Association

Regional Vice President:	Philippe H. Le Houerou
Country Director:	Saroj Kumar Jha
Sector Director:	Laszlo Lovei
Sector Manager:	Dina Umali-Deininger
Task Team Leader:	Bobojon Yatimov

REPUBLIC OF TAJIKISTAN
PUBLIC EMPLOYMENT FOR SUSTAINABLE AGRICULTURE AND WATER MANAGEMENT PROJECT II

TABLE OF CONTENTS

Page

PAD DATA SHEET

Tajikistan

TAJIKISTAN SECOND PUBLIC EMPLOYMENT FOR SUSTAINABLE AGRICULTURE AND WATER RESOURCES MANAGEMENT PROJECT (P133327)

PROJECT APPRAISAL DOCUMENT

EUROPE AND CENTRAL ASIA

ECSAR

Basic Information

Project ID	Lending Instrument	EA Category	Team Leader
P133327	Specific Investment Loan	B - Partial Assessment	Bobojon Yatimov

Project Implementation Start Date	Project Implementation End Date
28-Feb-2013	28-Feb-2018

Expected Effectiveness Date	Expected Closing Date
28-Feb-2013	28-Feb-2018

Joint IFC

No

Sector Manager	Sector Director	Country Director	Regional Vice President
Dina Umali-Deininger	Laszlo Lovei	Saroj Kumar Jha	Philippe H. Le Houerou

Borrower: Republic of Tajikistan

Responsible Agency: FVWRMP PMU

Contact:	Farkhod Abdullaev	Title:	Acting Director
Telephone No.:	992-372-36-62-08	Email:	fvwrmp@mail.ru

Project Financing Data(US$M)

[ ]	Loan	[X]	Grant	[ ]
[ ]	Credit	[ ]	Guarantee	

For Loans/Credits/Others

Total Project Cost (US$M): 45. 90

Total Bank Financing (US$M): 18.00

Financing Source	**Amount (US$M)**
Borrower	0.00
Global Agriculture and Food Security Program	27.90
IDA reallocated as a grant	18.00
Total	45.90

Expected Disbursements (in USD Million)

Fiscal Year	2013	2014	2015	2016	2017	2018			

Annual	0.79	7.00	10.00	12.50	9.61	6.00			
Cumulative	0.79	7.79	17.79	30.29	39.90	45.90			

Project Development Objective(s)

The project development objectives are to (i) provide employment to food-insecure people through the rehabilitation of irrigation and drainage infrastructure, (ii) increase crop production in response to improved irrigation and drainage infrastructure, and (iii) support the development of improved policies and institutions for water resource management, as a means to improve food availability and food access for low-income people in poor rural areas supported by the project.

Components

Component Name	**Cost (USD Millions)**
Public Works and Rehabilitation of Irrigation and Drainage Infrastructure	35.82
Assistance in water resources management, including technical assistance for policy and institutional reform	8.07
Project Management	2.01

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes	[ ]	No	[X]
Does the project require any waivers of Bank policies?	Yes	[ ]	No	[X]
Have these been approved by Bank management?	Yes	[ ]	No	[X]
Is approval for any policy waiver sought from the Board?	Yes	[ ]	No	[X]
Explanation:				
Does the project meet the Regional criteria for readiness for implementation?	Yes	[X]	No	[ ]

Safeguard Policies Triggered by the Project	**Yes**	**No**
Environmental Assessment OP/BP 4.01	**X**	
Natural Habitats OP/BP 4.04		**X**
Forests OP/BP 4.36		**X**
Pest Management OP 4.09		**X**
Physical Cultural Resources OP/BP 4.11		**X**
Indigenous Peoples OP/BP 4.10		**X**
Involuntary Resettlement OP/BP 4.12		**X**
Safety of Dams OP/BP 4.37		**X**
Projects on International Waterways OP/BP 7.50	**X**	
Projects in Disputed Areas OP/BP 7.60		**X**

Legal Covenants

Name	**Recurrent**	**Due Date**	**Frequency**

Description of Covenant

Conditions	
Name: Article 4.01	**Type**
Description of Condition The Grant agreement and Financing agreement have been executed and delivered and all conditions precedent to its effectiveness or to the right of the Recipient to make withdrawals under it (other than the effectiveness of this Agreement) have been fulfilled.	
Name: Article 4.01	**Type**
Description of Condition The Recipient has adopted the Project Operational Manual, acceptable to the Association.	
Name: Article 4.01	**Type**
Description of Condition The Recipient has signed a contract for the procurement and installation of a computerized Monitoring Information System to fit the Project's fiduciary and implementation needs.	

Team Composition

Bank Staff

Name	Title	Specialization	Unit
Garry N. Christensen	Consultant	Consultant	ECSAR
Joseph Paul Formoso	Senior Finance Officer	Senior Finance Officer	CTRLA
Rimma Dankova	Consultant	Consultant	ECSAR
Svetlana K. Sharipova	Consultant		ECSAR
Adam Shayne	Lead Counsel	Lead Counsel	LEGLE
Dilshod Karimova	Procurement Analyst	Procurement Analyst	ECSO2
IJsbrand Harko de Jong	Sr Water Resources Spec.	Sr Water Resources Specialist	ECSAR
Arcadii Capcelea	Senior Environmental Specialist	Senior Environmental Specialist	ECSEN
Bobojon Yatimov	Senior Rural Development Specialist	Task Team Leader	ECSAR
Jeren Kabayeva	Operations Analyst	Operations Analyst	ECSAR
Lola Ibragimova	Social Development Specialist	Social Development Specialist	ECSSO
Murodali Safarov	Consultant	Consultant	ECSAR
Shodi Nazarov	Financial Management Analyst	Financial Management Analyst	ECSO3
Farzona Mukhitdinova	Operations Analyst	Operations Analyst	ECSAR

Non Bank Staff

Name	Title	Office Phone	City
Michael Sandoz	Irrigation and Drainage		

	Expert (FAO)		
Usaid El-Hanbali	Water Resource Engineer		

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Tajikistan	Viloyati Khatlon	Viloyati Khatlon	**X**		
Tajikistan	Region of Republican Subordination	Region of Republican Subordination	**X**		

Institutional Data

Sector Board

Agriculture and Rural Development

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Agriculture, fishing, and forestry	Irrigation and drainage	89		
Public Administration, Law, and Justice	Public administration-Agriculture, fishing and forestry	8		
Public Administration, Law, and Justice	Public administration-Other social services	3		
Total		100		

☑ I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Rural development	Rural services and infrastructure	75
Rural development	Rural policies and institutions	19
Social protection and risk management	Improving labor markets	3
Social protection and risk management	Social safety nets	3
Total:		100

I. STRATEGIC CONTEXT

A. Country Context

1. Tajikistan is the smallest and poorest of the Central Asian economies, with a population of 7.6 million, of whom 46% live below the poverty line. Robust growth in the last two years has expedited recovery from the global financial crisis. Real gross domestic product (GDP) grew by 6.5% in 2010 and 7.4% in 2011 in response to a strong recovery of remittance income and increased agricultural production. Per capita income increased from $US 771 in 2008 to $US 820 in 2010 as a result. The economy remains highly vulnerable to exogenous shocks nevertheless, including regional trade and border disputes, volatility in world prices for cotton and aluminum, and the continued crisis in the euro-zone. Tajikistan's high dependence on imported fuel and cereal exacerbates this vulnerability, particularly given the prospect of rising future prices for these commodities and the continued depreciation of its currency.

2. Prudent fiscal management has ensured that growth in public expenditure remains commensurate with growth in public revenues, with a budget surplus of 0.5% of GDP (excluding public investment) in 2011. But with tax revenue of only 20% of GDP the capacity to significantly increase public expenditure is limited. High levels of external debt, a fragile banking system and low institutional capacity further constrain the scope for increased public expenditure. Government's capacity to respond to adverse events thus remains weak, both in absolute terms and relative to the needs of the estimated 3.5 million people who live below the poverty line. The capacity to fund public investment is weak, for the same reasons. This combination of poverty and vulnerability, at both macro and household level, continues to justify active support from the donor community to achieve sustainable improvements in food security.

3. With 21% of GDP and 64% of employment, the agriculture sector has a major influence on the performance of the Tajik economy. The sector accounted for 21% of aggregate economic growth from 2005-2010.[1] But with 77% of Tajikistan's poor and a high exposure to risk (droughts, floods, landslides, cotton price volatility, border and trade disputes), agriculture is also one of the most vulnerable sectors of the economy. Measures to reduce the constraints to agricultural growth and the sector's vulnerability to adverse events can thus have a high impact on economic growth and poverty reduction.

B. Sectoral and Institutional Context

4. Tajikistan's agricultural resource base is characterized by limited arable land, a heavy reliance on irrigation for crop production and substantial areas of permanent pasture. Of the 4.1 million hectares of agricultural land, only 830,000 ha are arable, equivalent to 0.15 ha/capita of the rural population. Around 85% (720,000 ha) of arable land is irrigated, but only 515,000 ha are currently in use due to the deterioration of irrigation and drainage infrastructure, water logging and salinization. Wheat, cotton, fruit and vegetables are the main irrigated crops. Livestock production relies mainly on forage production and local grazing resources rather than the 3.3 million ha of permanent pasture,

[1] World Bank Indicators, measured in constant (2000) $US

which further increases the pressure on scarce arable land. Crop and livestock productivity are low, not only in comparison to more advanced agricultural economies but also to other countries in Central Asia.

5. Annual sector growth averaged 5% from 2005-2010[2]. This growth has been driven by land reform, liberalization of the domestic market for cotton, the write-off of farmer cotton debts and "freedom to farm"--the reduction of local government interference in farmer decisions. More than 60,000 small-scale private farms have now largely replaced the collective farms that dominated agriculture at independence. Cotton sector reform and "freedom to farm" have reduced the ability of local government to coerce farmers into growing cotton, and a more profitable and sustainable balance between cotton and other crops is emerging. Approximately 50% of rural people (2.7 million) remain in poverty (World Bank, 2009) nevertheless, and 30% are food-insecure (FAO/World Food Program Crop and Food Security Assessment Mission Report, 2011). In 2010, a World Bank social assessment of rural areas in Khatlon, Tajikistan's most populous region, estimated rural unemployment at 50%. Continued agriculture sector growth is essential to reduce this level of poverty and food insecurity.

6. Although reform has raised the incentive for farmers to increase productivity, their ability to respond is heavily constrained. Low quality irrigation is the immediate constraint, due to severe deterioration of the irrigation and drainage infrastructure and slow progress with the reform of water resource management policy. Many pump stations no longer work, and primary drainage channels and irrigation canals have silted up due to lack of public funds for cleaning. Regular maintenance of secondary and tertiary canals has stopped because it is not clear who is responsible for this infrastructure following farm re-organization. Access to rural finance is a further constraint for farmers, with high interest rates and low levels of lending by commercial banks. Further land reform is also required to protect land use rights, and many farmers still lack full freedom to farm.

7. Government completed a comprehensive agriculture sector strategy to address these problems in 2011.[3] The objectives of this strategy are to: (i) provide farmers with equitable, long-term access to land; (ii) ensure regular access to adequate irrigation; (iii) allow farmers to develop their own organizations and farm freely without interference from national or local authorities; and (iv) provide sustainable and affordable rural finance. All of these objectives contribute to reduced poverty and food insecurity, by improving the ability of low-income rural households to raise production and incomes and so withstand climatic and economic shocks. Donor activity is closely aligned with these objectives through continued support for land reform (World Bank, USAID); the rehabilitation of irrigation and drainage infrastructure, support for water user associations and the reform of water resource management policy (World Bank, USAID, EU, SDC, ADB); rural finance (EBRD); and various programs to improve rural livelihoods through farm and community level activities (World Bank, USAID, GIZ, ADB).

8. Successful implementation of the new agriculture sector strategy will require substantial additional support from the international community. Government lacks the means to fund public investment from its own resources and actively seeks guidance on the design of policy reform. Funded by the World Bank and the Global Agriculture and Food Security Program (GAFSP), this repeater project responds to both of these needs through its support for the rehabilitation of irrigation and

[2] World Bank Indicators, measured in constant (2000) $US
[3] Consolidated Document: Agriculture Reform Program of Republic of Tajikistan. April 2011.

drainage infrastructure and the reform of water resource management policy. These measures will both raise farm level crop production and incomes and reduce their volatility; and support the introduction of Integrated Water Resource Management (IWRM) as the basis for the sustainable use of water resources. A further World Bank project to raise agricultural competitiveness, scheduled for 2013, will complement this initiative by strengthening agricultural markets and improving access to farm inputs.

9. This repeater project will focus most of its resources on Khatlon, not only the largest of Tajikistan's four regions in terms of population, but also in agricultural production. Khatlon also has more poor people than the other regions, with 1.34 million people below the poverty line--including 1.1 million in rural areas.[4] It has the largest area of arable land (410,000 ha), most of which benefits from gravity-fed irrigation. Cereals and cotton are the main crops, plus fruit and vegetable production for domestic and export markets, but productivity is low. Rural poverty is high because many farmers were forced to produce cotton on an unprofitable basis in the past, and productivity is low due to low quality irrigation, the deterioration of drainage infrastructure and low use of fertilizer and improved seeds. To build on the improvement in farmer incentives due to freedom to farm, farmers now need better irrigation and drainage, better access to farm inputs and stronger agricultural markets. This project responds to the first set of needs and the forthcoming agricultural competitiveness project responds to the second.

10. The vulnerability of low-income households in the project areas to external shocks will also be reduced. Most of the cereal produced in these areas is for own consumption, with wheat production from household plots and dehkan farms equivalent to approximately 80% of the needs of rural households. Almost all of this wheat is irrigated. Improved access to irrigation will both raise wheat production and reduce vulnerability to droughts. The parallel increase in production of irrigated cash crops (food and non-food) will raise household incomes and so the capacity to purchase food. With increased household food production and higher farm incomes, rural households will be less vulnerable to the impact of food price volatility caused by regional trade shocks and price instability in international markets.

C. Higher Level Objectives to which the Project Contributes

11. The project will contribute to the strategic objectives outlined in Tajikistan's National Development Strategy (NDS) for the period 2006-2015, which specifies three broad aims: (i) promotion of sustainable economic growth; (ii) improvement of administration; and (iii) development of human potential. Within this strategy, the key challenges identified for agriculture are: (i) a lack of food security, particularly in rural areas; (ii) inadequate nutrition, and (iii) a deteriorated irrigation system. These priorities are also reflected in the current Poverty Reduction Strategy (2010-2012), which identifies enhanced food security and promotion of the agricultural sector as key objectives.

12. The project also contributes to the main objectives of the Country Partnership Strategy (2010-2013), which are to: (i) reduce the negative impact of the (global financial and economic) crisis on poverty and vulnerability, and (ii) pave the way for post-crisis recovery and sustained development. Measures to boost agricultural productivity are among the key initiatives identified to achieve these objectives.

[4] Republic of Tajikistan Poverty Assessment. World Bank, 2009

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

13. The project development objectives are to: (i) provide employment to food-insecure people through the rehabilitation of irrigation and drainage infrastructure, (ii) increase crop production in response to improved irrigation and infrastructure, and (iii) support the development of improved policies and institutions for water resource management, as a means to improve food availability and food access for low-income people in poor rural areas supported by the project.

B. Project Beneficiaries

14. The primary target groups will be low-income rural households in 12 selected districts of Khatlon and DRS, water user associations (WUAs) in these districts, the Ministry of Amelioration and Water Resources Management (MAWRM) or its successor as a result of reform, and selected Mirobs and river basin organizations to be established in the project area in support of water sector reform. The public works program will directly benefit an estimated 22,000 low-income people through the provision of at least 880,000 person-days of temporary work. A rigorous selection procedure will ensure that these beneficiaries are drawn from the most food-insecure elements of the rural population – with at least 20% being women. The rehabilitation of irrigation and drainage infrastructure will improve access to irrigation for an estimated 190,000 ha, to the benefit of 750,000 rural population and 20,000 individual and family-based dehkan farms. A 10% increase in crop yields is expected on this rehabilitated irrigated land. In addition, emergency flood control works along a high-risk section of the Tebalai River in Kulyab city will reduce the risk of flooding for approximately 400 urban households as well as agriculture land and irrigation systems supported through the project down in Vose district.

15. The support for policy and institutional development for water resource management will benefit WUAs, the MAWRM and selected new institutions responsible for water resource management created in response to reform. The project will establish approximately 20 new WUAs and provide capacity building support to these new WUAs and to 33 existing WUAs. In addition, the project will work closely with the USAID Family Farming Program (FFP), wherein FFP will establish about 42 WUAs, while PAMP II will finance the rehabilitation of the associated irrigation and drainage systems. The project will also assist the MAWRM and its successor to establish the policy, legislative and institutional framework for the introduction of integrated water resource management.

C. PDO Level Results Indicators

16. Key indicators are drawn from the World Bank and GAFSP core indicators, and include: (i) number of direct beneficiaries disaggregated by vulnerable group, including women, (ii) the number of person-days worked, disaggregated by gender and vulnerable group; (iii) the percent increase in cereal and other food and fodder crops yield on rehabilitated irrigated land, (iv) the number of operational WUAs established and strengthened and (v) the National IWRM strategy prepared and agreed with the MAWRM; (vi) the Kafergnigan river basin management plan prepared and agreed with the MAWRM. Intermediate indicators include: (i) public works beneficiaries disaggregated by gender, vulnerable group; (ii) area provided with irrigation and drainage services (ha) – Improved; (iii) the number of water users provided with improved irrigation and drainage services, disaggregated by gender; (iv) length of flood channel rehabilitated on the Tebalai river; (v) the length of canals cleaned; (vi) the

length of drains cleaned; (vii) the number of key hydraulic installations, controls and structures renovated; (viii) the Water Information Center for IWRM established; (ix) the number of Mirobs established, (x) amendments to water legislation drafted; (xi) the number of staff trained in IWRM; (xii) the number of Mirobs and WUAs staff trained. Annex I provides full details on the results framework. Initial values of the indicators will be completed on the basis of results from the baseline survey to be implemented in 2013.

17. As required by GAFSP, an analysis of the project's overall impact on household food security will be implemented on project completion. The core indicators for this analysis will be (i) the household income of direct beneficiaries and (ii) the reduction in the proportion of the target population below the minimum level of dietary energy, disaggregated by gender and vulnerable groups.

III. PROJECT DESCRIPTION

A. Project Components

18. This repeater project builds on the experience and achievements of a $10.26 million emergency food security project (Public Employment for Sustainable Agriculture and Water Management) implemented in 2010-2011. It was financed by the European Union (EU) and implemented by the World Bank in five food-insecure districts of Khatlon. A public works program to renovate drainage and irrigation infrastructure was the main focus of this project, which provided temporary employment to food-insecure households in the short term and increased crop production in the medium term. Some 435,000 person-days of work were created, which provided 10,590 beneficiaries with an average income of around USD 250. Approximately 43,300 households benefitted from the combined impact of income transfers and improved access to irrigation over 44,276 ha. The original project also contributed to the nascent reform of water management policy by working with government to delineate the principal river basins and to draft a new institutional framework for integrated water resource management.

19. The repeater project will use the same underlying structure and design, and will cover a further 12 districts in Khatlon and DRS with high levels of poverty and food insecurity and a good agricultural resource base. The broad aims of the original project will remain: to improve food security in the short term through temporary employment creation, in the medium term through increased crop production and farm incomes in response to improved irrigation and drainage, and in the long term through improved water resource management. As for the original project, the selection criteria for project districts will be high levels of food insecurity, good agricultural potential and satisfactory progress with other elements of agriculture sector reform.

20. Some departures from the original project design will be introduced to strengthen its impact and sustainability. For public works and employment creation, the repeater project will give more attention to the design of screening mechanisms to ensure participation of the most vulnerable households. But it will put less overall emphasis on temporary employment creation, and more on the rehabilitation of irrigation and drainage infrastructure as the basis for increased crop production, increased farm income, and a more sustainable improvement in food security. To this end, the design and implementation of rehabilitation works will be based on (hydraulic) irrigation scheme boundaries rather than local government (jamoat) boundaries; and strong support will be given to establishing

and/or supporting the WUAs responsible for these irrigation schemes. The longer time frame (5 years) and much larger financing envelope of the repeater project also facilitate a more substantial contribution to policy reform and support for the introduction of IWRM. International experience has shown that this approach to water resource management leads to more efficient, equitable and sustainable water use.

21. The project has three main components:

22. **Component I: Public Works and Rehabilitation of Irrigation and Drainage Infrastructure** (***total Bank funding of USD 35.82 million, of which USD 21.85 million GAFSP funds and USD 13.97 million IDA funds***).

