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Report No: 98698-AF

PROJECT PAPER

ON A

PROPOSED ADDITIONAL FINANCING
IN THE AMOUNT OF US\$45.0 MILLION

TO THE
ISLAMIC REPUBLIC OF AFGHANISTAN

FOR THE

ON FARM WATER MANAGEMENT PROJECT

November 29, 2015

Agriculture Global Practice
South Asia Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective July 31, 2015)

Currency Unit = Afghani
AFN 60.68 = US\$1

FISCAL YEAR
December 21 – December 20

CURRENCY EQUIVALENTS

ABBREVIATIONS AND ACRONYMS

AF	Additional Financing	MEW	Ministry of Energy and Water
ARTF	Afghanistan Reconstruction Trust Fund	MAIL	Ministry of Agriculture, Irrigation, and Livestock
CBR	Capacity Building for Results	MRRD	Ministry of Rural Rehabilitation and Development
CDC	Commune Development Council	IBRD	International Bank for Reconstruction and Development
CDIS (P)	Capacity Development and Institutional Strengthening (Project)	ID	Irrigation Directorate of the MAIL
DGAED	Directorate General of the Agriculture Extension and Development	NSP	National Solidarity Program
ECOP	Environmental Code of Practices	NIP	National Irrigation Program
EIRR	Economic Internal Rate of Return	O&M	Operation and Maintenance
ESMF	Environmental and Social Management Framework	OFWMP	On Farm Water Management Project
ESMP	Environmental and Social Management Plan	PDO	Project Development Objective
FM	Financial Management	PIM	Project Implementation Manual
FAO	Food and Agriculture Organization	PMP	Pest Management Plan
GDE	General Directorate of Extension	PMU	Project Management Unit
GDP	Gross Domestic Product	RPSS	Rice Production Support Project
GRM	Grievance Redressing Mechanism	SORT	Systematic Operations Risk-rating Tool

IA	Irrigation Association	TA	Technical Assistance
ID	Irrigation Directorate		
IDA	International Development Association		
IP	Implementation Progress		
IRDP	Irrigation Restoration and Development Project		
ISDS	Integrated Safeguards Data Sheet		
JICA	Japan International Cooperation Agency		
KPI	Key project indicator		
M&E	Monitoring and Evaluation		

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ISLAMIC REPUBLIC OF AFGHANISTAN
On Farm Water Management Project Additional Financing

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ADDITIONAL FINANCING DATA SHEET

Afghanistan

On Farm Water Management Project - Additional Financing (P152870)

SOUTH ASIA

GFADR

Basic Information – Parent				
Parent Project ID:	P120398	Original EA Category:	B - Partial Assessment	
Current Closing Date:	December 31, 2015	Current EA Category:	B - Partial Assessment	
Basic Information – Additional Financing (AF)				
Project ID:	P152870	Additional Financing Type (from AUS):	Scaling up and Restructuring	
Regional Vice President:	Annette Dixon	Proposed EA Category:	B – Partial Assessment	
Country Director:	Robert J. Saum	Expected Effectiveness Date:	January 5, 2016	
Senior Global Practice Director:	Juergen Voegele	Expected Closing Date:	December 31, 2019	
Practice Manager/Manager:	Martien van Nieuwkoop	Report No:	98698-AF	
Team Leader(s):	Toru Konishi, Bayarsaikhan Tumurdavaa Mir Ahmad Ahmad			
Borrower				
Organization Name	Contact	Title	Telephone	Email
Ministry of Agriculture, Irrigation, and Livestock (MAIL)	Mr. Pervaiz Naseri	Acting Project Manager	+93(0)774414117	pervaiz.naseri@mail.gov.af
Project Financing Data–Parent (On Farm Water Management Project – OFWMP)				

(P120398))**Key Dates**

Project	Ln/Cr/TF	Status	Approval Date	Signing Date	Effectiveness Date	Original Closing Date	Revised Closing Date
P120398		Effective				30-June-2014	31-Dec-2015

Disbursements

Project	Ln/Cr/TF	Status	Currency	Original	Revised	Cancelled	Disbursed	Undisbursed	% Disbursed
P120398		Effective	USD	41.00	25.00	16.00	25.00	0.00	100.00

Project Financing Data –On Farm Water Management Project Additional Financing (P152870)

Loan Grant IDA Grant
 Credit Guarantee Other

Total Project Cost: US\$ 47.70 million Total Bank Financing: US\$ 45.00 million

Financing Gap: 0.00

Financing Source – Additional Financing (AF)	Amount (US\$ Million)
BORROWER/RECIPIENT	2.40
Afghanistan Reconstruction Trust Fund (ARTF)	45.00
Beneficiaries	0.30
Total	47.70

Policy Waivers

Does the project depart from the CAS in content or in other significant respects?

No

Explanation: N/A

Does the project require any policy waiver(s)?

No

Explanation: N/A

Team Composition

Bank Staff				
Name	Role	Title	Specialization	Unit
Toru Konishi	Task Team Leader (Water)	Senior Economist	Water Resources Management	GWADR
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Name	Title		Location	
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Locations					
Country	First Administrative Division	Location	Planned	Actual	Comments
Afghanistan	Kabul Region	Kabul		X	
Afghanistan		Parwan		X	
Afghanistan		Kapisa		X	
Afghanistan		Panjshir		X	
Afghanistan	Nangarhar Region	Nangarhar		X	
Afghanistan		Kunar		X	
Afghanistan		Lahman		X	
Afghanistan	Bamyan Region	Bamyan		X	
Afghanistan		Baghlan		X	
Afghanistan	Balkh Region	Balkh		X	
Afghanistan		Samangan		X	
Afghanistan		Faryab		X	
Afghanistan		Jawzjan		X	
Afghanistan		Sari Pul		X	
Afghanistan	Herat Region	Herat		X	
Afghanistan		Ghor		X	
Institutional Data					

Parent (Afghanistan On Farm Water Management Project – P120398)				
Practice Area (Lead)				
Agriculture				
Contributing Practice Areas				
Water				
Cross Cutting Topics				
[x] Climate Change				
[x] Fragile, Conflict & Violence				
[x] Gender				
[x] Jobs				
[] Public Private Partnership				
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	85		
Agriculture, fishing, and forestry	General Agriculture, Fishing, and Forestry	15		
Total		100		
Themes				
Theme (Maximum 5 and total % must equal 100)				
Rural development	Rural Services and Infrastructure	85		
Rural development	Rural Policies and Institutions	8		
Environment and Natural Resources Management	Water Resources Management	7		
Total		100		
Consultants (Will be disclosed in the Monthly Operational Summary)				
Consultants Required? Yes				

I. Introduction

1. This Project Paper seeks the Afghanistan Reconstruction Trust Fund (ARTF) Management Committee's approval to provide an Additional Financing (AF) in the amount of US\$45.0 million to the Islamic Republic of Afghanistan for the On Farm Water Management Project (OFWMP) (P120398; TF099074) and to make related necessary adjustments to the project, including, revising the Results Monitoring Framework with a view to streamlining the key performance indicators, introducing gender-disaggregated core indicators and enhancing alignment with the Project Development Objective; and processing an extension of project closing date from December 31, 2015 to December 31, 2019.