23. *Sub-component Ia: Employment Generation for Food Insecure Households through Public Works (GAFSP financing of USD 10.07 million).* Food insecure people from the project districts will be employed for manual cleaning of secondary and tertiary irrigation canals. Expenditure will include payments to beneficiaries, employer contributions to beneficiary social security taxes, social mobilization and labor force administration costs, and the procurement of low-cost tools for manual labor.

24. *Sub-component Ib: Mechanized and Other Works (GAFSP contribution of USD 11.78 million and IDA contribution USD 10.63 million).* In addition to manual works, rehabilitation will require: the rental and purchase of machinery (excavators, bulldozers and closed drain flushing equipment), the purchase and installation of irrigation gates, irrigation canal and structure repair works, pipeline network repairs and strategic pump station and vertical drainage well repairs.

25. *Sub-component Ic: Flood Channel Emergency Works (IDA financing of USD 3.34 million).* The project will finance the emergency restoration of a flood channel that traverses and protects the city of Kulyab as well as reduces risks for agriculture land and irrigation systems supported through the project down in Vose district.

26. **Component II: Assistance in water resources management, including technical assistance for policy and institutional reform *(total Bank funding of USD 8.07 million, of which USD 4.04 million GAFSP funds and USD 4.03 million IDA funds).*** This component will finance technical assistance to the MAWRM and other relevant institutions to support the reform of water resource management. Sub-components comprise:

27. *Sub-component IIa: National-level Policy, Legislative and Institutional Formulation (GAFSP contribution of USD 1.17 million and IDA contribution USD 1.16 million).* The project will assist the GoT to: (i) further develop the legal basis for integrated water resource management and water sector reform, (ii) transform the MAWRM into a Ministry of Water Resources (MWR), (iii) prepare a National IWRM strategy to identify priorities for improving water resource management in Tajikistan, and (iv) establish a Water Resources Information Center.

28. *Sub-component IIb: River Basin Planning (GAFSP contribution of USD 0.54 million and IDA contribution USD 0.54 million).* The project will assist the GoT to implement river basin management in the Kafernigan river basin.

29. *Sub-component IIc: Develop and Strengthen Irrigation and Drainage Institutions (GAFSP contribution of USD 2.33 million and IDA contribution USD 2.33 million).* The project will assist the GoT to: (i) build independent, financially-autonomous irrigation and drainage service providers responsible for the management and maintenance of off-farm irrigation and drainage infrastructure and for water delivery to water user associations; (ii) support the transformation of existing region and district level institutions into the new institutional framework; and (iii) establish and strengthen the capacity of these institutions through provision of technical assistance, goods, works and training.

30. **Component III: Project Management *(GAFSP financing of USD 2.01 million).*** A project management unit (PMU) to be managed under the World Bank-financed Ferghana Valley Water Resource Management project will be the main implementation agency. It will be responsible for: implementation and coordination, financial management and procurement, communication and awareness programs, environmental management and safeguards, and monitoring and evaluation.

B. Project Financing

Lending Instrument

31. A USD 18.00 million equivalent IDA-funded Specific Investment Loan (SIL) and a USD 27.90 million GAFSP Recipient Executed Grant are proposed. The project will be processed through IDA and GAFSP procedures.

Project Cost and Financing

32. The project will be financed by grants from the IDA and the Global Agriculture and Food Security Program (GAFSP) Trust fund.

Project Components	Project cost (US$ equivalent)	GAFSP Financing	IDA Financing (US$ equivalent)	% IDA-GAFSP Financing
1. Rehabilitation of Irrigation and Drainage Infrastructure.	31.74	19.35	12.39	100.0
1a: Public Works	8.91	8.91	0.00	100.0
1b: Mechanized and other works	19.88	10.44	9.44	100.0
1c: Emergency Flood Control	2.95	0.00	2.95	100.0
2. Assistance in water resources management, including technical assistance for policy and institutional reform.	7.54	3.77	3.77	100.0 100.0 100.0
2a: Country Level Reform	2.20	1.10	1.10	100.0
2b: River Basin Planning	1.00	0.50	0.50	
2c: Develop and Strengthen I&D Institutions	4.34	2.17	2.17	100.0 100.0
3. Project Implementation	1.88	1.88	0.00	100.0 100.0
Total Baseline Costs	41.16	25.00	16.16	100.0
Physical contingencies	1.52	0.92	0.60	
Price contingencies	3.22	1.98	1.24	

Total Project Costs	45.90	27.90	18.0	100.0
Interest During Implementation	0	0		-
Front-End Fees	0	0		-
Total Financing Required	45.90	27.90	18.0	100.0

33. Agreement has also been reached with the USAID-financed Family Farming Program (FFP) to coordinate support for WUA development in 6 districts where both projects overlap. USAID FFP will take responsibility for WUA establishment and WUA capacity building in these districts and the PAMP II project will be responsible for rehabilitating irrigation and drainage infrastructure for the associated irrigation schemes.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

34. Institutional and implementation arrangements will follow those used in the original project. Overall responsibility for the project will reside with the MAWRM or its successor and the administration of Khatlon Region and DRS. The Ferghana Valley Water Resources Management PMU in Dushanbe will be responsible for project implementation, and will discharge its responsibilities in accordance with a Project Operations Manual. The PMU will be directly responsible for project procurement, disbursement, financial management, governance, communication, monitoring and evaluation, and reporting. It will also organize and manage all payments to the individual accounts of public works beneficiaries, tax authorities and social fund agencies through a commercial bank.

35. The PMU will set up a regional branch in Kurgan-Tube (the capital of Khatlon region) to manage project activities on the ground. The regional office will manage and coordinate the manual and mechanical rehabilitation of irrigation and drainage infrastructure, including the selection of work sites, engineering designs, works supervision and the flood control works. A preliminary assessment of the on-farm and off-farm rehabilitation work to be completed, including prioritization and costing, was made by district engineers of the MAWRM during project preparation. The final choice of sub-projects, and the prioritization of works within selected irrigation schemes, will be made in consultation with WUAs, jamoat and mahalla officials, and technical consultants engaged by the project to assist with implementation.

36. Beneficiary selection for the manual public works will be managed by the project's local NGOs in consultation with community leaders (mahallas), jamoat authorities and local representatives of the Agency for Employment, Social Protection and Migration. The local NGOs will also be responsible for public awareness and communication programs, labor force mobilization, verification of the beneficiary lists, field-level monitoring and reporting, and field-level surveillance of governance issues. They will report to the regional branch of the PMU in Kurgan-Tube.

37. A rigorous approach to beneficiary selection has been designed based on a combination of direct screening and the setting of an appropriate wage rate (self-targeting), to ensure that beneficiaries are drawn from the food-insecure households. Improved measures to increase female participation in the public works component have also been developed. Prospective beneficiaries will be screened first

based on the following readily-observable household criteria[5]: female-headed households, livestock ownership, employment status, household dependency ratios and access to remittances. Eligible beneficiaries will then be offered employment at a wage rate at the lower end of the current wage scale for unskilled rural labor, set on the basis of: information on current rural wage rates from the social assessment, the experience gained in the original PAMP, and discussions with the Ministry of Labor and Social Protection. This wage rate (equivalent to 32-35 TJS/day) is considered low enough to discourage participation by higher-income people, but high enough to provide an adequate reward for the food-insecure. Experience from the original project also indicates that this wage level is unlikely to distort local labor markets or displace labor.

38. A comprehensive system of governance procedures will be established, based on: active public awareness and information campaigns, particularly at community level; high levels of local participation in project implementation, particularly by local community leaders and local NGOs; active supervision of the public works program by local community leaders and local NGOs; a well-developed M&E system that facilitates timely, on-going review of implementation; and strict adherence to World Bank procurement and financial management procedures. There will be a strong emphasis on transparency, including the establishment of community-level procedures for anonymous reporting of grievances to local NGOs.

B. Results Monitoring and Evaluation

39. Monitoring and evaluation (M&E) will be based on the collection and reporting of GAFSP and World Bank core sector and intermediate indicators (See Annex I for a full description of these indicators). A full-time M&E specialist will be employed in the PMU to collate information and prepare quarterly and semiannual reports. Information on public works transfers will be drawn from the daily work supervision sheets by the local NGOs and sent to the PMU on a monthly basis. Associated data on the area of irrigated land rehabilitated and WUAs supported will be collated by the regional branch in Kurgan-Tube and reported to the M&E specialist on a quarterly basis. The M&E specialist will also follow and report on progress with component II on a six monthly basis. An international M&E expert will be employed during project start-up to set up a computerized monitoring information system, linked to the PMUs financial reporting system, to facilitate rapid analysis and reporting of project progress.

40. A baseline survey will be completed during the first six months of project implementation to measure the main GAFSP impact indicators for food security (household income of direct beneficiaries, and proportion of target population below the minimum level of dietary energy consumption), and collect information on relevant household and agricultural production characteristics. The same survey will be repeated at the end of the project to provide the basis for a rigorous impact assessment. A mid-term review of the project's impact on household food security will be implemented at the beginning of 2017, based on a household survey of qualitative indicators of food insecurity and jamoat level secondary data on crop production. Jamoat level data will also be used to monitor crop production on an annual basis.

[5] Poverty analysis by the World Bank shows that these characteristics are closely associated with poverty and food insecurity.

C. Sustainability

41. Two related factors are critical to a sustainable project outcome: the willingness and capacity of WUAs and public agencies to ensure post-project maintenance of the irrigation and drainage infrastructure, and the extent to which water resource management policies and institutions facilitate and support such maintenance in the future. Government has recently drafted the first decrees and regulations needed to separate water resource management from operations, demonstrating its commitment to integrated water resource management and creating the base for project support for reform in component II. Project support for the establishment and strengthening of WUAs has been given a high priority in project design, as these organizations will assume responsibility for future operation and maintenance of the rehabilitated irrigation infrastructure at on-farm level. WUAs will also contribute to cost-recovery of O&M costs of off-farm irrigation infrastructure however it is acknowledged by the Government that these costs will be mainly covered from the central budget. Capacity building measures will include training WUAs to plan, cost and supervise future maintenance activities, and the establishment of WUA Federations. WUAs will also receive guidance on how to build and strengthen relations with the public agencies responsible for upstream irrigation and drainage infrastructure, as part of the project's support for River Basin Management in general and Mirobs[6] in particular. The Ministry of Amelioration and Water Resources Management will over the project life take increasing responsibility for operation and maintenance of a Water Resources Information Center to be established under the project.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary Table

Stakeholder Risk	Substantial
Implementing Agency Risk	Moderate
- Capacity	Substantial
- Governance	Moderate
Project Risk	Moderate
- Design	Moderate
- Social and Environmental	Low
- Program and Donor	Moderate
- Delivery Monitoring and Sustainability	Moderate
Overall Implementation Risk	Moderate

B. Overall Risk Rating Explanation

42. The assessment of substantial stakeholder risk reflects: the scope for vested interests to impede water sector reform, the potential adverse impacts of differing donor views on the approach to reform,

[6] Under the reforms to water resource management, Mirobs will be the public agencies responsible for water delivery and maintenance of off-farm irrigation and drainage infrastructure.

and the risks of inclusion and omission associated with the public works component. While government's recent decision to accelerate the first stages of reform shows its willingness to tackle the problem of vested interests, it also raises the risk that hasty reform will prejudice its effectiveness and entrench the resistance of vested interests. Donors also differ among themselves on whether reform should be rapid or measured. All public works programs face the risk of inappropriate beneficiary selection, including inadequate female participation. All of these risks have been addressed and mitigated in the approach to project design and implementation.

43. Implementing agency risks were assessed as moderate based on the PMU's demonstrated ability to deliver the original project under difficult conditions, the increased resources of the PMU for the repeater project and the longer (5 year) time frame for project implementation. The sudden, recent loss of the PMU Director has raised this risk somewhat, but the PMU's existing experience and capacity, the continued support of the in-country TTL and government's agreement to appoint a new Director in a timely manner offset these concerns. The PMU's capacity is assessed as of substantial risk; however it will be strengthened by increased financial and human resources to handle the increased size of the project and improved disbursement procedures in response to lessons learned during the original project. Governance procedures have also been substantially strengthened in line with the Bank's broader aim to improve governance at all levels of society, although no significant governance problems were encountered in the original project.

44. The overall moderate rating for project risk reflects the low-moderate ratings of the various project risk components. Design risks were assessed as moderate given that the project structure and objectives are similar to those of the original project, although some elements of design have been modified and improved. These include a more meticulous approach to beneficiary selection (as described above), flexibility in the use of short-term technical assistance to ensure that the project can respond readily to government decisions on how to implement the first steps of reform, and more efficient procedures for disbursement.

45. Program and donor risks are also assessed as moderate. The risks associated with differing donor views on the nature and pace of reform will be addressed by an emphasis on consensus building among donors and government, plus technical assistance designed to ensure that government is well placed to lead the reform process. A strong emphasis on support for WUAs in both design and implementation addresses the risk that farmers will not take responsibility for future maintenance of the irrigation and drainage system after project completion. The remaining social and environmental and delivery, monitoring and sustainability risks were assessed as low based on experience with the original project.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analyses

46. The project is expected to generate significant incremental benefits in terms of increased agricultural production and income as a result of improved access to irrigation. Incremental benefits were calculated on the assumption of a 10% increase in crop yields in the targeted districts, for an area of approximately 190,000 ha of improved irrigation. This generates an economic net present value (ENPV) of $US 30.2 million or USD 158.00 per ha, and a benefit cost ratio of 5.82 at a discount rate of 12% over 12 years. The associated economic internal rate of return (EIRR) was 26.1%. Farmers'

benefit from higher annual gross margins from crop production, which increase by USD 153.00 per ha of improved irrigated land.

Table 1. Economic Feasibility

ENPV Net Incremental Benefits ($US)	30,195,075
ENPV Net Incremental Benefits/ha of irrigated area ($US)	158
EIRR	26.06%
Benefit to Cost Ratio	5.82

47. Sensitivity analysis shows that project benefits are robust against adverse changes to costs and returns. A 20% fall in yields reduces the EIRR to 20.4%, a 20% fall in prices reduces the EIRR to 19.8%, and a 20% fall in irrigated area reduces the EIRR to 20.9%. There is even less sensitivity to increased project costs and crop input prices. A 20% increase in project costs reduces the EIRR to 21.8% and a 20% increase in crop input prices reduces the EIRR to 24.4%.

B. Technical

48. Low public revenue has severely constrained government's ability to maintain irrigation and drainage infrastructure since independence. Land reform and farm re-organization have also reduced farm-level responsibility for the maintenance of secondary canals. Whereas collective farms bore this responsibility in the past, no provision was made to re-allocate this responsibility to new landowners when the collective farms were broken up. Government is acutely aware of these issues but lacks the resources to resolve them. The project allocates substantial resources to the rehabilitation of irrigation and drainage infrastructure, strengthens the capacity of farmers to maintain this infrastructure in the future through support for WUAs, and actively supports the reforms necessary to establish a viable system of water resource management. The rehabilitation will also generate temporary employment for an estimated 22,000 low-income people.

49. District engineers from the MAWRM have been actively involved in identifying system deficiencies; defining and refining rehabilitation works items, quantities and cost estimates; and applying agreed priorities for project works selections. This work has been reviewed by an international irrigation specialist during project preparation. Modifications were recommended where appropriate in order to arrive at an acceptable formulation of the rehabilitation component. Similarly, an international water resource management specialist worked with senior policy makers to design the project's contribution to policy and institutional reform of water resource management. The emphasis in this case was on establishing agreement with government on the most appropriate approach to reform, while ensuring that it responds to the principles of integrated water resource management.

C. Financial Management

50. All fiduciary functions for the project, including financial management and disbursement, will be carried out by the Ferghana Valley Water Resources Management Project Management Unit (PMU). The PMU has prior experience in implementing Bank projects, including the original PAMP. The project audit reports for the original PAMP, FVWRMP and its Additional Financing were received and found to be satisfactory to the Bank.

51. An assessment of the financial management arrangements undertaken in June 2012 and updated in September 2012, confirmed that the project PMU's Financial Management arrangements currently in place meets the minimum World Bank requirements.

52. The PMU will open two Designated Accounts in USD (one for the IDA Grant and one for the GAFSP TF) for administering the project funds in a commercial bank acceptable to the World Bank. The ceiling for the Designated Accounts and other disbursement details will be provided in the Disbursement Letter. However, due to the lapsing of four loans in the Tajikistan Country portfolio no new Designated Accounts will be established for the proposed under this IDA Grant, until the refund or documentation has been received for all outstanding projects in Tajikistan. Hence, provision for use of a Designated Account as a disbursement method in the Disbursement Letter for the proposed IDA Grant might not be included. If the issues involving these operations are resolved prior to the issuance of the Disbursement Letter (i.e. at the signing of the new operation), then the letter will be revised to include such a provision. If the issues are resolved subsequently, then an amended Disbursement Letter will be issued to include the provision for a Designated Account

53. The PMU will submit quarterly interim, un-audited financial reports (IFRs) generated by the accounting system based on formats agreed with the World Bank. The reports will include Statement of Sources and Uses of Funds, Uses of Funds by Project activities (Components & Expenditure Categories) and Statements of Designated Accounts (DAs). The above mentioned reports will be submitted to the World Bank within 45 days of the end of each quarter, with the first reports under the proposed Project being submitted after the end of the first full quarter following initial disbursement. Draft formats of these IFRs have been developed and agreed with the PMU during negotiations.

54. The annual audited financial statements together with the auditor's opinions and the management letter will be provided to the Bank within six months of the end of each fiscal year, or from the project's closing date. An audit will include the project financial statements, SOEs and DA Statements. The cost of the audit will be financed from project funds. Following the Bank's formal receipt of the audited financial statements from the Client, the Bank will make them available to the public in accordance with its Access to Information (AI) Policy, through its website. In addition, the Client will publish the audit reports in a manner satisfactory to the Bank.

D. Procurement

55. The existing PMU will be responsible for procurement. The Bank conducted an assessment of the PMU's capacity to implement procurement actions based on the Procurement Risk Assessment and Management System (P-RAMS). Given that PAMP II represents a substantial increase in implementation scope, and the project area of the ongoing FVWRMP and PAMP is different, it will be necessary to add more procurement capacity to ensure efficient procurement. The PMU will thus hire a dedicated procurement consultant experienced in activities related to international procurement of goods and consultants' services. To further mitigate procurement risks: (i) intensive procurement training, including contract management techniques for the government staff will be arranged; (ii) procurement packages will be consolidated to maximize interest from reputable bidders; (iii) advertising policy will be established; (iii) 3rd Party QA/QC consultant(s) to ensure quality of civil works will be hired; (iv) regular physical inspections by PMU engineers and Bank supervision mission will be conducted; (v) public oversight and community-level awareness of public employment program through local NGOs will be raised. A detailed procurement plan covering first 18 months of

the project implementation period has been developed and agreed between the Borrower and the Project Team before negotiations. The procurement plan and details of procurement arrangements are presented in Annexes 3 and 8.

E. Social (including Safeguards)

56. The main stakeholders in the project will be: (i) vulnerable households with high food insecurity, including female-headed households, (ii) community-level institutions including mahalla committees and Water User Associations, and (iii) public institutions including the MAWRM and its successor, River Basin Organizations, Mirobs, regional and district government authorities, jamoats, the Working Group leading water sector reform and the donor community.

57. For vulnerable households, the social impact will be highly positive due to the employment created and the increase in crop production, with no negative impacts foreseen. Community-level institutions will be reinforced through the role of the mahallas in beneficiary selection for the public works component, and active project support for WUA establishment and capacity building. An active public awareness program will be mounted at district and community level to ensure that stakeholders are well informed about the project's objectives and activities, and to ensure that the scope and procedures for the public works component are fully understood. A governance and anti-corruption program will also be established at community level to minimize governance risks and protect beneficiaries.

58. Public agencies affected by the project (including donors) will benefit from the impetus to reform and a more sustainable policy and institutional framework for water resource management. No negative impacts are foreseen, although there may be resistance to some elements of reform due to the differing interests of these groups in the process and outcome of reform. A strong emphasis on stakeholder consultation and consensus building will be used to minimize these tensions, for both project design and project implementation.

59. The project does not require involuntary resettlement or involve indigenous people. Tajikistan's child labor laws are consistent with international conventions on child labor. Project staff will raise awareness of these regulations, and national legislation on labor safety to ensure that they are respected. Compliance with these regulations will be monitored during supervision of the public works program.

F. Environment (including Safeguards)

60. The project will support the rehabilitation of on-farm and lower order inter-farm irrigation and drainage infrastructure, and the emergency flood protection works in Kulyab city. These involve: earth and rock moving works, concrete structure and lining works, cleaning of canals and drains, supply and installation of control gates and pipeline fittings, and rehabilitation of pumping stations and vertical drainage wells including rehabilitation/replacement of pumps and other electro-mechanical equipment. Many of these works are small scale and labor intensive, while others are larger scale and machinery intensive. Potential adverse environmental impacts include: water and air pollution; noise; solid wastes; soil erosion; and dumping of excavated sediments and other materials from irrigation and drainage canals; occupational hazards and safety issues. The project will also bring valuable environmental and social benefits. Immediate benefits include: reduced water logging, salinization and

water losses; improved irrigation distribution; reduced seepage losses from the main canals and reduced over-supply of irrigation water. Further, longer-term benefits include: a lower water table, lower risk of salinization, and less stagnant water in the villages with fewer consequent health problems.

61. *Triggered WB OPs.* The project will trigger OP 4.01 as it involves activities with some environmental and social impacts. As the project area includes an irrigation and drainage network that draws water from tributary of the Amu Darya River and then discharges water back into the river and thence to the Aral Sea, it also triggers World Bank OP 7.50 on International Waterways. The proposed investments for the public works component are not expected to change the volume of extraction/discharge water or quality of water of the relevant rivers, but rather will lead to more efficient irrigation and drainage. As an exemption was obtained for notification requirement under OP 7.50 on International Waterways in the original project, an equivalent exemption has been obtained for the repeater project on the ground that it has the same design and so a similar impact on international waterways.

62. OP 4.09 on Pest Management is not triggered as the project does not require the purchase and/or use of pesticides, and based on previous experience in the region, the improved irrigation infrastructure will not lead to changes in the crops production which would require usage of more pesticides. The main crop will remain cotton with a limited application of pesticides due to their high costs. However, the project in view of longer term considerations and changes in demand and supply trends will allocate resources within its public outreach campaign to carry out information dissemination activities in support to Integrated Pest Management in the project area. The project will not trigger OPs on Forests, Physical and Cultural Resources, or Natural Habitats as all activities will be implemented within the existing irrigation areas. Experience from the original project also shows that there will be no need to cut fruit trees belonging to private farmers.

63. *Project environmental category and measures to address potential environmental and social impacts.* The project qualifies as Category B.

64. A Generic Environmental Management Plan (GEMP) was prepared and used for the original project as the on-farm irrigation and drainage rehabilitation activities were similar in all selected districts. This GEMP was updated and will be used for the repeater project. Based on this updated GEMP the Recipient will prepare site-specific Environmental Management Plans (EMPs) for each selected irrigation scheme, as well as for pumping stations and Kulyab city flood channel rehabilitation, which will be publicly disclosed and consulted in participating districts. These EMPs will be used during the project implementation.

65. Bank supervision missions in May and November, 2011 showed that the implementation of environmental safeguards for the original project was satisfactory. As required, the PMU and its regional branch conducted regular site inspections prior to and during rehabilitation activities to ensure compliance with contract conditions and the EMPs. The PMU included environmental clauses in the contracts for contractors, which were monitored for compliance during the civil works. The original project also hired a specialized NGO to provide environmental training and disseminate information. The regional branch conducted regular site visits to verify that appropriate environmental preventive actions and/or mitigation measures were implemented.

G. Project Loan Conditions

66. The Additional Conditions of Effectiveness consist of the following: (i) the Grant agreement and Financing agreement have been executed and delivered and all conditions precedent to its effectiveness or to the right of the Recipient to make withdrawals under it (other than the effectiveness of this Agreement) have been fulfilled; (ii) the PMU will adopt the Project Operational Manual, satisfactory to the Bank; and (iii) sign the contract for procurement and installation of the computerized Project Monitoring Information System to fit the Project's fiduciary and implementation needs.

Annex 1: Results Framework and Monitoring

TAJIKISTAN: SECOND PUBLIC EMPLOYMENT FOR SUSTAINABLE AGRICULTURE AND WATER MANAGEMENT PROJECT

Results Framework

Project Development Objective: The project development objectives are to (i) provide employment to food-insecure people through the rehabilitation of irrigation and drainage infrastructure, (ii) increase crop production in response to improved irrigation and drainage infrastructure, and (iii) support the development of improved policies and institutions for water resource management as a means to improve food availability and food access for low-income people in poor rural areas supported by the project.

PDO level results indicators	Core	Unit of measure	Baseline	Cumulative target values**					Frequency	Data source/ methodology	Responsibility for Data Collection
				YR 1	YR 2	YR3	YR 4	YR 5			
Indicator One: Direct project beneficiaries, disaggregated by gender	X	No. benefic. - % *women*	Zero	221,000 *-10*	513,974 *-10*	714,413 *-10*	769,064 *-10*	772,000 *- 10*	Semiannually	Monthly PMU Monitoring reports	PMU
Indicator Two: Person-days worked, disaggregated by gender, vulnerable group		No. person-days *- # women* *- # severely food-insecure*	Zero	120,000 *- 18,000* *- 24,000*	318,960 *- 47,844* *- 63,792*	497,920 *- 74,688* *- 99,584*	763,960 *- 114,594* *- 152.792*	880,000 *- 132 000* *- 176 000*	Semiannually	Monthly PMU monitoring reports	PMU
Indicator Three: Increase in cereal, food and fodder crop yield on rehabilitated irrigated land		% change	N/A	No changes are expected	-	7	-	10	At end of project; Annual trends	Household survey; Secondary data (jamoat)	PMU
Indicator Four: Operational water user associations created and/or strengthened (number)	X	Number *- WUAs created* *- WUAs strengthened*	Zero	17 *-0* *-17*	46 *-5* *-41*	80 *-15* *-65*	95 *-20* *-75*	95 *- 20* *- 75*	Semiannually	Semiannual reports	PMU
Indicator Five: National IWRM strategy prepared and agreed with MAWRM		Yes/No	No	Work in progress	First draft IWRM strategy prepared	Final IWRM strategy agreed with MAWRM	Final IWRM strategy agreed with MAWRM	Yes	Annually	Semiannual PMU Progress Reports	PMU
Indicator Six: The Kafernigan River Basin Plan prepared and agreed with the MAWRM		Yes/No	No	No	No	Yes	Yes	The Kafernigan River Basin Plan prepared and agreed with the MAWRM	Annually	Semiannual PMU Progress Reports	PMU

INTERMEDIATE RESULTS INDICATORS											
***Component 1*: Public Works and Rehabilitation of Irrigation and Drainage Infrastructure**											
Intermediate result indicator 1: Public works beneficiaries disaggregated by gender, vulnerable group		No. benefic. *- % women* *- % severely food-insecure*	Zero	3,000 *- 20* *- 15*	7,900 *- 20* *- 15*	12,500 *- 20* *- 15*	19,000 *- 20* *- 15*	22,000 *- 20* *- 15*	Semiannually	Quarterly PMU Monitoring Reports	PMU
Intermediate result indicator 2: Area provided with irrigation and drainage services (ha) – Improved	X	Hectares	Zero	34,000	92,000	177,000	190,000	190,000	Semiannually	Semiannual PMU Progress Reports	PMU
Intermediate Result indicator 3: Water users provided with new/improved irrigation and drainage services disaggregated by gender	X	Number *- women*	Zero	218,000 *- 21,800*	506,000 *- 50,600*	701,965 *- 70, 196*	750,000 *- 75,000*	750,000 *- 75,000*	Semiannually	Semiannual PMU Progress Reports	PMU
Intermediate Result indicator 4: Length of flood channel rehabilitated on the Tebalai river		Kilometers	Zero	Preparation of designs	Tenders and works begin	5	Works completed	5	Semiannually	Semiannual PMU Progress Reports	PMU
Intermediate Result indicator 5: Length of canals cleaned		Kilometers *- manually cleaned* *- mechanically cleaned*	Zero	630 *- 600* *- 30*	1,600 *- 1,500* *- 100*	2,850 *- 2,650* *- 200*	4,500 *- 4,200* *- 300*	5,200 *- 4,850* *- 350*	Semiannually	Semiannual PMU Progress Reports	PMU
Intermediate Result indicator 6: Length of drains cleaned		Kilometers	Zero	160	400	800	1,040	1,300	Semiannually	Semiannual PMU Progress Reports	PMU
Intermediate Result indicator 7: Number of key hydraulic installations, controls and structures renovated		Number	Zero	0	1,000	3,000	4,500	5,800	Semiannually	Semiannual PMU Progress Reports	PMU
***Component 2:* Water Resource Management**											
Intermediate Result indicator 1: The Water Information Center for IWRM established		Yes/No	No	No	Yes	Yes	Yes	Water Information Center established	Annually	Semiannual PMU Progress Reports	PMU
Intermediate Result indicator 2: Number of Mirobs established		Number	Zero	0	1	2	2	At least two Mirobs established	Annually	Semiannual PMU Progress Reports	PMU
Intermediate Result indicator 3: Amendments to water legislation drafted		Yes/No	No	No	No	Yes	Yes	Yes	Annually	Semiannual PMU Progress Reports	PMU
Intermediate Result indicator 4: Number of Staff trained in IWRM		Number	Zero	0	0	30	50	50	Annually	Semiannual PMU Progress Reports	PMU

Intermediate Result indicator 5: Number of Mirobs and WUAs staff trained		Number	Zero	50	100	150	200	200	Annually	Semiannual PMU Progress Reports	PMU

Annex 2: Detailed Project Description

REPUBLIC OF TAJIKISTAN: PUBLIC EMPLOYMENT FOR SUSTAINABLE AGRICULTURE AND WATER MANAGEMENT PROJECT II

A. Project Development Objectives

1. The project development objectives are to (i) provide employment to food-insecure people through the rehabilitation of irrigation and drainage infrastructure, (ii) increase crop production in response to improved irrigation and drainage infrastructure, and (iii) support the development of improved policies and institutions for water resource management as a means to improve food availability and food access for low-income people in poor rural areas supported by the project.

2. This set of objectives is consistent with the deep-seated link between household food security and irrigation in the project areas. Most of the cereal produced is for own consumption, with wheat production from household plots and dehkan farms equivalent to approximately 80% of the needs of rural households. Almost all of this wheat is irrigated. Improved access to irrigation will both raise wheat production and reduce vulnerability to droughts, improving food availability. The parallel increase in production of irrigated cash crops (food and non-food) will raise household incomes and so the capacity to purchase food. With increased household food production and higher farm incomes, rural households will also be less vulnerable to the impact of food price volatility caused by regional trade shocks and price instability in international markets.

3. Within the broad framework of food security, the project responds strongly to two of the four food security pillars (food availability and food access), and partially to the issue of stability (as discussed above). Measures to address the seasonal food security issues associated with stability are beyond the project's scope. The Bank's Social Safety Net Strengthening Project addresses this issue more directly. Non-food (utilization) issues associated with rural food insecurity are being addressed by various donors. The Bank's long-running Community-Based Health Project, which ends in 2012, will be followed by a smaller project to improve mother and child nutrition in Khatlon. USAID's Feed the Future Project in Khatlon also addresses utilization issues. The Bank will also prepare a Rural Water Supply Strategy as part of its Additional Financing for Municipal Infrastructure Project and fund a Communal Services Development Fund to support the operationalization of this strategy by local communities. USAID, GIZ and UNDP are also implementing projects that include activities to improve rural water supply.

B. Project Beneficiaries

4. The primary target groups will be low-income rural households in 12 selected districts of Khatlon and DRS, water user associations (WUAs) in these districts, the Ministry of Amelioration and Water Resource Management (MAWRM), or its successor, and selected Mirobs and river basin organizations to be established in the project area as a result of water sector reform. The public works program will benefit an estimated 22,000 low-income people through the provision of at least 880,000 person-days of temporary work. A rigorous selection procedure will ensure that these beneficiaries are drawn from the most food-insecure elements of the rural population-with at least 20% being women. The rehabilitation of irrigation and drainage infrastructure will improve access to irrigation for an estimated 190,000 ha, to the benefit of 750,000 rural population and 20,000 individual and family-

based dehkan farms. A 10% increase in crop yields is expected on this rehabilitated irrigated land. In addition, emergency flood control works along a high-risk section of the Tebalai River in Kulyab city will reduce the risk of flooding for approximately 400 urban households.

5. The support for policy and institutional development for water resource management will benefit WUAs and the MAWRM or its successor and selected new institutions responsible for water resource management created as a result of reform. The project will establish approximately 20 new WUAs and provide capacity building support to these new WUAs and to an additional 33 existing WUAs. In addition, the project will work closely with the USAID Family Farming Program (FFP), wherein FFP will establish about 42 WUAs, while PAMPII will finance the rehabilitation of the associated irrigation and drainage systems. The project will also assist the MAWRM or its successor to establish the policy and institutional framework for the introduction of integrated water resource management (IWRM).

C. Original Project (PAMP)

6. This repeater project builds on the experience and achievements of a $10.26 million emergency food security project (Public Employment for Sustainable Agriculture and Water Management) implemented in 2010-2011. It was financed by the European Union and implemented by the World Bank in five food-insecure districts of Khatlon. A public works program to renovate drainage and irrigation infrastructure was the major focus of this project, which provided temporary employment to food-insecure households in the short term and increased crop production in the medium term. Some 435,000 person-days of work were created, which provided 10,590 beneficiaries with an average income of around USD 250. Approximately 43,300 households benefitted from the combined impact of income transfers and improved access to irrigation over 44,276 ha. The original project also contributed to the nascent reform of water management policy by working with government to delineate the principal river basins and to draft an institutional framework for integrated water resource management (IWRM).

7. The original project had a significant, broad-based impact on household food security. Payments from the public works program were equivalent to 14% of beneficiary household cash income. Eighty-four percent of these households used the money to buy food. Other major uses included the purchase of clothing and agricultural inputs, and debt repayment. Both beneficiary and non-beneficiary households derived substantial benefits from the rehabilitation of irrigation and drainage infrastructure. Seventy-four percent of farm households in the project area reported an increase in crop yields and 20% reported that they were able to increase the area under crop production. Non-food benefits included a widespread improvement in access to technical water (86% of households), a lower incidence of illness (25%) and support to obtain valid IDs (22%).

8. Some important lessons were also learned and used to improve the design of the repeater project. Inadequate beneficiary screening and a relatively high wage resulted in a disproportionate representation of higher-income people among the beneficiaries of the public works program. Female participation in the public works program was also low (11%) because the establishment of working conditions suited to women was not consistent in all project locations. Slow disbursement procedures in the early stages of project implementation also delayed the initial payments to public works beneficiaries. Monitoring and evaluation was also weak as the financial and human resources allocated to this activity proved to be inadequate. The project also failed to achieve some minor intermediate

targets for irrigation and drainage rehabilitation, although all of the major food security targets were exceeded by a substantial margin. Most of these problems were the result of the very limited, emergency time frame for project preparation and implementation, and all have been addressed in the design of the repeater project.

D. Project Components

9. The repeater project has the same structure as the original project, with three main components.

1. **Component I: Public Works and Rehabilitation of Irrigation and Drainage Infrastructure** (***total Bank funding of USD 35.82 million, from USD 21.85 million GAFSP funds and USD 13.97 million IDA funds***).

District Selection

10. The GAFSP proposal that secured initial funding for this project requested support for ten districts in three river sub-basins in Khatlon:

(a) Vaaksh Sub-Basin: Yavon, Khuroson, Jomi, Rumi, Bokhtar, Jilikul;
(b) Pyanj Sub-Basin: Vose, Hamadoni, Pyanj;
(c) Kafernigan Sub-Basin: Nosiri Khusrav.

11. Following approval of the GAFSP proposal, government requested that the project cover two further districts in DRS (Hisor and Rudaki), which are in the Kafernigan sub-basin. The Kafernigan sub-basin, (which covers Rudaki, Hisor, Nosiri Khusrav, Shartuz and Qabodiyon districts), was identified in the original PAMP as the most suitable sub-basin for piloting the introduction of river basin management (RBM). Irrigation and drainage infrastructure in two of the five districts (Shartuz and Qabodiyon) was rehabilitated under the PAMP project. A stronger emphasis on this sub-basin, through the addition of Rudaki and Hisor, was thus deemed appropriate. It allows PAMP II to deepen the impact of the original project in Shartuz and Qabodiyon, and creates a strong farm- and WUA level base for the piloting of RBM. The GAFSP proposal also envisaged some project intervention for urgently-needed restoration of badly damaged flood channel protection works in Kulyab city, and after review of the situation it was agreed that an allowance would be included to undertake these works under the project.

12. The repeater project will thus rehabilitate irrigation and drainage infrastructure in 10 districts in Khatlon and 2 districts in DRS. As in the original project, the selected districts are characterized by high levels of food insecurity, good agricultural potential and satisfactory progress with other elements of agriculture sector reform[7]. Of these districts, Rudaki, Jomi, Yavon, will be the focus of rehabilitation in year 1 of the project; Rumi, Khuroson, Jilikul in year 2; Bokhtar, Nosiri Khusrav, Pyanj in year 3, and Vose, Hamadoni and Hisor in year 4. The first set of districts all have a good base of WUAs, which with project support, should be in a position to take over responsibility for continued maintenance of the irrigation and drainage infrastructure once the rehabilitation is complete. As there are fewer WUAs in the second and third sets of districts and none in the final set, WUA establishment

[7] Although Bokhtar has made slow progress with land privatization, the Khatlon government has given assurances that this will be rectified by the time the project begins in October 2013.

and support will be the focus of initial project activity in these districts in years 1 and 2. Rehabilitation and public works will follow after WUA establishment and strengthening.

13. Project accounting will be maintained on a cash basis. PMU will use the Project Monitoring Information System (PMIS) based on 1C accounting software (version 8.0), which will be web-based and allow PMU to install it in both the central level (at PMU office) and the rayon's level. This software will include both accounting and monitoring-evaluation modules and the contract's signature for its procurement and installation will be the general condition of the Effectiveness. This system ensures proper tracking of resources and expenditures, and generates quarterly financial reports in formats acceptable to the Bank. All transactions will be recorded on a cash basis, with supporting documentation maintained in files for ready access by auditors and during implementation support missions of the World Bank. The chart of accounts for the project will allow tracking of project transactions and reporting by source of financing, project components, and type and category of expenditure. The Chief Accountant of the PMU, with support of two financial management staff hired under the project, will be responsible for overall project financial management, maintenance of books and accounts, preparation and dissemination of financial statements and IFR, and timely audits. The PMU will maintain appropriate financial records and reports in accordance with existing government financial regulations and standards acceptable to IDA. A fixed assets register will be created to record all assets bought with project funds.

District	Number People Food-insecure (estimated)	Number Food-insecure Households*	Number Dehkan Farms (Jan 2012)	Irrigated Arable Land (ha)	Irrigation Schemes Area (ha)
Vose	22,571	3,224	1,769	17,214	19,050
N. Khusrav	7,843	1,120	582	8,382	13,274
Jomi	83,267	11,895	858	17,390	18,789
Rudaki	31,806	4,544	3,182	14,369	16,957
Hisor	18,900	2,700	1,239	11,944	14,778
Khuroson	57,267	8,181	669	9,551	10,281
Bokhtar	23,394	3,342	801	20,761	23,411
Hamadoni	14,729	2,104	1,905	14,879	16,146
Yavon	98,667	14,095	2,273	24,740	26,880
Rumi	15,760	2,251	2,174	21,577	24,039
Pyanj	11,986	1,712	4,388	15,814	16,485
Jilikul	9,783	1,398	1,004	17,970	21,939
Total	**395,973**	**56,566**	**20,844**	**194,591**	**222,029**

Sources: Goscomstat; World Food Program Food Security Report, August 2011.
* Assumes average household size of 7 people.
** Excludes garden (orchard) and fallow lands within irrigation scheme command areas.

Selection of Irrigation Schemes and Drainage Infrastructure for Rehabilitation

14. The emphasis will be on selecting irrigation schemes that can be rehabilitated cost-effectively to a significant degree (to an overall average coverage of about 86% of the district irrigated areas), rather than trying to disperse expenditure over entire jamoats and districts. Higher levels of scheme-specific

rehabilitation should also create a better base and stronger incentives for WUAs to assume post-project responsibility for repairs and maintenance. Prioritization of the mechanized cleaning of drainage canals is also necessary due to the very high unit costs of this work compared to the manual canal cleaning works, and the inability to finance all of this work with project resources. The order of priority will be: (i) larger, longer inter-jamoat collector drains (to benefit the full collector service areas); and (ii) farm drains that drain to downstream and then to central reaches of collector drains (to benefit the more waterlogged lower and middle portions of the collector service areas while at the same time allowing for improved drainage outflows from the upper portions). To maximize the impact of this drainage rehabilitation, priority in the selection of irrigation schemes will be given to schemes that are drained by the prioritized drainage channels. Schemes or sub-schemes supplied from gravity irrigation will also be favored over pumped irrigation systems.