II. Background and Rationale for Additional Financing

2. An original grant amount of US\$41.0 million was approved for OFWMP (P120398) on May 21, 2010 from the ARTF, and the project became effective on March 16, 2011. The OFWMP has three main components: (a) Component A: On-Farm Water Management (rehabilitation of irrigation canals, institutional strengthening, and technical demonstration activities); (b) Component B: Institutional Strengthening and Capacity Building of MAIL; and (c) Component C: Project Management, Coordination, and Monitoring and Evaluation (M&E). The original closing date of OFWMP was June 30, 2014, but an 18 month extension was granted on May 15, 2014 and the current closing date is December 31, 2015.

3. **Project Development Objective (PDO)** of the original OFWMP was to *improve agricultural productivity in project areas by enhancing the efficiency of water used.*

4. **Project Implementation Status and Performance.** The most recent ratings (September 2015) of implementation progress (IP) and the development objective (DO) was satisfactory. During the first two years of operation (2011-12), poor management and lack of capacity resulted in delays in implementation. This led to restructuring in early 2013, reducing ARTF financing by US\$16.0 million, from US\$41.0 million to US\$25.0 million. Since then, MAIL has taken a number of important steps to improve and accelerate implementation. These include replacing management, restructuring the project management unit (PMU), recruiting a team of qualified project staff, and engaging an international procurement specialist. In May 2014, an 18-month extension was granted to support MAIL's commitment, from June 2014 to December 2015. As of September 30, 2015, the disbursement has reached US\$24.2 million about 97 percent of the total grant available. The project will be completed with most of its key indicators having achieved envisaged targets.

5. The key accomplishments of OFWMP are summarized as follows:

(a) Physical rehabilitation works completed under OFWMP exceeded their targets well ahead of schedule. 100 irrigation schemes were rehabilitated, effectively fulfilling the target area of about 19,000 hectares within the originally estimated budget of US\$600 per hectare.

(b) A total of 175 Irrigation Associations (IAs) have been established based on the traditional *mirab* system. These have taken up O&M responsibilities of irrigation schemes.

(c) Average water productivity in the demonstration area has increased by approximately 15 percent according to a preliminary assessment.

6. ***Rationale for Additional Financing.*** The proposed AF would support the Government to restructure and scale-up the results achieved under the original project, and help to address critical policy and institutional issues emerging in the sector. This proposal can be justified by the overall satisfactory performance of the OFWMP and the immediate need for significant rehabilitation and expansion of irrigation capacity, which will bring about major impacts in terms of increased economic growth and reduced poverty. The proposed AF is consistent with the provisions of OP 10.00 - Investment Project Financing.

7. ***Scope for scaling-up.***

- (a) *Rehabilitation Works:* The proposed AF will lead to the rehabilitation of irrigation schemes covering an additional 40,000 ha of land and contribute to further restoration of agricultural production with the support of technical assistance provided by the Food and Agriculture Organization (FAO). The design works and safeguards instruments for a number of these additional irrigation schemes have already been completed under the current OFWMP, and are ready for implementation immediately upon approval.
- (b) *Continuing support for establishing Irrigation Associations:* IAs have become the standard institutional arrangement for the O&M of the irrigation facilities in Afghanistan. The IAs established under the original OFWMP are still at early stage of their operation and require continued support for technical assistance. The establishment of IAs will be scaled up to cover the additional irrigation schemes to be rehabilitated. As they assume full responsibility for O&M, the sustainability of the rehabilitated irrigation canals will rely on their capacity.
- (c) *Continuing support for increasing water and agriculture productivity:* The proposed AF is critical to consolidate the impacts the demonstration activities like land leveling and advanced agronomic practices had on water productivity. These impacts must be continually monitored. Increasing the productivity of agricultural water use will help to alleviate the increased competition for water resources that generally follows from continued economic development, and that is a widely anticipated consequence of climate change; and
- (d) *Policy and Institutional Support:* The newly established Government considers the overall management of water resources one of its leading priorities. Strengthening institutions in the irrigation subsector is a particular focus of the policy reforms the Government has committed to. The implementation of the proposed AF project will provide the Government in general, and MAIL in particular, with a valuable instrument for policymaking and capacity building. The envisaged policy agenda is summarized below.
- *National Irrigation Development Program:* As an overall effort for the new Government to shift away from donor-driven project-based support to Government-owned sector development programs, MAIL has been designated to develop a National Irrigation Program (NIP) in coordination with the Ministry of Energy and Water (MEW) and the Ministry of Rural Rehabilitation and Development (MRRD). Considering the current time constraints, MAIL has adopted a practical approach to developing the NIP in two phases. Phase 1 (2016–2018) targets the rehabilitation of irrigation schemes covering 70,000 ha in total. Phase 2 (2019–2023) covers remaining priority areas for irrigation rehabilitation (refer to the Appraisal Summary Section regarding the analysis of the Phase 1 NIP).

- *Coordination among MAIL, MEW, and MRRD regarding irrigation investment¹*: The proposed AF project would also help to facilitate dialogue within Government to clarify and redefine the roles of these three ministries in the irrigation subsector. Currently, the Government is faced with the challenge of policy coordination in the irrigation subsector, as a result of the involvement of these three ministries with overlapping mandates and sometimes duplicated responsibilities. Development partners often lack coordination in the absence of a harmonized framework for engagement in the subsector. A consensus among the MAIL, the MEW, and the MRRD has emerged within the new Government to: (a) enhance inter-ministerial and donor coordination, and (b) refine the underlying legal framework (amendment to the Water Law, and development of a new Irrigation and Drainage Law) in order to clearly re-define ministerial responsibilities and avoid duplication. The proposed AF will support this process.

8. **Consistency with the CAS/CPF:** While the Country Partnership Framework (CPF) for Afghanistan is currently under preparation, the three key pillars of the Bank's Interim Strategy Note (March 9, 2012) would serve as an important strategic guide for the proposed AF. The pillars are: (a) building the capacity of the state and its accountability to its citizens, (b) promoting growth in the rural economy and improving rural livelihoods, and (c) supporting private sector growth. The proposed AF project would directly contribute to all three pillars through strengthening of the capacity of MAIL in the irrigation sector, benefiting rural communities by increasing agricultural productivity, and stimulating private agriculture businesses.

9. The proposed AF project is also consistent with the three themes set out in the ISN guiding future Bank operations: (a) Building the Legitimacy and Capacity of Institution, (b) Equitable Service Delivery, and (c) Inclusive Growth and Jobs.

III. Proposed Additional Financing

10. **PDOs.** The original PDO, to *improve agricultural productivity in project areas by enhancing the efficiency of water used*, will remain unchanged. It should be noted that this PDO is also identical to the overall objective of the National Irrigation Program.

11. **Results Framework and Indicators.** As stated in para. 1, the Results Framework has been revised as follows: (a) updating the exiting indicators revising the targets according to the proposed AF project, (b) introducing new indicators such as gender-disaggregated core indicators, and (c) adding new indicators such as agricultural values to better measure the achievement of the PDO, and (d) streamlining some indicators to avoid duplication. The summary of the proposed new set of indicators is presented in Annex 1.

12. **Closing Date.** As stated in para.1, the closing date for the original project will also be extended to December 31, 2019, which is the proposed closing date for the Proposed AF project.

13. **Geographical coverage.** The AF will continue to be implemented in the five regions as in the original OFWMP. During Phase 1 (2016–2018), the proposed AF Project will cover the same 16

¹ Until 2009, when the Ministry of Agriculture and Livestock was transformed to the MAIL, there was division of the responsibilities in the irrigation sector where the MEW deals with head-works and main canals, and the Ministry of Agriculture supports the construction and management of on-farm (tertiary) irrigation facilities. However, after 2009, the MAIL has also started the rehabilitation of the main canals of small scale irrigation facilities, making these two ministries' engagement in the irrigation sector significantly duplicated.

provinces within the five regions covered in the original OFWMP. Additional provinces may be covered within the same five regions under Phase 2 investments. This will be determined and any additional provinces identified during the first two years of implementation.

14. **Lessons Learned and Design Refinement.** The proposed AF project has been designed based on the satisfactory performance of the original project. While it does not therefore alter the project component structure, the design has been refined incorporating a number of lessons from both the experience of the original project and from World Bank's irrigation operations in general.

Overall Project Design. The AF looks to adjust its overall design from a project to a more programmatic approach by assigning greater emphasis to four areas.

- *More emphasis on Community-Based Irrigation Management.* Afghanistan has a long tradition of community-based irrigation management through local organizations called *mirabs*, which the original project successfully set out to transform into IAs, endowing participating and affected communities with full ownership of irrigation facilities. The importance of this type of community engagement and empowerment for effective O&M of irrigation facilities has been noted by Bank project staff in many settings. The PMU implementing the proposed AF project will also provide support to other donor- financed projects under MAIL, as well as to other irrigation projects implemented by the MEW and MRRD.
- *Enhanced emphasis on productivity.* The demonstration activities aiming at increasing agricultural productivity through improved use of irrigation water initiated under the original project have generated some good results. Because these activities are directly linked to the PDO, the proposed AF project will step up efforts to substantiate impacts through (a) increasing allocation through a dedicated stand-alone component on agriculture productivity and (b) engaging the Directorate General of the Agriculture Extension and Development (DGAED) as a key implementation partner to institutionalize the technical assistance to irrigation farmers.
- *More central role of the Commune Development Councils.* The Government now considers the CDCs' role as critical to ensuring transparency in decision making and to providing the intended benefits. In this sense, the AF will support the refinement of the current IA structure, which is based on the traditional *mirab*, to engage the concerned CDCs to oversee the performance of the concerned IAs and set up a grievance redress mechanism regarding water delivery while ensuring the IAs remain the main operators.
- *Greater emphasis on job creation as part of the Government's response to current security threats.* The project design has been refined through the lessons learned by the successful Iraq Emergency Community Infrastructure Rehabilitation Project (P087881), which closed on June 30, 2013. The lessons included: (a) integration of the civil works to the agriculture support for long-term benefits at the farm level, (b) use of a larger number of smaller contractors to maximize the number of unskilled labor and shorter duration of construction, (c) improving the engineering design to facilitate for the community to undertake O&M after rehabilitation, and (d) frequent monitoring of the underlying security risk to avoid disruption in project implementation.²

Project Implementation Issues.

² ICR 2984 (2014)

- *Engaging the Private Sector.* Though the original project was implemented largely by the Government, private sector engagement will be critical to scaling up and maximizing the leverage of project funds. In particular, the project aims to encourage private sector investment in: (a) engineering (topographic survey, design, and supervision), and (b) agricultural productivity (land leveling, installation of advanced on-farm irrigation facilities). Private sector participation is a key aim of the NIP.
- *Rationalizing the use of project-financed staff and integration into the government structure (Irrigation Directorate (ID)).* The current implementation arrangement is based nearly exclusively on the engagement of project-based staff. Planning the integration of the PMU into the ID in collaboration with the JICA-financed Capacity Development and Institutional Strengthening (CDIS) Project has begun with identifying the key PMU positions to be transferred to the CBR based Government staff (refer Appraisal Summary for Details).
- *Integrating safeguards, communication, and gender for social inclusion.* The original OFWMP focused principally on physical reconstruction, with less attention to monitoring the social impacts on different segments of the beneficiaries such as large landholders. A new division on Safeguards and Social Inclusion will be established within the PMU to ensure compliance with the safeguards instruments and effective monitoring of the overall social impacts.

15. In the above context, the following changes have been made to the design of the original OFWMP: (a) upgrading the agriculture demonstration activities from subcomponent to a separate component, and (b) defining concrete institutional and policy related activity under Component 3. The following is the summary of the components under the proposed AF. Details are available in Annex 3.

Component 1. On-Farm Water Management (US\$31.7 million). This consists of two sub-components that began under the original projects: (a) Establishment and strengthening of irrigation associations (IAs); and (b) Improvement of infrastructure for the existing irrigation schemes typically less than 1,000 hectares.