15. Hence, the initial selection criteria for irrigation schemes will be:

(a) Managed by a well-functioning Water User Association,
(b) Drainage by identified high-priority drains to be cleaned under the project;
(c) Dependent on gravity in preference to pumped irrigation,

16. Further selection among eligible irrigation schemes will be based on the cost-effectiveness of rehabilitation and the extent to which an appropriate balance can be found between manual works (and associated employment creation) and mechanized works. This final selection of irrigation schemes will be coordinated by the regional branch of the PMU based on plans and cost estimates developed during project preparation. Within selected irrigation schemes the choice of works to be implemented will be made by the relevant WUAs in coordination with local staff of the regional branch of the PMU, community leaders and with support from the local NGOs involved in project implementation and supervision.

17. *Sub-component Ia: Employment generation for Food-Insecure Households through Public Works (GAFSP financing of USD 10.07 million).* Food-insecure people from the project districts will be employed for manual cleaning of the secondary and tertiary irrigation canals. Expenditure will include payments to beneficiaries, employer contributions to beneficiary social security taxes, engineering design and supervision, supervision costs and the procurement of low-cost tools for manual labor.

18. Proposed interventions include priority manual labor works for cleaning of on-farm and minor inter-farm irrigation canals, with an estimated total length of 4,900 km. The cost estimate includes provision for excavation of approximately 1.59 million m3 of earth from the canals at a piece-work rate of 17.5 TJS/m3. Further costs include employer contributions to the social fund (25% of the wages paid), and procurement and distribution of manual labor tools, materials and services. The cost estimates also include allowances for minimal engineering planning and design plus construction supervision; NGO services for social mobilization and manual labor force administration; and modest physical and price contingencies. Overall the manual labor works correspond to a rehabilitation cost of $50 USD/ha and represent about 30% of the total cost of rehabilitation.

Beneficiary Selection

19. A rigorous approach to beneficiary selection has been designed based on a combination of direct screening and the setting of an appropriate wage rate (self-targeting), to ensure that beneficiaries are drawn from among the food-insecure. Prospective beneficiaries will be screened first using the following readily observable household characteristics, which are closely associated with poverty and food insecurity: female headed households, livestock ownership, employment status, household dependency ratios, and access to remittances. All adult members of households that meet at least two of the following six criteria will be eligible for participation: female-headed households; at least one member formally registered as unemployed; no cattle; no family members abroad or remittance income; three or more children under five years old; and seven or more people in the household. Differing levels of vulnerability, as required for GAFSP reporting, will be assessed on the basis of these criteria, using the following classification:

Food-insecure – two selection criteria
Severe Food Insecurity – four or more selection criteria

20. These criteria will be publicized and explained at jamoat and village level during awareness and communication programs prior to the start of the public works. Jamoat level records on household characteristics will be used as the basis for screening households, with the screening done jointly by jamoat and community leaders, local representatives of the Agency for Employment, Social Protection and Migration and the local NGOs employed to supervise and monitor the public works programs. As a further check on the accuracy of this screening procedure, the local NGOs will also interview a 5% sample of those on the beneficiary lists.

Public Works Payments to Beneficiaries

21. Following direct screening, prospective beneficiaries will be offered employment at a wage rate at the lower end of the current wage rate for unskilled rural labor. This approach, used widely in public works projects, discourages participation by higher income people while offering an adequate reward to lower income people, and minimizes labor displacement and distortion of local labor markets. The social assessment implemented during project preparation reported that rural wage rates for unskilled labor range from 20-30 TJS/day up to 40-60 TJS/day. Government has recently announced that the official minimum wage will be set at 200 TJS/month (before taxes) later this year, equivalent to approximately 10 TJS/day.

22. On the basis of information on rural wages from the social assessment, the experience gained in the original project and discussions with the Agency for Employment, Social Protection and Migration, public works beneficiaries will be paid on a piece-work basis, at the rate of 17.50 TJS/m3 of earth excavated before taxes and 15 TJS/m3 after taxes8. Experience with the original project shows that people excavated 1.8-2.0 m3/day, which is equivalent to a wage of 32-35 TJS/day before tax and 27-30 TJS/day after tax, which is at the lower end of the wage rate for unskilled rural labor. This piece-work rate is also slightly lower than that used in the original project of 20.00 TJS/m3, which resulted in a disproportionate level of participation by higher income people, but is well above the proposed new minimum wage. Experience from the original project also shows that this wage level is unlikely to displace rural labor.

[8] Employer social security taxes of 25% are paid directly by the project. Beneficiaries will pay a further 1% social security tax and a 13% income tax, which will be deducted from their payments at source.

Female Participation in Public Works

23. There are numerous constraints to high levels of female participation in public works of this nature in Tajikistan, including: the physical demands of the work, which limit the income that can be earned by women when paid on a piece-work basis; the reluctance of Tajik men in some communities to allow women to engage in this kind of work; the reluctance of Tajik women in some communities to work in close proximity to men; the limited time that women can allocate to this work in addition to their family and household responsibilities; and the low number of women with valid identity cards ("passports"). Limited attention to these issues in the original project resulted in female participation rates that averaged 11% of total beneficiaries. In the repeater project these constraints will be reduced by allocating less demanding areas of work to women, allowing women to work in groups separate from men, allowing family groups (men and women) to work on particular areas, increasing the flexibility of working hours for women, and by assisting women to obtain valid identity cards.

24. Increased female participation will also be sought by engaging households rather than individuals to excavate designated sections of irrigation canals, with payment to the household head rather than individual household members. Individuals within the household will thus have the flexibility to decide how best to contribute to the work, whether directly through manual labor or indirectly through supporting activities such as the preparation and provision of food and drink. Women will thus have more flexibility in deciding how best to contribute. As a result of these measures female participation in the public works component is expected to increase to at least 20% of beneficiaries.

25. *Sub-component Ib: Mechanized and Other Works (GAFSP contribution of USD 11.78 million and IDA contribution USD 10.63 million).* In addition to the public works, rehabilitation will require: the rental and purchase of machinery (excavators, bulldozers and closed drain flushing equipment), the purchase and installation of irrigation gates, irrigation canal and structure repair works, pipeline network repairs and key pump stations and vertical drainage well repairs.

26. Proposed interventions include: (i) mechanized works for cleaning of drains and larger, higher-order inter-farm canals over an estimated total length of 1,550 km, of which 1,300 km of drains and 250 km of canals, and (ii) various civil and electro-mechanical works for the rehabilitation and restoration of other priority infrastructure. The latter includes: pump stations (about 20) and vertical drainage wells (about 12), damaged channel/canal sections and irrigation system structures (16-18 of each in number), irrigation control gates (supply and installation of over 2,500 in number) and pipeline irrigation systems (supply and installation of about 422 valves and 2,800 hydrants). The procurement of 12 items of machinery for mechanized repairs and maintenance is also proposed, including two for the cleaning of sub-surface drainage systems.

27. The overall project irrigation and drainage works do not represent a full rehabilitation of the infrastructure systems, but they do correspond to all identified high priority rehabilitation items, with one exception. The exception is the relatively high-cost mechanized drain and canal cleaning works, which would cover about 45% of the corresponding identified high-priority works. However, based on the experience of the previous similar project, it is expected that most or all of the remaining mechanized drain and canal cleaning work will be done by MAWRM branch offices using the machinery to be supplied by the project.

28. The cost estimate covers (i) baseline contractor and supplier costs, (ii) engineering planning, design and construction supervision, and (iii) modest physical and price contingency allowances. Overall the mechanized and other works correspond to a rehabilitation cost of about $115 USD/ha and represent about 70% of the total rehabilitation cost. The overall budget for rehabilitation works under sub-components Ia and Ib is $32.49 million USD, equivalent to about $171 USD/ha over the improved irrigation area of about 190,000 ha.

29. *Sub-component Ic: Flood Channel Emergency Works (IDA financing of USD 3.34 million).* The project will finance emergency restoration of a flood channel that traverses and protects the city of Kulyab as well as reduces risks for agriculture land and irrigation systems supported through the project down in Vose district.

30. There is an urgent need to restore severely damaged flood protection works along a 5.7 kilometer reach of flood channel that passes through Kulyab city. Full resolution of the overall flood control problem would require attention not only to city flood channel works but also to upstream river and basin flood management systems, and would need to be based on prior comprehensive engineering studies. Such interventions would be beyond the capacity of the project to support. It was therefore agreed with MAWRM that provisions would be made for work on an emergency basis to restore the critical Kulyab city portion of the damaged flood channel.

31. Available engineering designs, drawings, quantifications and cost estimates for the proposed flood channel restoration works are at a preliminary level. A proper, detailed engineering design phase corresponding to these works will therefore be needed in the first instance. This will cover studies to review and confirm technical options and solutions, site surveys and investigations as warranted, detailed designs, quantity and cost estimations, and preparation of drawings and tender documents for contracting of the works. Execution of the works under proper supervision and quality control with design support on an as-needed basis will then need to follow.

32. The proposed project interventions for restoration of the flood channel therefore include (i) essential, prior, full detailed engineering planning and design studies, followed by (ii) well-managed execution of the designed works. The allocated budget of $3.36 million USD also includes allowances for (i) engineering construction supervision, (ii) reasonable physical contingencies, and (iii) modest price contingencies.

33. **Component II: Assistance in water resources management, including technical assistance for policy and institutional reform *(total Bank funding of USD 8.07 million, of which USD 4.04 million GAFSP funds and USD 4.03 million IDA funds).*** This component will finance technical assistance to the MAWRM and other relevant institutions to support the reform of water resource management. Transformation of the MAWRM into the Ministry of Water Resources will receive particular support, with the aim to facilitate its leadership of the reform process. Project support for consultation, stakeholder participation and consensus building will be critical in this context, to facilitate its role as the convenor of stakeholders in water resource management. Reform will be based on the following principles: (i) the separation of water resource management and water service delivery; (ii) the associated separation of policy making and planning from operational management of the sector; and (iii) the introduction of Integrated Water Resource Management (IWRM), organized

along the hydrological boundaries of the country's main river basin systems. Sub-components comprise:

34. *Sub-component IIa: National-level Policy, Legislative and Institutional Formulation (GAFSP contribution of USD 1.17 million and IDA contribution USD 1.16 million).* The project will assist the GoT to (i) further develop the legal basis for IWRM and water sector reform, (ii) transform the MAWRM into a Ministry of Water Resources (MWR), (iii) prepare a national IWRM strategy to identify priorities for improving water resource management and (iv) establish a Water Resources Information Center.

35. *Support for further development of water legislation.* Tajikistan's Water Code was passed by Parliament in 2000 and then amended in 2006, 2008, 2009 and 2012. The latest changes include a chapter on river basin management and protection of water resources; and the definition of different types of water resource management assets and river basin management organizations. Further legislative reform is now required to support the implementation of IWRM, including issues of: land use rights for water infrastructure, the ownership of water infrastructure assets, and the definition of protected areas as legitimate water users whose interests must be taken into account in water allocation decisions etc. Project support will focus on: (i) broadening the legal basis for participation of different types of water users in WUAs (currently this is limited to individual farmers only); (ii) identifying and addressing other gaps in existing laws and regulations on the establishment and operation of WUAs; (iii) analyzing existing legislation with respect to river basin management principles and developing the laws and regulations needed to implement the river basin approach at national level, and (iv) analyzing existing laws and regulations with respect to the reformed institutional structure of the water sector. Support will also be provided to draft a Decree on the Geographical Coverage of River Basins.

36. *Preparation of a National IWRM Strategy.* This sub-component will support the MAWRM or its successor in the preparation of a National IWRM strategy. The strategy will identify priorities for improving water resources management in Tajikistan, based on analysis of policy and institutional issues. To this end it will: formulate government's vision of water resource management objectives, establish a clear, long-term framework for the sustainable management and development of water resources, and formulate a medium-term plan of priority actions with associated financing requirements. Preparation of the strategy is expected to increase the importance of water resource management in the national development agenda, strengthen the capacity of the Ministry for sector coordination and leadership, and raise awareness of water resources issues with the general public and within government. Support will also be provided to the MAWRM or its successor to improve its communication with the public and stakeholders and build their support for IWRM implementation by raising their awareness and knowledge. The project will ensure the inclusiveness of the strategy preparation process by establishing a stakeholder forum for cross-sectoral dialogue and decision making under the aegis of the National Water and Energy Council (NWEC).

37. The project will support capacity building of institutions responsible for inclusive IWRM, including the NEWC, the Ministry of Water Resources, River Basin Councils and River Basin Authorities to accompany strategy preparation. The thematic areas of training would include introduction to IWRM principles, trans-boundary water resource management, and economic aspects of IWRM, decentralized decision making and participation and partnership in water resources planning. Detailed contents of the training program and modes of implementation will be developed based on a capacity building needs assessment to be carried during strategy preparation. Lessons to be

learned from countries with water management issues similar to those in Tajikistan will be an important element of national capacity building, particularly in areas such as national water laws, water management institutions and water use regulations.

38. *Support to establish the Ministry of Water Resources.* Under the proposed water sector reforms, the MAWRM will be transformed into a Ministry of Water Resources with responsibility for strategic planning, policy and regulatory functions in the water sector. The water sector will undergo radical change and reforms, adopting an Integrated Water Resources Management (IWRM) approach and moving away from the management of water resources according to administrative boundaries to management by hydrological boundaries, through establishment of River Basin Organizations. The institutional reforms of the water sector provides for clear separation of roles and responsibilities between policy and guidance (through a Water and Energy Council), policy development and regulation (through Ministry of Water Resources in line with IWRM principles) and water delivery (through independent organizations – Mirob for irrigation water delivery) and operations. To support this process, the project will assist the MAWRM to identify and transfer the policy and regulatory roles that will reside with the MWRM, and to re-assign other roles and responsibilities to other elements of the new institutional structure for water resource management. Transformation of the MAWRM into the MWRM may also require the transfer of some policy making and regulatory tasks currently assigned to other line Ministries involved in the water sector (e.g. responsibility for regulation of water abstraction permits for surface and groundwater). This re-assignment of roles and responsibilities will be a challenge. Current water resource management functions are dispersed among several agencies, with significant overlap and duplication of functions, roles and responsibilities. These roles will have to be re-assigned to the new institutional framework, which includes the National Water and Energy Council, MWR, River Basin Commissions and River Basin Management Agencies. The project will assist GoT to draft the charters, decrees, amendments and other regulations required to formally establish the MWR.

39. Support *for the establishment of a Water Resources Information Center*. The project will provide support to MAWRM or it successor to establish a consolidated water resources database as the basis for national water resources planning and programming. Multiple institutions are currently involved in water resources monitoring and data collection, which is often conducted for a limited number of parameters and with limited geographical coverage. No consolidated system is in place for data collection, management and data sharing.

40. The water resources database will be developed through the coordinated acquisition of water resources data from all relevant organizations. To this end the MIWRM will coordinate closely with other information centers pertaining to the water sector and institutions dealing with the monitoring of water quantity and quality; and develop effective procedures for data sharing between agencies. The database will be developed as a spatial data facility to allow the consolidation, exchange and use of geospatial data and related information resources across an information sharing community. The database is expected to be accessible to registered users and the public in a hierarchical manner.

41. Initially, database development will focus on collecting data for the Kafernigan basin. The database will include information on the hydrographic network, available hydrometric data, the existing quantity and quality monitoring network, delineation and characterization of protected areas, water resource management infrastructure (dams, irrigation, and hydropower plants); water abstraction information by location and time; and the location of known point pollution sources, including the

type and extent of pollution. It is expected that the proposed database will be a repository of important water data with free access to it and data processed products by river basin agencies, water users, government and private institutions and the public. Project assistance will include conceptual design of the database, procurement of computers and other required technical equipment, software, and staff training on database management technologies and software use.

42. *Sub-component IIb: River Basin Planning (GAFSP contribution of USD 0.54 million and IDA contribution USD 0.54 million).* The project will assist the GoT to establish River Basin Management (RBM) in the Kafernigan river basin.

43. The Kafernigan basin is a compact, hydro-logically well-defined river system on the Kafernigan River, which is a tributary of the Amu Darya. The basin is densely populated and its water resources are used for irrigation, drinking and industrial water supply. Three of the nineteen dams in Tajikistan are located on this river, and Uzbekistan withdraws water for irrigation from its middle reaches. There is potential for further development of the basin's water resources for irrigation, water supply and, possibly, mini hydropower production. However, while the basin has abundant water resources in absolute terms, it faces numerous water resource management problems including: seasonal shortages of water (in August-September) relative to water demand; frequent floods; deteriorating water quality due to the discharge of inadequately treated industrial waste-water and polluted agricultural run-off; and intensive sediment flows in flood seasons, from the upper watershed of the basin. These varied characteristics make the Kafernigan basin well-suited to the introduction of RBM. Recent donor programs by the World Bank (original PAMP) and USAID have also strengthened the base for RBM in lowland (irrigated) areas, and the World Bank PPCR project will address land and water management issues in the upper reaches.

44. River Basin Management will be implemented in this basin through the preparation and implementation of a River Basin Management Plan (RBMP). The objective of this plan will be to identify cost-effective, priority measures to improve the efficiency of water resource management and use in the basin, including: (i) analysis of the physical status of water resources, (ii) review of all types of economic water use (including environmental requirements) and their impact on water resources; (iii) assessment of existing and future water resource balances; (iv) identification of the main water resource management challenges; (iv) assessment of the extent to which water constrains attainment of the economic development objectives of the basin; (v) the identification of a set of actions and associated investments to improve the water resource situation. Government has agreed to establish a River Basin Commission to lead preparation of the RBMP, comprised of senior officials from government agencies and offices within the basin, and a River Basin Organization (RBO) for the Kafernigan basin. A group of technical experts will also be established to work on the RBMP, drawn from relevant agencies and institutions working on water resource issues – including the RBO. The project will appoint international advisers to facilitate and guide the planning process, under the direction of the national team.

45. As part of the RBM Plan preparation, the project will support training activities to strengthen the capacity of MWR and RBO staff in river basin management, with a focus on the latest concepts, international trends and practices of Integrated River Basin management, operational management of river basins, and the role of RBAs as service providers to the basin water users.

46. *Sub-component IIc: Develop and Strengthen Irrigation and Drainage Institutions (GAFSP contribution of USD 2.33 million and IDA contribution USD 2.33 million).* The project will assist the GoT to: (i) build independent, financially-autonomous irrigation and drainage service providers responsible for the management and maintenance of off-farm irrigation and drainage infrastructure and for water delivery to water user associations; (ii) support the transformation of existing region and district level institutions into the new institutional framework; and (iii) establish and strengthen the capacity of these institutions through provision of technical assistance, goods, works and training.

47. *Support to establish Mirobs as independent, accountable irrigation service providers.* The current system for supplying water for irrigation and ensuring the operation of irrigation and drainage systems is weak and inefficient. The district level units of the MAWRM, which are responsible for service delivery, lack the finance to maintain the infrastructure due to government budget constraints and low payment rates by farmers for water use fees. Their operations are also subject to interference by the District Hukumats that finance part of their budget, which further compromises water service delivery. This poor service delivery to farms leads to low crop yields and the inability of farmers to pay water use fees, creating a vicious cycles of debts and service inefficiency. Under the proposed reforms, Mirobs will assume the responsibility for water service delivery, replacing the district water authorities.

48. The project will provide technical assistance to the GoT to develop a realistic, field-based concept of Mirobs as water service providers within government. They will operate as "utilities," with an emphasis on operational efficiency, accountability for the quality of their services, responsiveness to beneficiaries and an associated emphasis on cost-recovery from beneficiaries. The project will assist GoT to determine the requirements for establishing Mirobs in the project area, including: the delineation of their geographical boundaries; definition of their responsibilities; the development of a performance-based approach to regulate their operation; and an assessment of cost recovery and financial sustainability. Further support will include rehabilitation of selected irrigation infrastructure and procurement of machinery and equipment to strengthen their capacity to provide timely and quality water services. The project will also support the preparation of an inventory of irrigation and drainage systems in the basin area to clarify the ownership and responsibilities for system maintenance and operation. Inventory results will be presented in GIS maps.

49. *Support for Water User Associations.* Building on the lessons learnt from past experience with WUAs in Tajikistan, the project will support the establishment of 20 new WUAs in the project area and provide capacity building support to these new WUAs and 33 existing WUAs. In addition, 42 new WUAs will be established by USAID FFP, while PAMP II will finance the associated rehabilitation of irrigation and drainage infrastructure. The approach to WUA establishment and support will emphasize: the delineation of WUA jurisdictions based on hydraulic boundaries of irrigation schemes rather than administrative criteria; rehabilitation of the on-farm infrastructure before transferring it to the WUAs; WUA involvement in all stages of infrastructure rehabilitation; enhancement of the skills, knowledge and capacity of the WUAs through training and capacity building; the assessment of water service fees based on the ability of WUA members to pay; and adequate support to the WUAs by the water service providing organizations. WUAs will also be trained to cost, manage and supervise maintenance works and to strengthen their relationships with upstream institutions, where appropriate through the formation of WUA Federations. The project will also train WUAs, Mirobs and staff from other relevant agencies on the efficient management of irrigation and drainage systems, including water savings from technological innovations.

50. **Component III: Project Management *(GAFSP financing of 2.01 million).*** A project management unit (PMU) to be managed under the World Bank financed Ferghana Valley Water Resource Management project will be the main implementation agency. It will be responsible for: implementation and coordination, financial management and procurement, communication and awareness programs, environmental management and safeguards, and monitoring and evaluation.

Annex 3: Implementation Arrangements

REPUBLIC OF TAJIKISTAN: PUBLIC EMPLOYMENT FOR SUSTAINABLE AGRICULTURE AND WATER MANAGEMENT PROJECT II

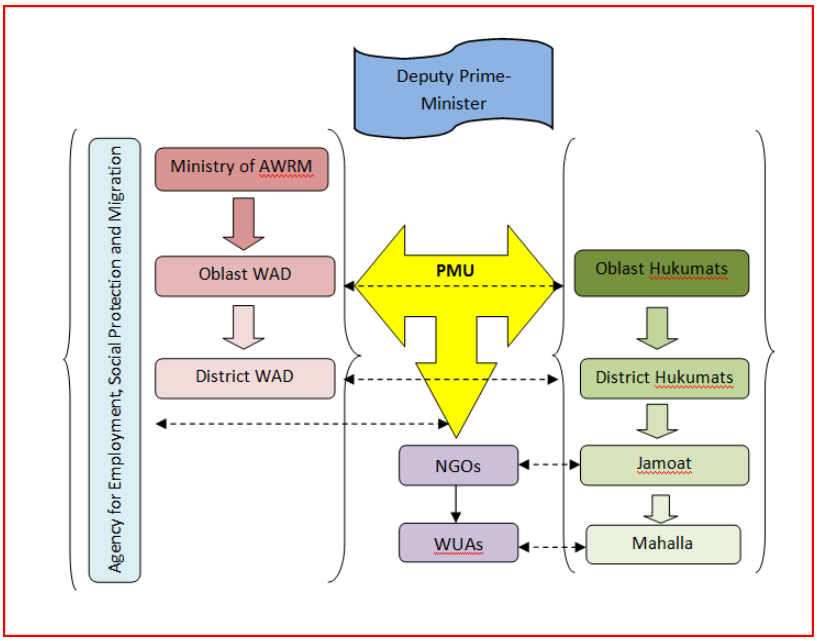
Project Institutional and Implementation Arrangements

1. Overall responsibility for the project will rest with the MAWRM and the administration of Khatlon Region and DRS.

Project administration mechanisms

2. The repeater project will be implemented by the Ferghana Valley Water Management Project Unit (PMU) under the responsibility of the MAWRM, as for the PAMP project. The strong implementation capacity of this PMU was amply demonstrated during the implementation of the original project. This capacity will be further strengthened in response to the larger size of the repeater project, with improvements to procurement, financial management, governance and anti-corruption procedures, and monitoring and evaluation.

Figure 1. Implementation Structure



3. The PMU will be responsible for project procurement, disbursement, financial management, governance, communication, environmental management and safeguards, monitoring and evaluation and reporting. It will also organize and manage all payments to the individual accounts of public works beneficiaries, and to tax authorities through a commercial bank. The PMU will set up a regional branch in Kurgan-Tube (the capital of Khatlon) to manage the project implementation on the ground. The regional branch of the PMU will manage and coordinate the manual and mechanical rehabilitation of irrigation and drainage infrastructure, including the selection of work sites, engineering designs,

works supervision and the flood control works. It will receive support from the PMU for procurement and financial management.

4. Local NGOs will be contracted to support community-level implementation of the public works program, with responsibility for: public awareness and communication programs, oversight of the selection of sub-projects and public works beneficiaries, and support for the grievance procedures established as part of the governance and anti-corruption strategy. They will also coordinate and administer the daily work associated with the public works program and record and computerize the work done by beneficiaries, as the basis for beneficiary payments and M&E. The local NGOs will report to the regional branch of the PMU.

Sub-Project and Beneficiary Selection

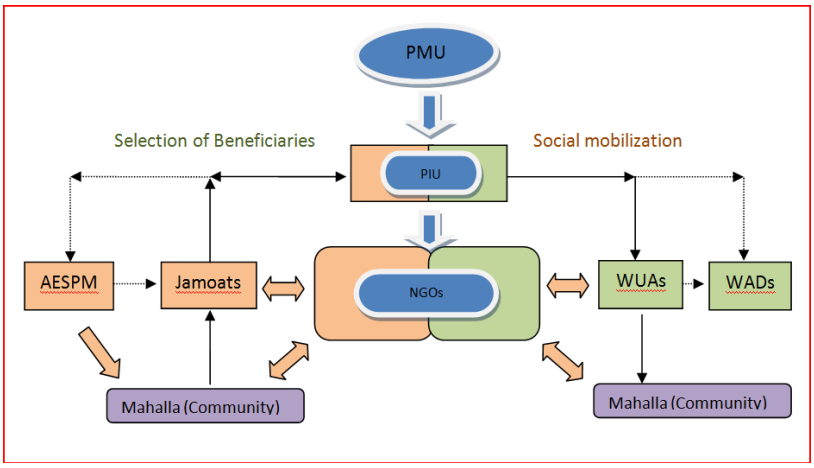
5. The districts covered by the project were chosen in consultation with the MAWRM during project preparation, on the basis of their level of food insecurity, area under irrigation, agricultural potential and progress with reform. Within districts, the selection of sub-projects will be coordinated by the regional branch of the PMU in consultation with district water management authorities, local jamoat and community leaders, WUA members and the local NGOs. To be eligible for project support, potential sub-projects must be: (i) managed by a well functioning Water User Association, (ii) not dependent on pump irrigation, and (iii) served by high priority, renovated drains. A prioritization of the mechanized cleaning of drains is required due to the very high unit costs of this work compared to the manual canal cleaning works, and the inability to finance all of this work with project resources. The order of priority will be: (i) larger, longer inter-jamoat collector drains (to benefit the full collector service areas); and (ii) farm drains that drain to downstream and then to central reaches of collector drains (to benefit the more waterlogged lower and middle portions of the collector service areas). To maximize the impact of this drainage rehabilitation, priority in the selection of irrigation schemes will be given to schemes that are drained by the prioritized drainage channels.

6. Sub-projects that meet these initial criteria will be further reviewed based on estimates of the on-farm and off-farm rehabilitation work to be completed, made by district engineers of the MAWRM during project preparation. Final selection will be based on the cost-effectiveness of rehabilitation and the extent to which an appropriate balance can be found between manual works (and associated employment creation) and mechanised works. Within selected sub-projects, the choice of works to be completed will be made by WUA members in consultation with the regional branch of the PMU, jamoat and mahalla officials and with support of the local NGOs contracted by the project.

7. Beneficiaries will be selected from the jamoats in which sub-projects are located. Selection will be managed by local NGOs in consultation with community leaders (malhallas), jamoat authorities and local representatives of the Agency for Employment, Social Protection and Migration. "Household books" kept by each jamoat[9] will be used to identify eligible households, based on the eligibility criteria listed in Annex 2. A preliminary list of eligible households will be publicized in each jamoat, to allow residents to check its veracity. The local NGOs will also check these beneficiary lists, through sample surveys.

[9] These jamoat level records list the characteristics of each household including: household composition (age, sex, marital status), assets, income status, registration as unemployed, and access to remittance income.

Figure 2. Social mobilization and selection of beneficiaries.



Public Works Implementation

8. Participating communities will be informed of the nature of the public works program and its procedures, through public awareness and communication programs implemented by the local NGOs. These programs will include public meetings, information brochures and information desks. The aim will be to inform rural residents of: the criteria for beneficiary selection, the methodology for beneficiary selection, the requirements for participation (the need for passports, bank accounts etc), conditions of employment (compensation rates, taxation), payment mechanisms, supervisory mechanisms, and working conditions (working hours, project provision of tools, compliance with regulations on safety and child labor). Measures to encourage female participation will also be explained and discussed, along with the project's grievance procedures.

9. Following completion of the public awareness program and preparation of the list of potential beneficiaries, a request for applicants for the public works program will be advertised in local newspapers as a formal offer of employment. Eligible residents who wish to participate will then sign a simple statement to this effect to formalize their contractual relationship with the project. (This combination of public offer and individual acceptance is recognized as a legal agreement under Tajikistan's civil law). Applicants will also complete a simple form that details their name, passport number, age, sex, marital status, employment status, whether or not they are a household head, number of cattle owned by their household, the composition of their household (by age and sex), and whether or not their household has received remittances during the previous 12 months. This information will become part of the data-base for administering payments to beneficiaries and for monitoring and evaluation.

10. When the lists of participating households are verified and approved the project will procure and distribute low cost, locally available tools such as shovels, wheelbarrows, spikes etc. The workload will be distributed by local engineers of the regional branch depending on the volume of work at the specific site and demand for participation in the public works program. Contracting will be based on the existing system of "work-day" accounting and labor payments will be output-based.

11. For each sub-project, the volume of earth excavated by each participant or participant group will be recorded on a daily basis by local engineers employed by the PMU. This daily work record will be checked and signed by the local NGOs and local officials and/or WUA members. It will then be computerized by the local NGOs and submitted to the regional branch of the PMU as the basis for paying beneficiaries. It will also be used by the M&E system to monitor the volume of work completed, the volume of payments made to beneficiaries and the food insecurity status of beneficiaries.

12. In line with the established practice of channeling social payments to the poor in the rural areas, payments will be processed through the "Amonatbank" and made on a monthly basis. The list of workers receiving payment will be displayed in public places for transparency reasons.

Financial Management, Disbursements and Procurement

Financial Management and Disbursements

13. From a financial management perspective the fiduciary risk at project level is considered substantial but is expected to decrease to moderate after implementation of the mitigation measures. These measures will consist of computerization of project accounting, finalization of the Project Operational Manual (POM) and hiring of two project finance consultants.

14. Based on assessments of the country PFM system, only some elements of the country FM systems are planned to be used under the Project. These include the limited use of budgeting, accounting and reporting elements. Consequently, all fiduciary functions for the project, including financial management and disbursement, will be carried out by the Ferghana Valley Water Resources Management Project Management Unit (PMU). The PMU has prior experience in implementing Bank projects, including the original PAMP.

15. Project accounting will be maintained on a cash basis, with supporting documentation maintained in files in accordance with existing government financial regulations and standards acceptable to IDA. PMU will use the Project Management and Monitoring Information System (PMMIS) based on 1C accounting software (version 8.0), which will be web-based and allow PMU to install it in both the central level (at PMU office) and the rayon's level. This software will include both accounting and monitoring-evaluation modules. The signing of the contract for the PMMIS installation is the general condition of the Effectiveness. This system will ensure a proper tracking of resources and expenditures, and will generate quarterly financial reports in formats acceptable to the Bank. The chart of accounts for the project will allow tracking of project transactions and reporting by source of financing, project components, and type and category of expenditure. A fixed assets register will be created to record all assets bought with project funds.

16. The draft FM Chapter of POM has been already prepared and reviewed by the Bank. The adaptation of POM will be the general condition of the Effectiveness. The FM Chapter of POM documents the internal control mechanisms with focus on ensuring the completeness of accounting transactions, reliability of accounting data, safeguarding of project assets (including safe custody of cash and other assets), proper monitoring of contracts, proper authorization and documentation of all project expenditures, and full accountability of project funds. It also describes the procedures for managing the flow of funds needed to support project activities, and the management of bank accounts

- including regular reconciliation of bank statements with project records. It also includes the procedures on the selection of the beneficiaries, provisions to pay the beneficiaries through bank transfers (no cash payments) and physical verifications of works prior to making payments.

17. PMU Financial Management (FM) staff currently includes the Chief Accountant, the Senior Financial Specialist and the Accountant-Cashier. Previous experience of the PMU has shown that the existing organizational structure, with the Chief Accountant responsible for the implementation of several projects at the same time, led to downgrading of one of the projects. To reduce this risk, for PAMP II the PMU will hire additionally two more dedicated staff (Finance Manager and Disbursement Consultant), who will be responsible for all fiduciary aspects of the project and will directly report to the Chief Accountant. The recruitment of both these local consultants will be conducted prior to the start of active phase of field works (approximately September 2013). The Chief Accountant will have overall responsibilities for both projects and together with the PMU Director will be accountable for any actions of the PMU.

18. ***Disbursement methods.*** The following disbursement Methods may be used under the Financing: (i) reimbursement, (ii) advance, (iii) direct payment and (iv) special commitment. Details on the ceiling of the DAs will be provided in the Disbursement Letter. Withdrawal applications for replenishment of the DAs will be sent to the World Bank at least on a quarterly basis. There will be no Government contribution of funds to the project.

19. ***Designated accounts.*** The PMU will open two Designated Accounts in US dollars (one is for IDA Grant and another one is GAFSP TF) for administering project funds, in a commercial bank acceptable to the World Bank. PMU is capable managing these accounts as the finance team is already managing two DAs under Ferghana project. The ceiling for the Designated Accounts and other disbursement details will be provided in the Disbursement Letter. However, due to the lapsing of four loans in the Tajikistan Country portfolio no new Designated Accounts will be established for the proposed under this IDA Grant, until the refund or documentation has been received for all outstanding projects in Tajikistan. Hence, provision for use of a Designated Account as a disbursement method in the Disbursement Letter for the proposed IDA Grant might not be included. If the issues involving these operations are resolved prior to the issuance of the Disbursement Letter (i.e. at the signing of the new operation), then the letter will be revised to include such a provision. If the issues are resolved subsequently, then an amended Disbursement Letter will be issued to include the provision for a Designated Account

20. ***Project Financial Reporting***. The PMU must submit quarterly interim un-audited financial reports (IFRs) that will be generated by the accounting system based on formats agreed with the World Bank. The reports, to include Statement of Sources and Uses of Funds, Uses of Funds by Project activities (Components & Expenditure Categories) and Statements of Designated Accounts (DA), will be submitted to the World Bank within 45 days of the end of each quarter, with the first reports under the proposed Project being submitted after the end of the first full quarter following initial disbursement. Draft formats of these IFRs have been developed and agreed with the PMU during the negotiations.

21. ***Auditing arrangements***. The project audit report for the original PAMP which was due on August 31, 2012, was received on time and found to be satisfactory to the Bank. With some delays the

PMU also submitted the project audit report for FVWRMP and its Additional Financing on September 27, 2012 which was reviewed and found to be satisfactory.

22. An audit of the project will include the project financial statements, SOEs and DA Statements. The annual audited project financial statements will be submitted to the Bank within six months of the end of each fiscal year and also at the closing of the project. The cost of the audit will be financed from project funds. The following table identifies the audit reports that must be submitted by the PMU and the due date of submission:

Audit Report	Due Date
The Project financial statements (PFSs) to include Statement of Sources and Uses of Funds, Uses of Funds by Project Activity, SOE Withdrawal Schedule, DA Statements and Notes to the financial statements.	Within six months of the end of each fiscal year or from the project's closing date.

23. Audited project financial statements will be publicly disclosed in accordance with the Bank's Access to Information (AI) Policy through its website, upon receipt. In addition, the PMU will publish the audit reports in a manner satisfactory to the Bank.

Procurement

24. Procurement for the proposed project would be carried out in accordance with the World Bank's "Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" (January 2011); Consulting services will be procured under the Bank's Guidelines "Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" (January 2011). The World Bank Guidelines on Preventing and Combatting Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credit and Grants dated October 15, 2006, and revised on January 2011, would also apply. For each contract to be financed by the Grant, the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior review requirements, and time frame have been agreed between the Recipient and the Bank project team in the Procurement Plan. The procurement for works and goods and non consulting services will be conducted using the Bank's Standard Bidding Documents (SBD) for all ICB and an acceptable bidding document to the Bank will be used for all NCB. The standard NCB provisions for Tajikistan, as included in the Financing Agreement, will be applied to all the NCB contracts.

25. ***Procurement of Works.*** The project has significant civil and public works component. Works to be procured under this project, include: collector and drainage works, civil and electro-mechanical works, flood channel emergency works and pipeline network repairs.

26. ***Procurement of Goods (including installation as needed).*** Goods to be procured under this project would include: machinery for irrigation and drainage systems maintenance, tools for manual works, vehicles; pipeline network fittings, irrigation gates and electro-mechanical equipment, IT equipment and software for WUAs and newly established Mirobs.

27. ***Procurement under Community Participation.*** The procurement procedures proposed under Community Participation will be described in the Project Operational Manual in accordance with paragraph 3.19 of the Procurement Guidelines and will be applied for the public works program.

28. ***Selection of Consultants.*** Consultant services to be procured under this project will include: development of detailed designs for civil works, technical supervision, hiring of 3rd Party QA/QC consultant to ensure quality of civil works, country-level policy and legislative framework formulation, annual audits, surveys on project outcome indicators, communication and public awareness activities. Individual consultants will also be hired to support project coordination and implementation. The following methods will be used for selecting consulting firms depending on the nature and complexity of assignments, interest to foreign firms and need for international expertise, estimated budget of the services: Quality and Cost-Based Selection (QCBS), Quality-Based Selection (QBS), Least Cost Selection (LCS), Selection Based on Consultant's Qualification (CQS) and Single-Source Selection (SSS). Short lists of consultants for services estimated to cost less than USD 100,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

29. ***Training.*** The project will finance some training activities (including personnel training; training for WUAs and other newly established agencies). The Project Management Unit will develop a detailed training plan and agree this with the Bank.

30. ***Incremental operating costs.*** Similar to the original project the PMU will use services of the State Savings Bank of the Republic of Tajikistan "Amonatbonk" to ensure timely transfers of wages to the beneficiaries employed under the public works activities. Operating costs will include bank charges to cover services of the State Savings Bank of the Republic of Tajikistan "Amonatbonk".

31. The State Savings Bank of the Republic of Tajikistan "Amonatbank" is a unique bank in the country with 190 affiliates, branches and agencies at all the administrative levels in the project areas. As a repeater project the PAMP II will follow the arrangements that proved to be the most efficient and transparent in handling cash transactions to the participants of the public works program in line with procedures of community participation in procurement. Contracting "Amonatbank" for providing such services will be done through the Direct Contracting method.

32. ***Assessment of the agency's capacity to implement procurement.*** The assessment of the PMU's capacity for implementation of procurement activities was carried out in June - July 2012 in line with the Procurement Risk Assessment and Management System (P-RAMS).

33. The PMU successfully implemented the original PAMP and will retain overall responsibility for carrying out project procurement for the repeater project. The PMU will employ a dedicated procurement consultant for the project. The newly appointed procurement consultant, as well as technical specialists of the departments involved in the process, will need to continue training in the procurement of goods/works and consulting services in accordance with the 2011 Bank's Guidelines and contract management.

34. The overall project risk for procurement is rated high. The risks associated with procurement and the mitigation measures were identified in the assessment of the agency's procurement capacity and are summarized in the table below:

Description of Risk	Risk Rating	Mitigation Measures	Residual Risk Rating
Potential procurement delays: new arrangements for clearance of evaluation reports with the SIC may lead to procurement delays; experience with the past and on-going projects in country shows frequent procurement delays.	H	Monitoring submission of the documents and follow up with the SIC; recording this information in the evaluation reports. Advanced preparation of technical specifications or TORs; further procurement training will be provided during project implementation.	S
Given the larger scale of the program, there is a risk that the PMU may not be able to cope with additional responsibilities assigned under the PAMP II.	S	A separate procurement consultant in the PMU will be recruited for the PAMP II to provide assistance and advice on a day-to-day delivery of services.	M
Inadequate competition: procurement may not attract adequate competition; proposals with cost higher than the estimated costs; bidders not qualified for the specific assignments.	S	Consolidate procurement packages as feasible to maximize interest from qualified bidders; establish advertising policy; wide and advance advertising; creating a database of suppliers of the required goods, construction contractors and consultants.	M
Procurement of Civil Works: There is large scope of civil works. They are scattered across the project region including remote areas. The execution of scattered civil works could lead to quality issues in rehabilitation and construction of irrigation and drainage infrastructure.	H	Hiring of 3rd Party QA/QC consultant(s) to ensure quality of civil works; training and capacity building of WUAs to supervise carried out works; payment of wages through Bank accounts; regular physical inspections by PMU engineers and Bank supervision mission.	S
Opportunities for fraud and corruption related to contracting, labor payment and contract management are high.	H	Public oversight and raising community level awareness of public employment program through local NGOs to be hired; verification of eligibility of the public works beneficiaries; effective record-keeping of labor payments; Enforcement of public disclosure and transparency provisions of the Bank's Guidelines; disclosure of contract awards and implementation progress information on the publicly accessible website, national press and communities information boards.	S
Average	H		S

35. ***Procurement Plan.*** The initial procurement plan was agreed between the Borrower and the Project Team during negotiations. After the project is approved by the Board it will be published on the Bank's external website. The Procurement Plan will be updated in agreement with the Bank project team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. The thresholds for methods of procurement and prior review limits are detailed below.