Component 2. Institutional Strengthening and Capacity Building of the MAIL (US\$3.7 million). This component will be expanded to support the emerging policy and institutional issues in the irrigation sector, while continuously supporting capacity building of the Irrigation Directorate. Major activities include: (a) Institutional strengthening of the ID, building on the results of the ongoing Capacity Development and Institutional Strengthening Project (CDIS); (b) Development of a draft irrigation and drainage law; (c) Preparation of the follow up National Irrigation Development Program; and (d) Support to contractors and private design firms.

Component 3. Project Management, Coordination and Monitoring and Evaluation (US\$6.0 million). This component will continue to support the technical assistance, incremental operating and project staff costs, logistics (vehicles), and office equipment necessary for project management, though with proportionately greater emphasis on strengthening the capacity of the Irrigation Directorate.

Component 4. Support for Productivity Enhancement (US\$6.3 million). This new component will scale up the pilot activities initiated under the original project and provide technical assistance to improve water and agricultural productivity and to better realize the potential of improved irrigation systems. Major activities include: (a) promotion of laser land leveling and high efficiency irrigation systems; (b) training and capacity building for IAs and farmers in various agronomic

practices, farm management techniques and integrated pest management; (c) demonstration sites to disseminate the full range of improved water management and agronomic practices; and (d) establishment of farmers’ information service centers linked with internet and mobile phone services.

16. **Implementation Arrangements.** The current PMU established within the ID responsible for implementing the original project will remain responsible for implementing the proposed AF project. However, implementation of Component 2 will be entrusted to MAIL’s Directorate General of Agriculture Extension and Development (DGAED). The DGAED has designated a team of technical experts with a full-time manager, while the safeguards and fiduciary aspects of the Component will remain the responsibility of the PMU. The technical capacity of the team is considered adequate and the arrangements have been found to be effective.

17. Considering the perceived high security risks, to the extent possible, third party monitoring will be deployed during implementation to verify physical outputs and obtain feedback from the stakeholders.

18. **Operations Manual.** The current manuals guiding the implementation of the project comprise: (a) Field Operation Manuals, (b) Project Implementation Manuals, (c) the Financial Management Manual, and (d) Annual Implementation Plan. As part of the project’s streamlining under this restructuring, these will be consolidated into the following two: (i) Project Operations Manual (including financial management and safeguards), and (ii) Annual Implementation Plan.

19. *Engagement of the UN Food and Agriculture Organization (FAO) as technical assistance.* The FAO will be engaged in the project to provide overall technical assistance and policy advice. The FAO has been very active in supporting the irrigation and agriculture sector in Afghanistan, and is currently engaged in providing technical assistance to the Bank-financed Irrigation Restoration and Development Project (P122235) implemented by the Ministry of Energy and Water, and the Capacity Development and Institutional Strengthening Phase II (CDIS2) Project financed by the JICA implemented by the MAIL focusing on the Irrigation Directorate. Their role in implementing the proposed AF project will ensure consistency and continuity in pursuing policy development in the irrigation sector. The estimated cost for the technical assistance is estimated at US\$2.0 million over the four years.

20. Table below summarizes the changes envisaged under the proposed AF project.

Summary of Proposed Changes	
Change in Implementing Agency	Yes [] No [X]
Change in Project's Development Objectives	Yes [] No [X]
Change in Results Framework	Yes [X] No []
Change in Safeguard Policies Triggered	Yes [] No [X]
Change of EA category	Yes [] No [X]
Other Changes to Safeguards	Yes [] No [X]
Change in Legal Covenants	Yes [] No [X]
Change in Loan Closing Date(s)	Yes [X] No []
Cancellations Proposed	Yes [] No [X]

Change in Disbursement Arrangements	Yes [X] No []
Reallocation between Disbursement Categories	Yes [X] No []
Change in Disbursement Estimates	Yes [X] No []
Change to Components and Cost	Yes [X] No []
Change in Institutional Arrangements	Yes [X] No []
Change in Financial Management	Yes [] No [X]
Change in Procurement	Yes [] No [X]
Change in Implementation Schedule	Yes [X] No []
Other Change(s)	Yes [X] No []
Appraisal Summary Change in Risk Analysis	Yes [] No [X]

Development Objective/Results

Current PDO: *improve agricultural productivity in project areas by enhancing the efficiency of water used*

Project's Development Objectives

Original PDO : *improve agricultural productivity in project areas by enhancing the efficiency of water used*

Change in Project's Development Objectives

Explanation: NIL

Proposed New PDO: NIL

Change in Results Framework

Explanation: Targets of indicators have been revised according to the additional financing. Further, some indicators have been introduced to strengthen the measurement on the PDO.

Compliance

Covenants - Additional Financing (On Farm Water Management Project - Additional Financing - P152870)

Source of Funds	Finance Agreement Reference	Description of Covenants	Date Due	Recurrent	Frequency	Action
ARTF				<input type="checkbox"/>		

Conditions

Source Of Fund	Name	Type		
Description of Condition				
Risk				
Risk Category	Rating (H, S, M, L)			
1. Political and Governance	H			
2. Macroeconomic	H			
3. Sector Strategies and Policies	S			
4. Technical Design of Project or Program	L			
5. Institutional Capacity for Implementation and Sustainability	M			
6. Fiduciary	S			
7. Environment and Social	M			
8. Stakeholders	L			
9. Security	H			
OVERALL	S			
Finance				
Loan Closing Date - Additional Financing (On Farm Water Management Project - Additional Financing - P152870)				
Source of Funds	Proposed Additional Financing Loan Closing Date			
ARTF	December 31, 2019			
Allocations - Additional Financing (USD 45,000,000)				
Source of Fund	Currency	Category of Expenditure	Allocation	Disbursement % (Type Total)
			Proposed	Proposed
ARTF	USD	Goods, works, consultant's services,	45,000,000	100.00%

		incremental operating costs and training and workshop		
		Total:	45,000,000	

IV. Appraisal Summary

Economic and Financial Analysis

Economic Impacts of Irrigation Rehabilitation. A cost-benefit analysis was conducted for a 20-year period, transforming financial prices, costs, and benefit streams into economic values by calculating economic import/export parity prices at farm gate, applying conversion factors for each category of costs, eliminating taxes and transfers, and taking into account incremental costs after the project implementation period (notably tertiary level irrigation infrastructure maintenance). The economic analysis was based on the 57 irrigation schemes which were completed and handed over to IAs by August 2013. The schemes covered 13,219 ha of irrigated area in total located in the central, east, north, west and central-west regions of Afghanistan. Economic analysis was then applied to about 120 irrigation schemes covering approximately 40,000 hectares as currently planned.

Major tangible and quantifiable agricultural benefits attributable to the proposed project are; (a) *expanding irrigation area* - increase in net irrigated command area due to the conversion of fallow lands and/or *rain-fed* croplands in the existing command to full irrigation coverage following the project interventions; (b) *providing reliable and adequate irrigation services*ⁱ-shifting partially or inadequately irrigated lands in the existing command to full irrigation services; (c) *intensifying irrigated agriculture production systems* resulting from improved irrigation water distribution. For estimating the quantified incremental agricultural benefits due to project interventions, the increase in area as well as increase in yields of major crops in each region has been estimated from the information for the above-mentioned 57 completed sample. Based on the scheme wise data, an Economic Internal Rate of Return (EIRR) has been estimated for each region. The results are summarized below.

Table-1: Economic analysis summary by Region based on sample irrigation schemes

Sr.	Project Region	Number of Sample Schemes	Total Costs US\$ M	ERR	Switching Values	
					Costs % Increase	Benefits % Decrease
1	Central (Kabul)	10	1.55	31%	140	52
2	East (Nangarhar, Jalalabad)	9	0.81	36%	190	57
3	North (Mazar-e-Sharif, Bulkh)	10	1.43	19%	52	30
4	West (Herat)	14	2.43	29%	125	48
5	Central West (Bamyan)	14	0.96	24%	102	40
	Overall (Schemes)	57	7.18	28%	120	47

The overall EIRR for the 57 irrigation schemes was estimated at 28 percent. Sensitivity analysis was also conducted and the results are shown in the following Table.

Table-2: Summary of results of Economic analysis at Project Level

Description	EIRR
Base Case	28%
Capital Costs Increased by	25%
Benefits Decreased by	25%
Simultaneous cost increases & benefits decreases	22%

Farm and Household Level Impacts. Additional benefits of US\$312 per hectare have been estimated to be attributable to the project investments. The average farm size has been calculated as 2.7 hectares in the project areas reported in the baseline report. The average family size in rural Afghanistan is 7 adult units.³ As such, the increase in per capita income in the project beneficiary household is estimated at US\$120 per annum, which is 17 percent of the country level average per capita income (US\$690) estimated by the World Bank in 2013 at current prices.⁴ Based on the estimated average land holdings under the original project, the proposed project will benefit 18,500 farm families with an estimated population of 129,500 adult units.

Poverty Impacts. An increase in farm income averaging US\$312 per hectare will help in reducing the incidence of poverty in the beneficiary farm households in the project area. The rural poverty base line for Afghanistan was estimated as AFD 4,621 per capita per month (NRVA 2003).⁵ Using the Gross Domestic Product (GDP) deflator, the poverty base line at constant 2014 prices is estimated at US\$210 per capita. For every hectare of incremental irrigated area added due to the rehabilitation investments under the original project, the realized increase in farm income of US\$312 per hectare has the potential to lift at least 1.5 family members in the project beneficiary population above the poverty line.

Impacts on Employment. Growing the security in the country, job creation is becoming one of the priorities of the Government. The proposed AF project will greatly contribute to the job creation as well as food security through more intensive agriculture, which the local economy in a long-term. Estimates indicate that the project in total will generate approximately 591,000 additional person days of on-farm labor annually. By generating additional income of US\$312 per hectare on farm, the project will generate net returns to farm labor of US\$26 per labor-day, which is more than three times the prevailing wage of unskilled labor. The estimate also indicates that the project will generate about 170,000 of unskilled labor days and about 80,000 skilled labor days over the project implementation period of four years.

Institutional and Policy Analysis

National Irrigation Program (NIP). The documentation of the NIP has been prepared with the help of the FAO, retrofitting mainly the existing projects implemented by the MAIL and MEW into the program documents. The program covers the following: (i) Analysis of the irrigation sector's performance during the past 10 years; (ii) Identification of the drivers of the change (for example, regional integration, climate change, pressure on water) affecting the irrigation sector; (iii) Presentation of a vision of the irrigation sector contributing to the country's economy for the next 15 years and detailed 5-year investment plans; and (iv) Implementation principles of the national program. These principles include the need for (a) a

³ The National Risk and Vulnerability Assessment 2005, Ministry of Rural Rehabilitation and Development and the Central Statistics Office, Kabul, June 2007.

⁴ Global Economic Prospects, World Bank data estimated per capita income using Atlas Method as US\$ 690 at Afghanistan for year 2013 in current prices.

⁵ WB Report No. 29694-AF Afghanistan Poverty, Vulnerability and Social Protection: An Initial Assessment, Human Development Unit South Asia Region, March 7, 2005.

sound investment plant; (b) institutional support to IAs in conducting O&M; (c) technical assistance to farmers in irrigated areas; (d) strengthening the capacity of the Irrigation Directorate; (e) a coherent and comprehensive policy framework for irrigation; and (f) rationalizing and optimizing public sector involvement in the sector and strengthening public-private partnerships. The objective and result's framework of the NIP are consistent with those of the proposed AF project.

Integration of the PMU into the Irrigation Directorate. During appraisal, agreement has been reached on the following matters to start integrating the PMU into the Government structure while maintaining the current implementation capacity to ensure continued smooth implementation; (i) recruitment of key positions (project manager, heads of divisions for engineering, safeguards and communication, M&E, and IA support, and the heads of the five regional offices) under the CBR procedures; (ii) rationalization of the salaries of the project-financed staff to make them comparable to CBR-based staff; and (iii) engagement of selected divisions within the PMU (for example, safeguards and communication, IA support) in managing other development partners' projects. These elements of the reorganization are fully consistent with the above-mentioned NIP.

Irrigation Associations (IAs). Under the original project, 175 IAs have been established under the MAIL's guidelines based on the traditional *mirab* system. IAs are fully responsible for the O&M of their respective irrigation schemes, typically covering from 100 to 500 hectares. They manage maintenance mainly through community labor, while the operation costs (mainly staff costs) are financed by the membership fees, which are paid by their members into the IAs' bank accounts (typically US\$3-5 per hectare). However, IAs are still at a stage of development, and require extensive technical assistance on many aspects including public administration (meeting, budgeting and reporting), water management, and irrigated agriculture in order to be fully functional and sustainable. Further, the current structure of IAs does not have adequate governance structure and restructuring is needed to establish a oversight mechanism through participation of the CDC. An extensive technical assistance is planned under Component 1.A under the proposed AF Project to support this end. Further, it is envisaged that the ID will expand the establishment of IAs to projects financed by other development partners, as defined in the above-mentioned National Irrigation Development Program.