Expenditure Category	Contract Value (US$)	Procurement Method	Bank Prior Review
Goods	>200,000	ICB	All the ICB contracts
	≤ 200,000	NCB	First 2 NCB contracts
	≤ 100,000	Shopping	The 1st Shopping contract
	NA	DC	All DC contracts
Works (including non-consulting services)	>1,000,000	ICB	All the ICB contracts
	≤ 1,000,000	NCB	First 2 NCB contracts
	≤ 100,000	Shopping	The 1st Shopping contract
	NA	DC	All DC contracts
Consultant Services	Irrespective of Value	QCBS, QBS, FBS, LCS, CQS*	All contracts above USD 100,000 for firms plus the 1st CQS contract regardless of value; and all contracts above USD 50,000 for individuals; and all SSS contracts.
	NA	SSS	
	NA	IC	

Notes:
ICB – International Competitive Bidding
NCB – National Competitive Bidding
DC – Direct Contracting
QCBS – Quality and Cost Based Selection
QBS – Quality Based Selection
FBS – Fixed Budget Selection
LCS – Least Cost Selection
*CQS – Selection Based on Consultants' Qualification will be followed depending on type of assignments for estimated value less than USD 200,000
SSS – Single Source Selection
IC – Individual Consultant selection procedure
NA – Not Applicable

36. ***Frequency of Procurement Supervision.*** In addition to the prior review supervision to be carried out from the country office, the capacity assessment of the Implementing Agency has recommended two supervision missions per year during which ex-post reviews will be conducted on a sample basis (20 percent in terms of number of contracts) for the contracts that are not subject to Bank

prior review. One post review report, which will include physical inspection of sample contracts, will be prepared each year. Not less than 10 percent of the contracts will be physically inspected.

Governance and Anti-Corruption (GAC)

37. The project Governance and Anti-corruption Strategy will build on lessons learned during implementation of the previous PAMP. The aim will be to mainstream governance interventions at every stage of the project cycle, applying and scaling up existing instruments of engagement to achieve the strategic goals of the Country Partnership Strategy and the accompanying Country-level Governance and Anti-Corruption (CGAC) Strategy. The CGAC Strategy aims to assist the Government of Tajikistan to address three principal governance challenges: (a) strengthening transparency and accountability; (b) developing capacity; and (c) fostering demand for good governance. The CGAC Strategy outlines the governance challenges at the country, sector, and project levels. When mainstreaming governance at the project level it is important to note whether the project design is conducive to tackling the broader governance challenges and also safeguarding against governance risks. At the project level, the Governance Checklist has been adopted as a tool to identify and tackle these and other governance challenges at every stage of project design, the checklist will also be used during implementation to update the status of challenges and identify new risks and opportunities to strengthen governance in project activities. The risks and challenges identified through the first iteration of the PAMP and the design-stage governance checklist are presented below.

38. The project involves many individuals, groups and organizations as implementers and beneficiaries. This creates opportunities for corruption associated with sub-project selection, sub-project implementation, labor payment, contracting and procurement, and project management. Based on the governance and anti-corruption experience in the original project, a comprehensive strategy has been developed to minimize the incidence of corruption and identify actions to be taken when corruption is uncovered. Strong citizen engagement is a key component of this strategy, particularly in the targeting of beneficiaries and planning of public works, as a means to raise transparency and accountability in program delivery at the local level.

39. Individual sub-projects are the principal vehicle through which project resources will be made available to beneficiary communities; in the form of improved irrigation and drainage facilities, and to beneficiary households in the form of wages. The project's impact on food security thus depends heavily on the extent to which the selection of sub-projects is determined (a) by objective criteria that are aligned with the PDOs, and (b) by the extent of local ownership and commitment. To reduce the risk of manipulation in the selection of sub-projects, the PMU will ensure that the objective criteria that have been defined are strictly applied. To foster transparency and accountability at the sub-project level, community level public awareness and social mobilization programs will also be given a high priority in project implementation, to ensure that sub-projects reflect the needs of communities rather than social elites. To enhance ownership of the project and demand for good governance, residents will be encouraged to actively participate in discussion of relevant community issues and to express their views on the sub-project proposals.

40. In order to better target beneficiaries for optimal impact, a combination of self-targeting and screening was used in project design to ensure that food-insecure households are the primary beneficiaries of the public works program. A set of objective criteria has been established in order to determine eligibility of beneficiaries. Compliance with these criteria will be checked by mahallas,

jamoats and local NGOs. The wage rate will be set at the lower end of the prevailing market wage for unskilled labor in rural areas to reduce the risk of non-targeted or ineligible beneficiary participation.

41. ***Opportunities for Corruption and Risk Mitigation Measures.*** During preparation of the technical designs for sub-projects there is a risk of collusion between design engineers and local officials to overstate the volume of manual labor required, in order to add "ghost workers" to the payroll. To mitigate this risk the project will employ an engineer for each project jamoat, to verify the estimates of the work required and to ascertain that the works have been implemented as planned and reported. Each sub-project will also be monitored by local jamoat members, the mahalla, a local NGO and WUAs.

42. Contracting and procurement provide further opportunities for corruption through collusion among contractors, suppliers, district water authorities, PMU staff and *jamoat* heads. This risk will be minimized by ensuring the use of procurement procedures approved by IDA. All tenders will be made public, bids will be evaluated publicly and information on contract budgets will be available to all interested parties. Any collusion among contractors during the bidding process will result in cancellation of the tender and re-tendering; and offending contractors will be blacklisted and ineligible to bid on any further contracts under the project. The annual independent audit will carry out random audits of sub-projects.

43. Additional anti-corruption measures for procurement management will include:

- Individuals involved in project management, including procurement, and in tender or evaluation committees must confirm in writing that they have no conflicts of interest, e.g. close family relationships with project suppliers, contractors or consultants; ownership or financial stakes or management functions in companies or entities bidding on project contracts; etc.

- The PMU will establish mechanisms to ensure that payments to suppliers and contractors are made according to their contract terms without delay. IDA will monitor compliance with these mechanisms.

- The PMU will notify IDA of every complaint received from suppliers, consultants or others relating to the procurement process; and record and deal with these complaints promptly and diligently.

- The PMU will maintain up-to-date procurement records and make these available to bank staff and auditors promptly on request.

44. Civil works and public works programs can also be compromised by the request of corrupt officials for unjustified payments for licenses, permits and inspections, which divert funds from intended beneficiaries. The fees demanded may be higher than official fees, or fees may be demanded for services or documents that are not required. The project will provide a precise list, with the corresponding official fees, of permits, licenses and inspections that are required at the sub-project level; and provide this information to all participating jamoats, malhallahs, NGOs and design engineers, along with instructions on where to report attempted abuse. Instances of attempted or actual abuse will be reported to the Governor of Khatlon Oblast, the MAWRM or its successor and the Deputy Prime Minister.

45. Opportunities for corruption also exist in the form of bribes to hide poor quality work or to avoid compliance with construction specifications. Similarly, machinery may be used to implement works (at a lower cost per volume of work) intended for manual labor (at a higher cost). Payment would then be requested as if the work had been done by laborers, and the difference between actual costs and payments received would be shared by the colluding parties. The losers in this case would be local people deprived of the wages they could have earned. To counter these risks, details on design standards, works volumes, planned and approved machinery and labor use, and implementation progress will be made public in the communities on the information boards and at public meetings. In addition, the WUAs and project engineers will be responsible for checking the quality of work carried out, and the monitoring committees at each sub-project will regularly check sites.

46. The payment of workers for the public works program creates risks associated with: manipulation of the list of laborers ("ghost workers"), misrepresentation of the volume of labor performed, and malpractice in the administration of payments to laborers. To minimize these risks, payments to beneficiaries will be made on the basis of actual work performed (i.e., output based). Work output norms and remuneration rates will be explained at the initial community information meetings, posted on the public information boards, and explained again to laborers at the work sites. To reduce the potential for leakage of wages, payments to laborers will not be made in cash but will be directed to the "Amonatbank". The local sub-project monitoring commission, mahalla, and NGO representatives will monitor work progress and verify the entries in the "work-day" record books. These record books are completed in triplicate: 1) for public display in the community, 2) for submission to the PMU in support of payment requests, and 3) to send to the "Amonatbank" as the basis for making payments. The jamoat will not certify and submit records of works accomplished and requests for payment without prior written attestation from the mahalla and NGO representatives that the labor records are correct. In the event of any discrepancy between the records of the PMU and the "Amonatbank", no payment will be made until the discrepancy has been resolved. All problem issues will be addressed to the Steering committee led by the Deputy Prime-Minister.

47. Project staff, consultants, contractors and suppliers found engaging in corrupt practices will be dismissed summarily and the cause for dismissal will be announced publicly. The PMU will then apply legal remedies to recover any damage caused.

48. ***Grievance Reporting and Resolution.*** The project will establish a grievance and complaints reporting system to allow feedback and complaints to reach senior project officials via postal mail, dedicated phone number, fax number, boxes installed in the participating communities and the internet. The public information and awareness NGO will be responsible for handling any grievances received. To protect individuals concerned about possible reprisals (whistleblowers), the NGO will allow information to be submitted anonymously. Information about these procedures will be provided to all participating jamoats, mahallas, communities and NGOs. These procedures will provide a channel for reporting suspected mismanagement, corruption and any other problems during project implementation.

49. All grievances reported will be transmitted from the lead NGO to the PMU, which will review them and determine the most appropriate basis for response. This may be the PMU itself, project staff of regional branch, an ad-hoc committee of jamoat, mahalla and NGO representatives, or in the case of suspected criminal misconduct, the judicial system. All grievances reported and actions taken will be recorded by the PMU, and a summary report listing all grievances and steps taken will be provided to IDA together with the quarterly implementation progress reports.

50. **Governance and Accountability Action Plan:** The following matrix summarizes potential problems to be addressed, key actions to be taken, the time frame within which they should be taken, and the agency responsible for taking action. This action plan is a "living document", to be reviewed and updated periodically based on experience gained during the course of project implementation.

Anticipated problem	Action to be taken	Deadline for Action	Responsible Party
1. Designing project procedures to support accountability and transparency			
Project procedures will not address problems related to transparency and accountability	Ensure that PAMP II implementation procedures are thoroughly explained to all stakeholders, i.e. public awareness agents, officials, local leaders who will widely disseminate all information regarding the project at village level	As of project effectiveness, ongoing through project implementation	PMU
	Based on the 1st year implementation results review the social mobilization and public awareness raising campaign steps	1st month of next year cycle	PMU
	Conduct training on public awareness campaign for staff, public awareness agents	1st month of project effectiveness, ongoing through project implementation	PMU
	Install information boards in participating villages	By sub- project implementation	PMU, NGOs

2. Strengthen preventive actions against improper use of funds/resources			
Sub-projects selected by local authorities are not consistent with criteria established by project	Review all sub-projects against criteria established by project.	Ongoing through project implementation	PMU
Lack of adequate safeguards may cause violation of project procedures	Clearly communicate project rules and procedures to all staff members, consultants, local leaders, WUAs and design tools to guide groups and their leaders	Ongoing through project implementation	PMU
	Empower project staff and beneficiaries to report instances of improper use of resources	Ongoing through project implementation	PMU, WUA
	Strengthen monitoring exercises to track problem areas identified during implementation.	Ongoing through project implementation	PMU
	Establish grievance handling system at the project level	As of project effectiveness	PMU, lead NGO, WUA
	Post project procedures and list of workers on information boards in public areas	Ongoing through project implementation	PMU, NGOs, jamoat heads, mahalla committee leaders
Lack of transparency could create "ghost workers"	Selection criteria of beneficiary households are established; information is disseminated; each participating household completes an acceptance of public offer by hand and signs; community-targeting – mahalla leaders, jamoat heads, representatives of AESPM and NGO verify the data provided by a household by signing; participatory monitoring group check the real output by each participating household; payment is transferred through the "Amonatbank"	Ongoing through project implementation	PMU, NGOs, jamoat heads, mahalla committee leaders
3. Strengthen Project Procurement Management System			
Weak procurement system could result in mismanagement of bidding and spending of funds	Project should have a transparent procurement policy based on established best practices and strict compliance with agreed Bank procedures	Upon project effectiveness, and ongoing	PMU
	Clear eligibility criteria for bidders and product quality needs will be standardized in the project procurement manual	Procurement section of Project Operational Manual will be finalized by project effectiveness	PMU

	Individuals involved in project management, including procurement, and tender or evaluation committees, must confirm that they have no conflicts of interest, i.e., relationships with suppliers, consultants, or government officials, etc. PMU establishes mechanisms to ensure payments to suppliers and contractors are made according to their contract terms, without delays. PMU notifies the Bank of every complaint received from suppliers or consultants relating to the procurement process; record and deal with these complaints promptly and diligently. PMU maintains up-to-date procurement records and make these available to the Bank staff, auditors.	Ongoing through project implementation	PMU
4. Strengthen Project Financial Management System			
It may be difficult to ensure transparency and accountability in financial transactions	The financial management manual should be in place to ensure that funds are used only for the intended purposes in an efficient and economical way as per budget approvals	Financial section of Project Operational Manual will be finalized by project effectiveness	PMU
	Regular financial audits to be conducted	Annually starting one year after project effectiveness	PMU, Regional Branch of the PMU
	Sign a General Agreement with the "Amonatbank"	1 month following project effectiveness	PMU
	Project review missions to review FM and procurement progress and inquire about any identified instances of misuse of funds/resources and how they have been addressed	Twice yearly during supervision missions	PMU, World Bank
	Provide "Amonatbank" with the lists of public works participants and their wages in electronic form in addition to hard copies	Through project implementation	PMU
	Feedback received from participatory monitoring exercises	Quarterly starting 6 months after	PMU

	should be incorporated in the project reviews at quarterly intervals	effectiveness	
5. Strengthen Systems and Procedures for Project Management			
Weak implementation arrangements may adversely affect project procedures and results	Train project staff on project procedures	Ongoing through project implementation	PMU
	Strengthen multi-stakeholder coordination arrangements including governmental departments, local administration, and financial institutions at state and district level	Ongoing through project implementation	PMU

Environmental and Social (including safeguards)

51. ***Project activities with potential environmental and social impacts.*** The main environmental and social issues are associated with component I, the on-farm rehabilitation of irrigation and drainage infrastructure and emergency flood protection works.

52. ***Environmental Impacts.*** Although most of the proposed works are fairly small scale and will be done manually, they could generate adverse environmental impacts such as: water and air pollution; noise, soil erosion; dumping of excavated sediments and other materials from irrigation and drainage channels, structures; occupational hazards, etc. At the same time, the project will bring several positive impacts, including reduction in water logging, salinization and water losses as well as improved irrigation distribution and reduction in seepage losses from main canal and over-supply of irrigation.

53. ***Social Impacts.*** No adverse social impacts are expected. The project does not require involuntary resettlement or involve indigenous people. Tajikistan's child labor laws are consistent with international conventions on child labor. Project staff will raise awareness of these regulations, and national legislation on labor safety, to ensure that they are respected. Compliance with these regulations will be monitored during the supervision of public works. Further, longer-term benefits include long term health benefits: a lower water table, lower risk of salinization, and less stagnant water in the villages with fewer consequent health problems. Social benefits also include employment creation, increased crop production and improved food security.

54. ***Triggered WB Ops.*** WB OP 4.01 is triggered as the project will support a series of activities that generate some environmental and social impacts. As the project area covers an irrigation network that draws water from the Amu Darya River and then flows into the Aral Sea, the project triggers also World Bank OP 7.50 on International Waterways. The proposed investments under the project are only for renovation of irrigation canals and improvements of drainage infrastructure along with the renovation of pumping stations and repairing the flood canal in Kulyab city, which are not expected to change the volume of extraction/discharge water or quality of water of these rivers. Instead it will lead to more effective irrigation and drainage of the water. Based on this an exemption from the Bank has been obtained with regard to exception on the notification requirement under Paragraph 7(a) of the Policy. WB OP 4.09 on Pest Management is not triggered, as the project activities will not support purchasing and/or usage of pesticides. Furthermore, based on previous experience in the region, the improved irrigation infrastructure will not lead to changes in crop production that would require usage

of more pesticides. The main crop will remain cotton with a limited application of pesticides due to their high costs. However, the project in view of longer term considerations and changes in demand and supply trends will allocate resources within its public outreach campaign to carry out information dissemination activities in support to Integrated Pest Management in the project area. The project will also not trigger OPs on Forests, Physical Cultural Resources or on Natural Habitats, as all proposed activities will be implemented within the existing irrigation areas. Lastly, the project activities will not trigger the Involuntary Resettlement OP/BP 4.12. All activities will be done within existing irrigated areas and so there will be no land acquisition and/or other resettlement issues. Furthermore, experience from the original project shows that there will be no need for cutting fruit trees that belong to private farmers.

55. ***Project category.*** In accordance with the Bank's safeguard policies and procedures, including OP/BP/GP 4.01 Environmental Assessment, the project relates to the Bank's B Category. For such projects it is necessary to conduct an Environmental Assessment and to prepare a site specific Environmental Management Plan. Taking into account that the proposed rehabilitation activities would be similar for all irrigation schemes and drainage networks to be included in the project, it is proposed to prepare a Generic Environmental Management Plan (GEMP). Such GEMP was prepared for the initial project and will be used for the repeater project. Based on the GEMP there will be prepared site-specific EMPs, taking into account the concrete conditions of the selected irrigation scheme and/or drainage network as well as for the pumping stations and flood canal in Kulyab city repairing, after the detailed design of each sub-project will be done.

56. ***Measures to address safeguards policy issues.*** A Generic Environmental Management Plan (GEMP) used for the original PAMP project was updated and will be used for the repeater project. The purpose of the GEMP is to: present World Bank and national rules and procedures for site specific Environmental Impact Assessments (EIAs), to identify potential environmental impacts of the project (both positive and negative), to specify appropriate preventive actions and mitigation measures (including appropriate monitoring scheme), and to prevent, eliminate or minimize any anticipated adverse environmental and social impacts. Based on this updated GEMP the borrower will prepare site-specific EMPs for each selected irrigation scheme, which will be publicly displayed in the participating districts. The GEMP ensures that the proposed prevention/mitigation measures and monitoring activities identified during the subprojects EA will be properly undertaken during the project implementation. The GEMP includes the following: (a) short description of applicable laws, policies on environment procedures for EA as well as EA institutions and responsibilities; (b) Environmental Guidelines (EG) specifying: (i) potential environmental and social impacts of the rehabilitation of irrigation canals, improvements of drainage infrastructure activities; (ii) proposed mitigation and monitoring measures to be applied during the project implementation; (iii) description of the EMP Checklist that will be applied for activities related to pumping stations and flood channel repairing; (c) description of implementing arrangements, including supervision and monitoring, as well as reporting; and (d) analysis of the EA institutional capacity of the implementing agencies along with the proposed technical assistance to adequately implement the EA requirements for the subprojects to be supported. The GEMP also specifies necessary steps for preparing site-specific EMP of the selected Irrigation Schemes and/or of the Drainage Canals as well as for EMP Checklist for mentioned above activities. Furthermore, it specifies the project will support only rehabilitation of the on farm irrigation infrastructure and of the flood channel in Kulyab city when land acquisition is not necessary and there are no any resettlement issues.

57. ***EA capacity building and public outreach campaign.*** In order to ensure proper implementation of the various environmental activities (preventive actions/mitigation measures, monitoring and evaluation) recommended in the EMPs, the project will continue supporting the necessary institutional strengthening in the Khatlon Oblast and DRS branches of CEP and MAWRM on environmental management. This institutional strengthening will comprise the delivery of training and development of essential public outreach and awareness campaigns. A training program to develop and expand professional skills and capacity in environmental management issues for staff involved in project implementation will be organized under the project through the PMU. The training program will reinforce existing capacity within the regional branches of CEP (and district-level staff) by providing specialized training to enhance environmental assessment, management and monitoring skills and practices. The project will organize a community outreach and public awareness campaign on environmental management issues with special attention given to preventing water and soil pollution, and labor safety measures in conducting civil works. For this purpose the project will hire an environmental NGO with relevant experience in conducting capacity building and information dissemination activities.