Delineation of the mandate between the MAIL and the MEW. The proposed AF project will provide support to the on-going intra-government effort to start delineation of the mandate between the MAIL and the MEW with respect to irrigation investments. As part of this effort it is envisaged that the MAIL will gradually take over the responsibilities for irrigation investments and institutional development, particularly small irrigation schemes (smaller than 2,500 hectares), and tertiary canals of large irrigation schemes (larger than 2,500 hectares), whereas the MEW will focus on large irrigation schemes. The proposed AF will support this effort, particularly through: (a) rehabilitation of small irrigation schemes exclusively, (b) a joint effort with MEW for rehabilitating large irrigation schemes, and (c) development of a legal framework on irrigation and drainage to establish a consistent approach for MAIL and the MEW. The restructuring of the Bank-financed Irrigation Restoration and Development Project (P122235) is also planned to support this effort in parallel from the MEW's side.

Technical Analysis

Rehabilitation Works. The scope of the investment to be undertaken under the proposed AF will be similar to the one carried out under the original project. The proposed AF project will support the rehabilitation of irrigation schemes, exclusively on a gravity-basis, covering typically 250 to 500 hectares. No new construction of irrigation schemes or expansion of existing irrigation schemes will be supported. Typical

rehabilitation costs range from US\$400 to US\$600 per hectare, depending on the topography and layout of the schemes.

The proposed AF will support about 120 irrigation schemes covering approximately 40,000 hectares in total. The implementation of the rehabilitation will be carried out in the two phases: the Phase I investments, comprising about 85 irrigation schemes, have been preliminarily identified using the following criteria: (a) irrigation facilities currently under use (i.e. not abandoned), (b) availability of water, (c) cost per hectares (less than US\$700 per hectare), (d) commitment of the concerned communities (establishment of the IAs), and (e) prevailing security situation (to enable contractor mobilization). Similar criteria will be used for the second phase investments, which would be identified during implementation (by the end of the second implementation year).

The rehabilitation works would be mainly simple and straightforward such as replacement of damaged gates, and re-sectioning and lining of the existing canals. Wherever appropriate, simple control, regulation and measurement structure would be introduced to facilitate the operation and monitoring. No major environmental and social negative impacts are expected due to the small scale and rehabilitation nature of the envisaged investments.

Climate Change and Disaster Risk Management (DRM) Analysis. The overall climate change and the DRM risks associated with the project are considered to be moderate both now and in the future. While the potential risks will be increased resulting from decrease in snowfalls, earlier timing of snowmelts, increased frequency and intensity of flood events, these risks would be mitigated by the various project initiatives including physical rehabilitation works, support for proper O&M, improved design standards, and support for water productivity enhancement.

Social and Environment Safeguards

Safeguards Performance under the Original Project. The implementation of the safeguards are considered to be satisfactory; there are no major negative social and environmental impacts observed under the ongoing original project. The PMU has a dedicated team for the social and environmental safeguards, and the GRM mechanism and the procedures are functioning. The latest rating for the social and environmental aspects are S (satisfactory).

Safeguards policies under the proposed AF project. All policies under the current project apply to the proposed AF project. The applicable Bank safeguard policies triggered by this project are listed:

- **OP/BP 4.01 - Environmental Assessment:** This policy was triggered due to project environmental and social impacts and remains applicable under the proposed AF project. Nevertheless, the project is expected to have low adverse environmental and social impacts since the investments are in rehabilitation of existing irrigation schemes that are mostly of small scale in both budget and scope.
- **OP 4.09 - Pest Management:** This policy was triggered under the original project and a PMP was developed and applied, however, with limited implementation due to the delay in promulgation of the Pest Management Law and limited institutional capacity and budget. This policy has been triggered under the proposed AF project due to potential increased use of chemicals, including fertilizers and pesticides, for agricultural livelihoods' activities. The PMP developed for the original project will be applied with additional development of a PMP action plan describing the integrated pest management training activities to be carried out under the AF project through Component 2 implementation and the

training to be carried out during the preparation and implementation of the rehabilitation schemes to be prepared as part of the ESMPs. The action plan will also take into account the PMP and/or IPM activities being carried out under the other two Bank supported projects⁶ with the MAIL. The use of biological agents is not mandatory in the project. However, the use of the biological agents shall be encouraged through training, providing information, and collaborating with other Bank-financed projects e.g. National Horticulture and Livestock Project. The PMP and its action plan will be implemented as part of the ESMF/ESMPs and Component 2.

- **OP/BP 4.12 - Involuntary Resettlement:** This policy has been triggered due to potential land acquisition and remains applicable under the proposed AF project. The project will invest in rehabilitation of the small irrigation infrastructures and, therefore, minor level of land acquisition, though at a small scale, cannot be ruled out, but no investments requiring land acquisition or involuntary resettlement of more than 200 persons will be funded under this project. As in the first phase of the project, all land requirements will be met through use of community land/public land, willing buyer-willing seller, or voluntary donations. The ESMF includes procedures and guidelines for the required procedures and documentation for such small-scale land acquisition. Any state land/public land acquired should be free of squatters, competing claims, and other encumbrances.
- **OP/BP 7.50 - Projects on International Waterways:** Afghanistan has five distinct river basins (Amu-Panju, Kabul, Helmand, Harirud, and the Northern Basin). The first four are international waterways. The Amu-Panju River is shared with Tajikistan, Turkmenistan, Kazakhstan, and Uzbekistan; the Kabul River with Pakistan; the Helmand River with Iran; and the Harirud River is shared with Iran and Turkmenistan. However, the investment under the proposed AF project will be strictly limited to the rehabilitation of the existing irrigation schemes and will not alter the original design parameters. In this sense, the proposed AF project will fall under the category stated in paragraph 7 (c) of OP. 7.50, which allows exceptions to notification requirement.

Green House Gas Emission Analysis: The GHG analysis was carried out to assess the impacts of the proposed AF Project. For the purpose of the computation of the GHG, the Ex-Ante Carbon-balance Tool (EX-ACT) is used. It is an appraisal system developed by FAO providing estimates of the impact of agriculture and forestry development projects, programmes and policies on the carbon-balance. The carbon-balance is defined as the net balance from all greenhouse gases (GHGs) expressed in CO₂ equivalent that were emitted or sequestered due to project implementation as compared to a business-as-usual scenario. EX-ACT is a land-based accounting system, estimating C stock changes (i.e. emissions or sinks of CO₂) as well as GHG emissions per unit of land, expressed in equivalent tones of CO₂ per hectare and year.

While applying the tool, only impact due to changes in agriculture production process is considered, as impacts from rehabilitation works as well as operation of the irrigation schemes (which are exclusively by gravity) is nominal, and is not considered. Few land leveler are proposed, but the impact would be nominal and is not considered. The analysis assumes 20 years of operation year. The with-and-without project scenarios developed for the economic analysis was used.

The analysis confirmed that the proposed AF would have very little impacts on the GHG emission. Over the period of 20 years, the net effect would be 16,706 tons of CO₂ equivalent emission, which is 0.018 t per ha per year. The result is because: (a) the project largely supports rehabilitation works where farming

⁶ The National Horticulture and Livestock Project and the Afghanistan Agriculture Input Project.

practices exist, (b) the project would not lead to the increase in fertilizer application (as observed in the original project), and (c) planned support for water productivity would contribute to the mitigation in the emissions.

However, the sensitivity analysis shows that the GHG emission is sensitive on the use of the fertilizer; GHG emission will be 10 times higher if the fertilizer use is increased by 10 percent; therefore, the project would support the technical guidance on the improved agronomic practices encourage the use of organic fertilizers to the extent possible to reduce the risk.

Update on the Institutional Framework and Instruments. Moving forward for the proposed AF project, senior management within MAIL has demonstrated its commitment to strengthen its current limited safeguards capacity by establishing a safeguards team within the PMU. The PMU will include a female social inclusion officer, an environmental officer and a communications officer at national level with two safeguards positions created in each of the five regions. The safeguards team will take the lead in building capacity to identify and manage environmental and social issues within the implementing agencies and as well as with local beneficiary farmers. Recent safeguard policies requiring the compliance with the Bank's environmental health and safety guideline and the interim guideline for technical assistance support by the Bank for technical assistance program/activities have also been incorporated into the updated Environmental and Social Management Framework (ESMF).

On the ESMF, given that not all the investment locations could be identified at appraisal and based on the review of the existing ESMF, the MAIL has updated the ESMF under the original project to take account of the implementation experience gained from the original project. Efforts have been made to mainstream environmental and social safeguards measures into the overall project planning, implementation (particularly engineering), communication, reporting, and evaluation as well as placing greater priority on outreach to and consultations with women, especially female headed households. Key measures of the updated ESMF are:

- Mainstreamed, and simplified ESMP template.
- Incorporating all required site-specific safeguards measures and actions into the Environmental and Social Management Plans (ESMPs), including the site-specific required actions of the Pest Management Plan.
- Clearly defined thresholds for Post- and Prior-Reviews of the site-specific ESMPs by the Bank.
- Incorporating a standard ESMP template in the ESMF to guide and facilitate preparation of the ESMPs.
- Simplifying the review and approval process for the ESMPs at the project level.
- Eliminating redundant and irrelevant sections in the ESMF annexes.
- Strengthening the existing GRM.

The updated ESMF also assigns priority to strengthening *the Grievance Redressing Mechanism (GRM)* process developed under the original project. Greater priority is also assigned to outreach to and consultation with a range of stakeholders, especially vulnerable groups including women and landless, on all aspects of sub projects. Outreach will include: (a) pre-construction consultation with the stakeholders and contractors presenting the content of the ECOP and respective construction plans, (b) in-depth monitoring upon resumption of the irrigation services to confirm fair share of the irrigation water particular among vulnerable households (small holders, women headed families, and landless), and (c) strengthening clarity regarding communication strategy, consultation mechanisms, and dissemination requirements.

To ensure *effective implementation of safeguard measures*, the updated ESMF has provided clarity on the M&E process and incorporated the application of key safeguard monitoring indicators and annual audit.

Further, to ensure *effective implementation of the proposed mitigation measures*, the updated ESMF has also provided clarity on the implementation arrangements and identified the need for safeguard training and capacity building.

Consultation and Disclosure. Consultations on the draft revised ESMF were held in Mazar (Balk region) on July 28, 2015 Kabul on August 2, 2015 and Herat (Herat Region) on August 9, 2015. The updated ESMF has been disclosed at the PMU at the ID and the PMU's five regional offices in the project area on September 22, 2015, and at the Bank's Infoshop on September 22, 2015 and the Integrated Safeguards Data Sheet (ISDS) was sent to the Bank's InfoShop on September 27, 2015 for disclosure.

Social (Other than Safeguards)

Social development and citizen engagement. Social development and citizen engagement are critical elements of the proposed AF project. The project's primary focus is to empower communities through vital investments and by entrusting O&M responsibilities to community-based IAs. First, an indicator, 'Proportion of rehabilitated schemes obtaining satisfactory rating from irrigation water users', has been included to reflect the feedback from the beneficiaries. Further, a rapid social review has been carried out in the project area. It has been carried to draw lessons and refine the current guidelines and training materials for the IAs. Particular attention has been paid to the water distribution and resulting disputes to understand the nature and extent of the local conflict over water and explore a way to facilitate resolutions within the concerned IAs. This has been reflected in the revised procedures and training materials to ensure that IAs will be managed in a transparent and inclusive manner for fair benefit sharing with the poor and vulnerable households. The strengthened GRM and greater community awareness of the GRM will further ensure transparency and social inclusion in the project. Lastly, an indicator on the satisfaction of the IAs will be introduced to present the overall acceptance of the project activities from the beneficiaries' side.

Furthermore, the current initiatives taken under the project to engage representatives of the IAs in designing, procurement, and supervision will also be formalized in the guidelines. The ID also plans to apply the guidelines to other development partners' projects. Finally, under Subcomponent 1.A, an annual national workshop will be organized, with active participation of representatives of the IAs to obtain feedback on the overall implementation of the project.