58. ***EA Institutional capacities to perform environmental safeguards.*** The overall management responsibility for the project will rest with the MAWRM, the administration of Khatlon region and selected DRS. The Fergana Water Resource Management Project Management Unit (PMU) will be the leading operational institution for the implementation of the proposed project and carry out all project implementation in accordance with the Project Operational Manual (POM). The PMU also will ensure that the EMP provisions are fully integrated into implementation of the project, including monitoring

and reporting required by the World Bank. Proper implementation of the EMP provisions and field monitoring are the main responsibilities of the regional branch of the PMU at the region level. Contractors will be responsible for implementation of the rehabilitation works in accordance with environmental requirements specified in the bidding documents and the EMP. The regional branch of the PMU will work closely with CEP in implementing the EMPs. The existing PMU has previous experience in dealing with safeguards issues as it implemented several WB projects including the first project. The WB supervision missions done in May and November 2011 show the EMPs implementation is at satisfactory level. The main safeguards responsibilities within the initial project were assigned to the PMU, which conducted site inspections prior to, and during the rehabilitation activities to ensure compliance with the contract conditions and the EMP. The supervision and monitoring of proper implementation of the measures required by the EMP was the responsibility of the regional branch of the PMU. The regional branch of the PMU conducted regular site visits to verify that the appropriate environmental preventive actions and/or mitigation measures had been implemented. Such environmental monitoring included observations of soil and water within and around the rehabilitation sites as well as of potential impacts on vegetation and on workers safety. Furthermore, in these supervision and monitoring activities have been involved also the local Ecological Inspectors. The status of compliance with agreed environmental preventive and mitigation measures was periodically reported by the regional branch of the PMU to their main office in Dushanbe, which included them in their regular reports on project implementation.

59. ***GEMP disclosure and consultation.*** The Project Management Unit (PMU) has disseminated the updated GEMP to the Ministry of Amelioration and Water Resources (MAWR), Ministry of Agriculture, Committee for Environmental Protection under the Government of Tajikistan, and other relevant ministries for their review and comments. In addition, on July 30, 2012, the document was posted on websites of the CAREC (www.carecnet.org) for access to the wider public. On August 3, 2012, the PMU organized a consultation on the draft document. After this consultation, the document was revised to consider inputs from consulted parties. On August 30, 2012 the final draft GEMP was posted on the website of the MAWRM and subsequently disclosed in the Infoshop.

Monitoring & Evaluation

60. The monitoring and evaluation system has been designed to measure and report on the GAFSP indicators, core World Bank indicators and intermediate indicators detailed in Annex I. It also facilitates ready access to the information required for monitoring project progress, and so the capacity to identify and address any problems with project implementation. A full time M&E specialist will be hired by the PMU, who will be trained by an international M&E expert at the beginning of the project. The international M&E specialist will also assist the project M&E specialist to design a computer-based Project Monitoring Information System (PMIS) to generate reporting templates that provide project information quickly and easily. These simple analyses will be used by the PMU to monitor project progress and as an input into the quarterly and six monthly M&E reports. Aggregate data on socio-economic indicators will also be provided to the Agency for Employment, Social Protection and Migration upon completion of the project.

61. The local NGOs employed by the project will be responsible for collating and reporting all relevant information on the manual works activities to the regional office of the PMU, who will review it and send it to the PMU on a monthly basis. Progress with mechanized and civil works, including the flood control works, and support to WUAs will be monitored by the regional office and reported to the

PMU on a quarterly basis. The PMU will monitor progress on all other aspects of the project directly, and be responsible for preparing and submitting quarterly and six monthly reports on all activities to GAFSP and the World Bank. Reporting for GAFSP will comply with the standardized formats required by GAFSP.

62. All participants in the manual works will be required to complete a simple data sheet when they contract for this work, which will record the following information: name, identity card number, age, sex, whether or not they are registered as unemployed, the sex of the household head in their household; the number of cattle owned by their household; the number of children under five years old in their household; the total number of people in their household; and whether or not there are members of the household living abroad and sending remittances to the family. This information will be computerized by the PMU and held in a protected data-base, as the basis for determining the vulnerability and food security status of public works beneficiaries.

63. Subsequent monitoring of manual works activities will be based on the completion of daily work sheets for each site by local supervisors, which will record the name, identity card number and volume of earth extracted for each worker. This information will be used to determine the amount of compensation to be paid to each worker and as a data source for monitoring and evaluation. The local NGOs will computerize this information and send it to the regional branch of the PMU on a monthly basis. After review by the regional branch of the PMU it will be sent to the M&E specialist who will link it with the data base on beneficiary characteristics to produce a standardized report on: the volume of earth extracted, the equivalent number of person/days of work, the number of beneficiaries and the payments made to beneficiaries disaggregated by vulnerability and food security status of beneficiaries. The calculation of days worked will be derived from the reported volume of earth excavated and an "average" work rate of 1.8 m^3/day (as discerned for PAMP I).

64. The regional branch of the PMU will also obtain the following information as the basis for monitoring and evaluation of other district level activities: (i) the area of irrigated land improved by manual and mechanized work for the selected irrigation schemes; (ii) the number of beneficiaries benefitting from these improvements, including the number of female beneficiaries; (iii) the number of new WUAs established; (iv) the number of existing WUAs supported; (v) the mechanized excavation work completed; (vi) the civil works completed; and (vii) the flood control works completed. This information will be reported to the PMU on a six monthly basis. As a means to monitor the impact of rehabilitation works on crop production, the regional branch of the PMU will also collect annual jamoat level crop production data (areas and yields for all crops) for all project and non-project jamoats in each project district. Project support for policy, legislative and institutional reform and the introduction of IWRM; and training activities will be monitored by the PMU and reported on a half yearly basis.

65. The Project Monitoring Information System (PMIS) is intended to store information essential to the effective planning, organizing, directing and supervising the project implementation. The PMIS will be designed to keep counterparts and stakeholders informed about the project status and establish a platform for different types of users to access the data and generate reports as needed. Functionality and access to level of data will be limited and determined by learning the user needs. In addition, project support will be provided for the acquisition of office equipment and software, necessary for carrying out the M&E activities.

66. As required by GAFSP, the project's impact on food security will be measured on the basis of two required indicators: the household income of direct beneficiaries, and the proportion of the target population below the minimum level of dietary energy consumption. These two indicators will be measured in a baseline survey during the first year of the project and three months prior to project closing. An external agency will be employed to implement the end of project survey and associated impact analysis.

67. The project will closely collaborate with the World Bank three-year grant focused on partnering with entities other than the executive branch of government to promote accountability in implementation of project interventions and reforms. The initiative is intended to deepen engagement with civil society and government by creating opportunities for cooperation and partnership. The project baseline survey will be designed and implemented under the umbrella of this initiative to provide accurate and transparent baseline information to the stakeholders. An international expert on M&E will develop the ToR, methodology and questionnaire for baseline data collection for all indicators. Within the first 3 months of project implementation a local or national NGO will be selected on a competitive basis and trained by the M&E expert to work with the PMU to administer the questionnaire and collect the information.

Role of Partners

68. The project will collaborate with the USAID Family Farming Program (FFP) on WUA development. USAID has extensive experience with WUA development in Tajikistan and has developed an effective approach that is widely used by other donors. This approach is based on small grants to selected WUAs to finance limited improvements to irrigation and drainage infrastructure, accompanied by intensive training and capacity building to enable the new WUAs to operate independently. Where feasible this is followed by support to establish WUA Federations to further improve the efficiency of water delivery and water use.

69. The Family Farming Program, which runs from October 2011 to October 2014, is a broad-based program to support small-scale private farms in Khatlon, including a component to support WUA development. Of the 12 districts in which FFP is operating, seven overlap with the PAMP II project. Both projects have the same criteria for the selection of irrigation schemes for support (as described in Annex 2), and the same approach to WUA development.

70. Based on this approach, agreement has been reached to work together in order to increase the overall number of WUAs developed in the seven common districts. Within these districts PAMP II will take responsibility for the rehabilitation of irrigation and drainage infrastructure through the public works program, and FFP will be responsible for the establishment of new WUAs. As a result of this collaboration, 42 new WUAs will be established by FFP and 20 by PAMP II. The cost savings for PAMP II will allow it to provide support for 33 further, existing WUAs in the Kafernigan basin[10] to strengthen their links with the Mirobs and the new river basin organization to be established in this basin under Component II. The project will also benefit from FFP's assistance with the training of staff to implement WUA development.

[10] Including 13 WUAs in Rudaki and 20 WUAs in the Shartuz and Qabodiyon districts that were supported by the original PAMP project.

District	USAID New WUA Development	PAMP II New WUA Development	PAMP II Support to existing WUAs
Vose		6	
Nosiri Khusrav	2		
Jomi	8		
Rudaki			13
Hissar		6	
Khuroson	4		
Bokhtar	12		
Hamadoni		8	
Yovon	6		
Rumi	6		
Jilikul	4		
PAMP districts			20
Total	**42**	**20**	**33**

71. An appropriate basis for formalizing this collaboration will be defined prior to project start-up.

Annex 4

Operational Risk Assessment Framework (ORAF)

TAJIKISTAN SECOND PUBLIC EMPLOYMENT FOR SUSTAINABLE AGRICULTURE AND WATER RESOURCES MANAGEMENT PROJECT (P133327)

<table>
<tr><td colspan="7">Project Stakeholder Risks</td></tr>
<tr><td>Stakeholder Risk</td><td>Rating</td><td colspan="5">Substantial</td></tr>
<tr><td rowspan="3">Description:

Borrower: Vested interests within the existing national and local government institutions responsible for water management may slow the policy and institutional reforms required for integrated water resource management. This would impede the project’s ability to support policy and institutional reform at national and river basin level and to strengthen the role of WUAs in water resource management.

Donors: Various donors, with differing views, are working with government to reform the water sector. There is thus a risk of disagreement on critical aspects of reform among donors, and inadequate government ownership of the reform process.

Beneficiaries: There is a risk of setting an inappropriate wage rate for beneficiaries of the public works program. A wage set too low would not attract sufficient beneficiaries, while a wage set too high would encourage higher income people to participate at the expense of low-income people and distort local labor markets.</td><td colspan="6">Risk Management:

Borrower: Government has recently drafted legislation to separate policy and operations for water resource management, showing its commitment to reform and its willingness to address this issue. The Deputy Prime Minister, who will lead these initial reforms, aims to complete them by early 2013. The project will assist government to effect the institutional transformation associated with these reforms.

Donors: The project will encourage and support consensus building among donors on the approach to reform, and facilitate government leadership of the reform process through its technical assistance to the MAWRM or its successor.

Beneficiaries: A piece work rate for the public works program was set during project preparation, based on: information on current rural wage rates from the social assessment, the experience obtained in the original PAMP, and discussions with the Ministry of Labor and Social Protection. The equivalent wage rate is at the lower end of current wage scale for unskilled labor in rural areas, consistent with the experience of public works programs implemented elsewhere by the Bank. With seasonal unemployment rates of around 50% in the project areas there is unlikely to be low demand for work or displacement of labor, as evidenced by the very high demand for work in the original PAMP.</td></tr>
<tr><td>Resp:</td><td>Status:</td><td>Stage:</td><td>Recurrent:</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td>Both</td><td>In Progress</td><td>Both</td><td>☐</td><td>28-Feb-2018</td><td></td></tr>
<tr><td colspan="7">Implementing Agency (IA) Risks (including Fiduciary Risks)</td></tr>
<tr><td>Capacity</td><td>Rating</td><td colspan="5">Substantial</td></tr>
<tr><td>Description:</td><td colspan="6">Risk Management:</td></tr>
</table>

PMU Capacity: The PMU may not have the capacity to implement a much larger project than original PAMP, particularly following the recent loss of the PMU Director. There is a risk that the PMU will face the same problem of delays in processing payments to beneficiaries of the public works program and the processing of mechanical works contracts that occurred in PAMP I, due to the bureaucratic procedures required by the Bank and GoT.	The repeater project has the same structure and components as the original project and the PMU delivered these components effectively in the original PAMP. The project budget has been increased for PAMP II and additional staff will be hired to ensure that it has the capacity for a larger project, particularly for finance, procurement and M&E. Additional training will further strengthen procurement, M&E, and project administration. A longer time frame will also facilitate more measured project implementation, with three districts per year for the public works component rather than five in the original project. Government has agreed to give priority to appointment of a new PMU Director. Administrative procedures and the Project Operational Manual were reviewed and updated during project preparation to incorporate the lessons learned from the original PAMP to ensure timely processing of beneficiary payments and bids and acceptance of mechanical works.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	In Progress	Both	☐	28-Feb-2018	
Governance	**Rating**	**Moderate**				
Description: Accountability and Oversight: Given the large number of stakeholders involved in the project, the PMU may have difficulty satisfying the requirements and expectations of all of them, leading to tensions in project implementation and coordination. The banking system in Tajikistan may lack the capacity to make timely payments to public works beneficiaries due to the large scale of the program, and the lack of branches in some of the project districts. The recent loss of the PMU Director may weaken the PMUs capacity for leadership and governance.	**Risk Management:** The project will work closely with all stakeholders and parties involved in the implementation of components I and II, to ensure effective communication and coordination. The Project Operational Manual will describe in detail the responsibilities of all parties involved in project implementation and the oversight and accountability required at national, regional and jamoat level. Adequate provision will be made for project oversight in the budget and staffing of the PMU. The bank contracted to provide this service for the original project performed adequately and will be contracted again for PAMP II. The public works program will also be implemented over 5 years rather than one year, reducing the need to make a high volume of payments in a short time. Government will appoint a new PMU Director as soon as possible. His/Her assumption of responsibilities will be facilitated by the support of existing PMU staff from the original project, plus close support from the in-country TTL.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Client	In Progress	Implementation	☐	28-Feb-2018	

	Risk Management: A comprehensive anti-corruption strategy has been developed, based on the experience of governance issues in the original project. This strategy will be used in the repeater project to minimize the risk of fraud and corruption. The strategy emphasizes strong public awareness programs, transparent selection procedures, close oversight by independent local NGOs, detailed procurement procedures, effective record-keeping of labor payments and an "anonymous" grievance and complaints procedure. The Bank team will regularly supervise implementation of project activities and advise the PMU and other concerned parties of the required procedures.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Client	Not Yet Due	Implementation	☐	28-Feb-2018	
Project Risks						
Design	**Rating**	**Moderate**				
Description: There is a risk that the payment rate for public works beneficiaries will be either too low to attract food-insecure households or too high and so attract higher income households. Design Flexibility: Government has yet to formulate a strategy for implementationof its newly announced water sector reform program, creating uncertainty as to how the project should support the initial stages of reform. There is a risk that in some districts District level water administration departments will resist independent decision making by WUAs.	**Risk Management:** A revised approach to beneficiary selection and the setting of payment rates has been developed during project preparation, based on the experience from the original PAMP. An international expert will be appointed to assist government with the early stages of reform. A portion of the short-term technical assistance has also been left open-ended to give the project flexibility to respond to government requests for support on an as-needed basis. The pre-conditions for selection of sub-projects for rehabilitation include the presence of a well-functioning WUA. In the districts where there are no WUAs, the project will establish them prior to launching the public works program. Support will also include capacity building for WUA Federations to further strengthen the role of WUAs.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Client	In Progress	Both	☐	28-Feb-2018	
Social and Environmental	**Rating**	**Low**				
Description: There is a risk that project activities will generate minimal	**Risk Management:** A Generic Environmental Management Plan has been prepared, which will be the basis for site-					

environmental impacts. There is a risk of low female participation in the public works program due to practical and cultural constraints. There is a risk that child labor will be used for the public works component.	specific environmental management plans (EMPs) for each irrigation scheme, pumping stations and other works under the project. The PMU will use the EMPs to monitor the project's environmental impact, which is expected to be minimal. Based on the experience of the original project (PAMP), project design has been modified to enhance female participation in public works through: selecting households rather than individuals, helping women to get valid ID certificates and providing working conditions that are more suitable for women. Tajikistan's child labor laws are consistent with international conventions on child labor. Awareness of these laws will be raised during project publicity campaigns and compliance will be monitored by the PMU and Bank team during supervision of the public works.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	In Progress	Both	☐	28-Feb-2018	
Program and Donor	**Rating**	**Moderate**				
Description: There are numerous donors involved in the reform of water resource management, with differing perceptions of the best approach to reform, thus there is a risk that reform efforts could be delayed or confused by donor disagreements. Project collaboration with the USAID Family Farming Program on WUA development creates the potential for differing views on how WUA development should be implemented.	**Risk Management:** The project will encourage and support consensus building among donors on the approach to reform, and facilitate government leadership of the reform process through its technical assistance to the MAWRM and it successor. The project team worked with USAID during project preparation to agree on the approach to WUA development. A memorandum of understanding has been drafted to formalize this agreement.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Bank	In Progress	Both	☐	28-Feb-2018	
Delivery Monitoring and Sustainability	**Rating**	**Moderate**				
Description: There is a risk that farmers will not take responsibility for future maintenance of the irrigation and drainage infrastructure after project completion. There is a risk that the scale of the public works	**Risk Management:** Sustainable follow on of the maintenance required for irrigation and drainage infrastructure depends heavily on WUA effectiveness. The project thus places a high emphasis on support for WUA development and will only rehabilitate sub-projects that have an operational WUA. The selection of districts where reform is well advanced also increases farmer incentives to continue maintenance and contributes further to sustainability.					

component will compromise the ability to ensure effective M&E of this program.	Based on the experience of the original PAMP a more efficient M&E system has been designed, with more dedicated staff in the PMU, more stream-lined data sources, a more efficient data entry process and a computerized reporting system that will be integrated into project financial administration to facilitate decision making process. The Project Monitoring Information System will be strengthened further to reflect the increased scale of the public works component and process data on all beneficiaries.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Client	In Progress	Both	☐	28-Feb-2018	
Other (Optional)	**Rating**					
Description:	**Risk Management:**					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
				☐		
Other (Optional)	**Rating**					
Description:	**Risk Management:**					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
				☐		

Overall Risk

Implementation Risk Rating:	**Moderate**

Comments:

Implementing agency risks were assessed as moderate based on the PMU's demonstrated ability to deliver the original project under difficult conditions, the increased resources of the PMU for the repeater project and the longer (5 year) time frame for project implementation. The sudden, recent loss of the PMU Director has raised this risk somewhat until the new PMU Director is appointed, but the PMU's existing experience and capacity, the continued support of the in-country TTL and Government's agreement to appoint a new Director in a timely manner to some extent lower these concerns. The PMU's capacity will be strengthened by increased financial and human resources to handle the increased size of the project and improved disbursement procedures in response to lessons learned during the original project. Governance procedures have also been substantially strengthened in line with the Bank's broader aim to improve governance at all levels of society, although no significant governance problems were encountered in the original project.

Annex 5: Implementation Support Plan

REPUBLIC OF TAJIKISTAN: PUBLIC EMPLOYMENT FOR SUSTAINABLE AGRICULTURE AND WATER MANAGEMENT PROJECT II

Strategy and Approach for Implementation Support

1. Successful project implementation will require continuous, broad-based supervision and the capacity to identify and respond to potential problems as they emerge. The country-based TTL is in a strong position to provide this kind of supervision. The experience gained in the original project, by both the TTL and the PMU, further strengthen the capacity for project implementation. Stakeholder risks such as vested interests in the reform process and inadequate coherence between donors and government on the approach to reform are best managed through on-going stakeholder consultation; and this consultation is more easily facilitated by those in close proximity. The operational problems of setting up and managing a large-scale public works program are also more easily addressed by experienced people in close proximity to project operations.

2. ***Procurement.*** The Bank will provide implementation support to the client through a combination of prior and post reviews. A dedicated country-based procurement specialist will work with clients on a daily basis in the first year to ensure clients understand the Bank's procurement guidelines early during Project implementation. Implementation support missions will be geared towards: (a) providing training to relevant staff of implementing agencies; (b) reviewing procurement documents; (c) providing detailed guidance on the Bank's Procurement Guidelines; and (d) monitoring procurement progress against the detailed Procurement Plan.

3. ***Financial management.*** The Bank will provide risk-based implementation support, initially every six months during the first year, and this will be reviewed during the subsequent years, based on assessment of risks and the status of the financial management arrangements. During the implementation support missions, the project FM specialist based in the Dushanbe country office will review the FM systems for continued adequacy, evaluating the quality of the budgets and implementing agencies' adherence thereto, reviewing the IFRs and/or annual Financial Statements, compliance with relevant manuals including Financial Policies and Operations manuals and follow up on both internal and external audit reports.

4. ***Environmental and Social Safeguards.*** The Bank safeguards team of social and environmental specialists will draw on their experience with the original project to supervise the implementation of GEMPs for each district; and guide the PMU, its regional branch and local NGOs in applying these safeguards.

Implementation Support Plan

1. Formal supervision and field visits will be carried out semi-annually. The expected focus of supervision is outlined below:

2. ***Technical:*** The supervision team will review progress with the public works program and flood control activities in component I, and the reform of water resource management in component II. Key areas of interest will include: the effectiveness of procedures for selecting sub-projects and beneficiaries; the level of participation in public works, particularly by vulnerable groups; progress

with policy, legislative and institutional reform; and progress with WUA development. Supervision will focus on determining progress towards the PDOs and intermediate indicators, based on M&E reports and field visits, and an assessment of the reasons for any departure from these targets. The supervision team will include specialists in the fields of irrigation and water engineering and water resource management.

3. ***Fiduciary Requirements and Inputs:*** The team financial management and procurement specialists will train project staff before project implementation begins, based on their assessment of the need for capacity building. The twice yearly implementation support missions will include an annual post review of procurement activities by the procurement specialist. Financial management will be supervised using a risk-based approach, with the focus on assessing how well the financial management system operates. It will include, inter alia, the review of audit reports and interim (unaudited) financial reports, annual audited financial statements and management letters. On the basis of these reviews the supervision team will advise staff as needed.

4. ***Safeguards:*** The project's social and environmental impacts are limited and there is an adequate capacity to manage these impacts, based on the application of measures developed in the original project. The emphasis will thus be on reviewing governance and anti-corruption problems and the effectiveness of the measures employed to address these issues.

5. ***Operation:*** The TTL will keep GoT and the Bank informed of the status of project implementation, based on the findings of supervision missions. The strengthened M&E system will greatly facilitate this coordination and communication by providing more accurate and detailed information, not only for management purposes but also to satisfy the GAFSP reporting requirements. The Implementation Support Plan (ISP) will be reviewed and updated annually on the basis of the findings of the supervision missions.

6. The main areas of emphasis in terms of support to implementation will be:

Time	Focus	Skills	Resource Estimate	Partner Role
First 12 months	Project start-up, stakeholder seminar, appointment of staff to PMU and it regional branch, procure TA for component II, Procure necessary goods and equipment, publicity and community awareness programs, set up and implement beneficiary selection process, initiate public works program, initiate	FM training and supervision	FM spec 2 SWs	Ensure that project start-up activities are implemented as planned, Establish new Water User Associations in agreed project districts
		PR training and supervision	PR spec 2 SWs	
		Env training and supervision	Env spec 1 SW	
		Social safeguards training and supervision	Soc Safeguards spec 1 SW	
		M&E training and supervision	M&E spec 1 SW	
		Communication training and supervision	Comm specialist 1 SW	
		Water Sector Reform supervision	Water Resource Management Spec 1 SW	
		Water	Water Engineer 5	

	support for policy and institutional reform, baseline survey and associated analysis	Engineering supervision	SWs	
		Baseline Survey supervision	Economist 2 SWs	
		Project implementation support, coordination supervision	TTL/Operations Analyst and consultants 10 SWs	
12-36 months	Ensure that project implementation is rated satisfactory in terms of PDO, organize and implement mid-term review, ensure that lessons learned from mid-term review are operationalized.	FM supervision	FM spec 4 SWs	Participate in review of implementation progress, Ensure that project implementation is on track, Establish new Water User Associations in agreed project districts
		PR supervision	PR spec 3 SW	
		Env supervision	Env spec 2 SWs	
		M&E supervision	M&E spec 1 SW	
		Social safeguards supervision	Soc Safeguards spec 2 SWs	
		Communication supervision	Comm specialist 1 SW	
		Water Sector Reform supervision	Water Resource Management Spec 1 SW	
		Water Engineering supervision	Water Engineer 8 SWs	
		Project implementation support, coordination supervision	TTL/Operations Analyst and consultants 16 SWs	
36-60 months	Ensure that project implementation is rated satisfactory in terms of PDO, implement recommendations of mid-term review.	FM supervision	FM spec 4 SWs	Ensure that project implementation proceeds as planned, Establish new Water User Associations in agreed project districts
		PR supervision	PR spec 2 SWs	
		Env supervision	Env spec 2 SWs	
		M&E supervision	M&E spec 1 SW	
		Social safeguards supervision	Soc Safeguards spec 1 SW	
		Water Sector Reform supervision	Water Resource Management Spec 2 SWs	
		Water Engineering supervision	Water Engineer 8 SWs	
		Project implementation support, coordination supervision	TTL/Operations Analyst and consultants 15 SWs	

II. Skills Mix Required

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
TTL	2 SW annually	Field trips as required	Tajikistan based
Operations Analysts	4 SW annually	Field trips as required	Tajikistan based
PR Specialist	1-2 SW annually	Field trips as required	Staff & Consultants
FM Specialist	2 SW annually	Field trips as required	Staff & Consultants
Env Safeguards specialist	1 SW annually	Field trips as required	Staff
M&E specialist	2 SW	Field trips as required	Consultant
Social Safeguards specialist	1 SW annually	Field trips as required	Staff
Communications specialist	2 SW	Field trips as required	Consultant
Water engineering specialist	4-5 SW annually	Field trips as required	Consultants
Water Resource Management specialist	1 SW annually	Field trips as required	Staff
Agricultural Economist	2-3 SW annually	Field trips required	Staff & Consultants

III. Partners

Name	Institution/Country	Role
GoT-MAWRM	Tajikistan	Agency responsible for project implementation
USAID – Family Farming Program	USAID Country Office, Dushanbe	Responsible for WUA development in selected project districts

Annex 6: Team Composition

REPUBLIC OF TAJIKISTAN: PUBLIC EMPLOYMENT FOR SUSTAINABLE AGRICULTURE AND WATER MANAGEMENT PROJECT II

World Bank staff and consultants worked on the project

Name	Title	Unit
Arcadie Capcelea	Environmental Specialist	ECSSD
Askar Satybekov	Procurement Specialist, Consultant	ECSSD
Adam Shayne	Lead Counsel	LEGLE
Bobojon Yatimov	TTL, Senior Rural Development Specialist	ECSSD
Darman Alibaev	Irrigation Specialist, Consultant	ECSSD
Dilshod Karimova	Procurement Specialist	ECSPS
Dinara Doishenkul Kyzy	Financial Management Specialist, Consultant	ECSSD
Elmira Ibraimova	Public Sector Specialist, Consultant	ECSSD
Farzona Mukhitdinova	Operations Analyst	ECSSD
Firuz Saidov	Local Social Development Specialist	ECSSD
Garry Christensen	Economist, Consultant	ECSSD
Ijsbrand de Jong	Senior Water Resources Specialist	ECSSD
Jeren Kabayeva	Operations Analyst	ECSSD
Joseph Paul Formoso	Senior Finance Officer	CTRLA
Jovidon Aliev	Local Economist, Consultant	ECSSD
Lola Ibragimova	Social Development Specialist	ECSSD
Malika Babadjanova	Local Environment Specialist, Consultant	ECSSD
Michael Sandoz	Irrigation Specialist, Consultant	ECSSD
Murodali Safarov	Rural Livelihoods Specialist, Consultant	ECSSD
Rimma Dankova	Water Resource Management Specialist, Consultant	ECSSD
Rustam Babadjanov	Public Sector Specialist, Consultant	ECSSD
Shodi Nazarov	Financial Management Analyst	ECSPS
Svetlana Sharipova	International Social Development Specialist, Consultant	ECSSD
Usaid El-Hanbali	Irrigation Specialist, Consultant	ECSSD
Peer Reviewers		
Robert Townsend	Senior Economist	ARD
Winston Yu	Senior Water Resource Specialist	ECSSD

Annex 7: Financial and Economic Analysis

Context for Analysis

1. The combination of land reform and freedom to farm has had a major impact on crop production in Tajikistan, as shown by the trends for Khatlon since 2005. There has been a dramatic shift from cotton to cereals and vegetable crops, dominated by a switch from cotton to wheat. Cotton remains the major cash crop, but its importance will fluctuate from year to year in future in response to the underlying volatility of international cotton prices and the impact this has on absolute and relative prices. Crop yields have also increased in response to reform, although this may largely reflect the improvement in farmer incentives given that access to irrigation and farm inputs have yet to improve substantially. These constraints mean that yields remain very low, in both absolute terms and relative to other Central Asian countries.

Trends in Crop Production - Khatlon					
	2005	**2008**	**2009**	**2010**	**% Change**
	Area (ha)				
Wheat	180,410	195,572	211,090	205,137	13.7%
Cotton	177,036	152,827	108,261	100,598	-43.2%
Other Cereals	17,890	24,233	26,100	26,368	47.4%
Potatoes	6,937	6,703	8,328	8,621	24.3%
Vegetables	12,644	15,152	18,414	20,442	61.7%
Melon	6,564	8,304	13,534	15,152	130.8%
Fodder Crops	35,682	35,644	41,914	41,075	14.1%
Total Cult Area	447,394	450,824	439,679	430,541	-3.8%
Production (mt)					
Wheat	364,407	439,368	597,059	580,047	59.2%
Cotton	240,884	241,133	197,860	202,027	-16.1%
Other Cereals	Na	147,011	176,946	200,047	Na
Potatoes	129,071	156,716	197,020	209,665	62.4%
Vegetables	240,472	358,937	461,914	533,887	122.0%
Melon	137,019	240,348	360,533	409,871	199.1%
Yield (mt/ha)					
Wheat	2.02	2.25	2.83	2.83	40.0%
Cotton	1.36	1.58	1.83	2.01	47.6%
Other Cereals	Na	6.07	6.78	7.59	Na
Potatoes	18.61	23.38	23.66	24.32	30.7%
Vegetables	19.02	23.69	25.08	26.12	37.3%
Melon	20.87	28.94	26.64	27.05	29.6%

Source: State Land Committee

2. Given the scarcity of arable land in Tajikistan, continued increases in crop production will be driven by further increases in yield. Better access to irrigation is the immediate constraint in this context as Tajikistan's climate is not conducive to high yields under dry land production. Once irrigation is assured, there is considerable potential for further increases in yield in response to increased use of fertiliser and improved seed. The combined impact of the PAMP II project and the forthcoming agricultural competitiveness project on crop yields is thus potentially very high.

Analysis

3. Financial and economic analysis is based on the assumed impact on crop yield of improved access to irrigation alone. Distinguishing the impact of irrigation on crop yield from other complementary inputs is difficult, however. The limited available empirical information is old and compares crop yields with and without irrigation, while the project focuses on improving access to existing irrigation. Analysis was thus based on a yield increase target of 10%, as used for the Bank's Ferghana Valley Water Resources Management project -- which has a similar investment approach. Further support for this target was derived from the ICR for the irrigation component of the Bank's Rural Infrastructure Rehabilitation project in Sughd and Khatlon (2000-2006). This analysis reported yield increases of 5%-20% for a range of crops in response to a comparable rehabilitation of irrigation and drainage infrastructure, in an environment where there was limited access to farm inputs.

4. Data for the investment analysis was drawn from district level data on crop area, production and yield for the project areas for the period 2009-2011 for: wheat, rice, maize, cotton, potato, onion, cucumber, tomato, cabbage, melons and fodder. Baseline yields were assessed as the average yield for this period. A small, purposive survey of farms in the project area was used to determine output prices, input use and input prices for 2012. Financial prices were converted to economic prices using current exchange rates, a shadow wage rate conversion factor of 0.8 and imputed conversion factors of 0.83-1.00 for non-tradeable inputs.

5. Based on these data the project is expected to generate significant incremental benefits in terms of increased agricultural production and income as a result of improved access to irrigation. Incremental benefits were calculated on the assumption of a 10% increase in crop yields in the targeted districts, for an area of approximately 190,000 ha of improved irrigation. This generates an economic net present value (ENPV) of $US 30.2 million or USD 158.00 per ha, and a benefit cost ratio of 5.82 at a discount rate of 12% over 12 years. The associated economic internal rate of return (EIRR) was 26.1%. Farmers' benefit from higher annual gross margins from crop production, which increase by USD 153.00 per ha of improved irrigated land.

Economic Feasibility

ENPV Net Incremental Benefits ($US)	30,195,075
ENPV Net Incremental Benefits/ha of irrigated area ($US)	158
EIRR	26.06%
Benefit to Cost Ratio	5.82

6. Sensitivity analysis shows that project benefits are robust against adverse changes to costs and returns. A 20% fall in yields reduces the EIRR to 20.4%, a 20% fall in prices reduces the EIRR to 19.8%, and a 20% fall in irrigated area reduces the EIRR to 20.9%. There is even less sensitivity to increased project costs and crop input prices. A 20% increase in project costs reduces the EIRR to 21.8% and a 20% increase in crop input prices reduces the EIRR to 24.4%.

7. Substantial additional benefits not captured by this analysis, include the increased stability of production and income in response to better quality irrigation and the potential for a substantial further increase in yields from the combined impact of irrigation and increased use of fertiliser and improved seed.

Annex 8: Procurement Plan

(a) Goods Contracts (first 18 months)

Package No.	Description/ Location	Estimated Cost (thousand US$)	Procurement Method	Review By Bank (Prior / Post)	Invitation Date	Expected Bid - Opening Date	Contract Award Date	Completion Date
A	B	C	D	E	F	G	H	I
1	Procurement of office equipments (computers, printers and e.t.c.)	24,00	SH	Prior	Mar-13	Mar-13	Apr-13	May-13
2	Procurement of office furniture	10,00	SH	Post	Mar-13	Mar-13	Apr-13	May-13
3	Procurement and installation of equipment for MIS system (first six districts)	20,00	SH	Post	Jan-13	Jan-13	Feb-13	May-13
4	Procurement of vehicles	80,00	SH	Post	Mar-13	Mar-13	Apr-13	Sep-13
5	Procurement of tools (shovels and hoes and wheelbarrows) for manual workers in Rudaki, Jomi and Yovon	100,00	SH	Post	May-13	May-13	Jun-13	Sep-13
6	Procurement of tools (shovels and hoes and wheelbarrows) for manual workers in Rumi, Khuroson and Jilikul	100,00	SH	Post	Mar-14	Mar-14	Apr-14	Sep-14
7	Procurement of bicycles for supervision of public works (first six district)	40,00	SH	Post	Mar-13	Mar-13	Apr-13	Sep-13
8	Procurement of earth moving machinery (excavators and buldosers)	2700,00	ICB	Prior	May-14	Jun-14	Aug-14	Dec-16
9	Procurement of office equipment and furniture for newly established MIROB	100,00	SH	Post	Aug-13	Aug-13	Sep-13	Mar-14
10	Procurement of equipment for strengthening capacity of WUAs(in Rudaki,Yovon and Jomi districts)	80,80	SH	Post	Sep-13	Sep-13	Oct-13	Mar-14
11	Procurement of equipment for strengthening capacity of WUAs(in Rumi, Khuroson and Jilikul districts)	80,80	SH	Post	Mar-14	Mar-14	Apr-14	Sep-14
12	Procurement of office equipment for newly created information centre on water resources	100,00	SH	Post	Mar-14	Mar-14	Apr-14	Sep-14
13	Procurement and istallation of outlets gates in Rudaki, Jomi and Yovon districts	80,80	SH	Post	Aug-13	Aug-13	Sep-13	Sep-14
14	Procurement and istallation of outlets gates in Rumi, Khuroson and Jilikul districts	20,20	SH	Post	Apr-14	May-14	Oct-14	Apr-15

(b) Works Contracts (first 18 months)

Package No.	Description/ Location	Estimated Cost (thousand US$)	Procurement Method	Review By Bank (Prior / Post)	Invitation Date	Expected Bid-Opening Date	Contract Award Date	Completion Date
A	B	C	D	E	F	G	H	I
1	Rahabilitation of I&D canals in Rukadi, Yovon and Jomi distrcits (mechanized works)	350,90	NCB	Prior	Aug-13	Sep-13	Oct-13	Sep-14
2	Rahabilitation of I&D canals in Rumi, Khuroson and Jilikul distrcits (mechanized works)	350,90	NCB	Prior	Aug-13	Sep-13	Oct-13	Sep-14
3	Rehabilitation of river Tebalay in Kulab district	2500,00	ICB	Prior	Dec-13	Jan-14	Jan-14	Dec-15
4	Multy contracts with participant of public work activities in Rudaki, Yovon, Huroson, Jomi, Jilikul and Rumi districts	4000,00	CPP	Post	TBD	N/A	TBD	TBD

(c) Consulting Services firms (first 18 months)

Package No.	Description of Assignment/ Location	Estimated Cost (thousand US$)	Selection Method	Review by Bank Prior / Post	Adverti-sement for EOI Date	Expected Proposal Submission Date	Contract Award Date	Comple-tion Date
A	B	C	D	E	F	G	H	I
1	ToT and public awarenes for the first six districts	170,00	CQS	Prior	Mar-13	Apr-13	May-13	Dec-14
2	Social mobilization in first six districts	200,00	CQS	Prior	Mar-13	Apr-13	May-13	Dec-14
3	Preparation of detailed design for mechanized works including author supervision in the first six districts	480,00	QCBS	Prior	Apr-13	Jun-13	Jul-13	May-17
4	Preparation of detailed design including author supervision for river Tebalay	430,00	QCBS	Prior	Apr-13	Jun-13	Aug-13	Dec-15
5	Preparation of national strategy on institutional development of water resources management	1280,00	QCBS	Prior	Apr-13	Jun-13	Aug-13	Dec-15
6	Design of a database on water resources	460,00	QCBS	Prior	Apr-13	Jun-13	Aug-13	Dec-15
7	Consulting services for preparation of river basin management	1000,00	QCBS	Prior	Apr-13	Jun-13	Aug-13	Dec-15
8	Strengthening of existing and establishing new WUAs	120,00	CQS	Prior	Apr-13	Jun-13	Aug-13	Sep-14
9	Baseline survey local consultancy	70,00	CQS	Prior	Dec-12	Jan-13	Mar-13	Oct-13
10	Environment management	100,00	CQS	Post	N/A	Feb-13	Mar-13	May-13

(d) Individual Consultants (first 18 months)

Package No.	Description of Assignment/ Location	Estimated Cost (US$'000)	Selection Method	Review by Bank Prior / Post	Adverti-sement for EOI Date	Expected Proposal Submission Date	Contract Award Date	Comple-tion Date
A	B	C	D	E	F	G	H	I
1	Supervision of mechanized works in Rudaki, Jomi, Yavan, Rumi Khuroson, Jilikul districts	21,00	IC	Post	N/A	N/A	Sep-13	Sep-14
2	Individual consultant for supervision of rehabilitation on river Tebalay	10,50	IC	Post	N/A	N/A	Sep-14	Dec-15
3	Individual consultants for supervision of manual works (24 supervision engineers)	216,00	IC	Post	N/A	N/A	Sep-13	Apr-15
4	M&E local consultant	24,00	IC	Prior	N/A	Feb-13	Mar-13	May-17
5	MIS local Consultant	12,00	IC	Post	N/A	Feb-13	Mar-13	May-17
6	WRM local consultant	24,00	IC	Post	N/A	Feb-13	Mar-13	May-17
7	Environment management local consultant	20,00	IC	Post	N/A	Feb-13	Mar-13	May-17
8	Disbursement consultant	30,00	IC	Post	N/A	Feb-13	Mar-13	May-17
9	Procurement consultant	30,00	IC	Prior	N/A	Feb-13	Mar-13	May-17
10	FM Consultant	48,00	IC	Prior	N/A	Feb-13	Mar-13	May-17
11	Interpreter/translator	24,00	IC	Post	N/A	Feb-13	Mar-13	May-17
12	MIS for accounting and implementation needs	33,70	IC	Post	N/A	Feb-13	Mar-13	May-17
13	M&E international consultant	60,00	IC	Prior	Jan-13	Jan-13	Mar-13	May-17
14	Baseline survey International Consultant	27,00	IC	Post	N/A	Jan-13	Mar-13	Oct-13
15	International consultant on participatory irrigation management	63,00	IC	Prior	Jan-13	Jan-13	Mar-13	May-17

IBRD 39594

TAJIKISTAN

SECOND PUBLIC EMPLOYMENT FOR SUSTAINABLE AGRICULTURE AND WATER MANAGEMENT PROJECT (PAMP II)

- PAMP II DISTRICTS
- ORIGINAL PAMP DISTRICTS
- RIVER BASIN MANAGEMENT IN THE KAFIRNIGAN SUB-BASIN
- RIVER BASIN LIMITS
- MAIN CITIES AND TOWNS
- REGION CENTERS
- AUTONOMOUS REGION CENTER*
- NATIONAL CAPITAL
- MAIN ROADS
- RAILROADS
- RURAL DISTRICTS (RAIONS)
- AUTONOMOUS REGION BOUNDARIES*
- REGION BOUNDARIES
- INTERNATIONAL BOUNDARIES

** Area with no Region-level administrative divisions, and where raions are under direct Republic jurisdiction.*

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