Gender. Women play an important role in irrigated agriculture, particularly in cultivating vegetables and applying agrochemicals. Female-headed families, which often are among the poorest segments of the population, also require careful attention to ensure they share in the benefits of the project. The original project has included an active gender team. Moving forward, the proposed AF project will include gender-specific demonstration activities under Component 2, based on a successful model established by the Bank-financed National Horticulture and Livestock Project. To reach out to women farmers, especially in conservative rural areas, Component 2 will specifically support demonstration activities with the facilitation of the gender unit, focusing on the production of seasonal and off-season vegetables. The proposed AF project will also seek to increase women's involvement in water governance by supporting women's elections within the IAs. Raising women's awareness of the GRM and ensuring female representation in the grievance redress committee will further enhance women's access and make their voices heard.

Fiduciary Analysis

The proposed AF will be implemented by the same agencies as for the original financing, that is, the PMU established in the ID of the MAIL. The PMU has been implementing the original project for four years and has good experience and the capacity to implement the proposed AF project.

Procurement

The PMU will recruit an international procurement consultant on a part-time basis, to monitor overall procurement activities, provide timely advice, undertake additional procurement training, and provide quality assurance. The procurement risk for the original project was originally rated High and the procurement risk for the AF remains as Substantial considering that (a) the PMU has reasonably good experience in Bank procurement procedures and (b) procurement activities under the AF are of the same scale and complexity as the original project.

Applicable procurement procedures. Procurement under the proposed AF will be carried out in accordance with the World Bank's Guidelines: Procurement of Goods, Works, and Non-Consulting Services under International Bank for Reconstruction and Development (IBRD) Loans and International Development Association (IDA) Credits and Grants by World Bank Borrowers, dated January 2011 and revised in July 2014 (the Procurement Guidelines); Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers, dated January 2011 and revised in July 2014 (the Consultant Guidelines); and the provisions stipulated in the Financing Agreement.

In case of conflict/contradiction between the Bank's procurement procedures and any national rules and regulations, the Bank's procurement procedures will take precedence according to Article 4(2) of the Procurement Law July 2008 (Amendments in January 2009 incorporated) of the government of Afghanistan, and the IDA Procurement/Consultant Guidelines shall prevail. The general description of various procurements under different expenditure categories are described in the procurement plan. A detailed procurement plan has been prepared for the proposed AF.

Procurement plan. An 18 month procurement plan has been prepared for the AF. The procurement plan will be updated annually or as required. Currently, the threshold for entities identified as at substantial risk will apply for the prior review of the contracts under the project for the AF. However, the capacity of the PMU procurement unit will be periodically assessed and this threshold will be reviewed and updated accordingly.

Procurement Planning to Accommodate the Job Creation. Given the current fragile status of the rural societies in light of the worsening security, the Government considers that the job security, including the short-term one, is critical. Under such circumstances, to the extent possible, consideration will be given to maximize the opportunities for smaller contractors and local unskilled labors in the procurement planning.

Financial management (FM).

The project FM has been maintained adequately throughout the implementation of the original project: the Interim Financial Reports and audited Financial Statements were submitted on time with acceptable quality and most of the issues raised in the implementation support and supervisions have been properly addressed. The FM risk remained as Moderate while the FM performance was rated Moderately Satisfactory. The key issues identified include: (a) delayed budget allocation at the provincial and district level; (b) lack of counterpart funds at some provinces; and (c) delayed payments to beneficiaries at the commune level.

While the FM design will substantially remain the same for the AF, the project FM will be strengthened by appropriate actions of the Government counterpart, including: (a) ensuring the timely allocation of sufficient counterpart funds at the province and district levels; (b) closely monitoring the fund flow (including advances, payments, and settlement of advances); and (c) enforcing the internal audit function where capacity now has been strengthened to ensure that the internal control of the project is adequately guaranteed. With these actions, the project FM will be maintained in an acceptable manner to ensure that the project funds are used for intended purposes. Further, an independent agency will be engaged by the Bank during implementation to monitor the overall delivery quality of the project, particularly investments carried out under Component 1.

There is no change in disbursement arrangements or flows of funds. The PMU will continue to use the existing designated accounts with the ceiling amount remains. The disbursement method will be the same as the original project: in particular, the designated account will be used to pay for the all project expenditures including the civil works in various project areas as there will be no sub-account created. However, an advance will be provided to Component 2 Team to facilitate the payment of day-to-day operational expenses. Other part of the FM procedures, such as required supporting documentations, bi-monthly submission of withdrawing applications, and arrangement of internal and external audit, will remain the same as the original project.

Under Component 2, the following equipment and technical assistance would be provided to individual beneficiaries to support improvement of agriculture productivity: (a) high-efficiency irrigation systems such as drip, trickle, or sprinkler systems, and provision of related technical assistance to farmers for horticulture, vegetable, and other high value crops, and (b) laser-guided land leveling equipment. The equipment will be provided to eligible beneficiaries with 50 percent subsidies from the project.

The criteria and procedures for selecting beneficiaries are explicitly stated in the Operations Manual. In particular, the District Allotment Committee, chaired by the Head of the District Agriculture Service Division of the MAIL will select the beneficiaries according to the Operations Manual. The selection will be then endorsed by the concerned IAs and approved by the Component Team established at the DGAED.

The procurement of equipment will be handled by the PMU with the participation of the Component Team, and the beneficiaries will their contributions at the time of the signature on the agreement with the project and the remaining amount at the delivery/installation of the equipment. The external audit for the project will also cover the flow of the funds from the beneficiaries and compliance with the Operational Manual regarding the selection of the beneficiaries.

Allocation of ARTF grant proceeds: ARTF grant proceeds of both the original and additional financing will be allocated as in the table below. ARTF financing of the project will be 100%, inclusive of taxes.

Categories	Amount of the Grant Allocated (expressed in USD)	Percentage of Expenditures to be Financed (inclusive of Taxes)
(1) Goods and consultants' services for the Project (except for Parts A.2 and A.3); Training and Incremental Operating Costs under the Project.	16,240,000	100%

(2) Goods, works and consultants' services for Part A.2 and A.3 of the Project.	7,760,000	100%
(3) Goods, works, consultants' services for the Project, Training and Incremental Operating Costs under the Project	46,000,000	100%
TOTAL AMOUNT	70,000,000	

Risk

Risks identified under OFWMP have been managed well and there are no new risks identified for the proposed AF project. The risk ratings of the proposed AF project under the Systematic Operational Risk Rating Tool (SORT) are shown in the Data Sheet. The overall implementation risk of the project is rated as Substantial. Political and Governance risks and macroeconomic risks are high given the current security situation in the country, and risks relating to sector strategies and policies are substantial, given that the new Government has only recently been established and that its sector policies are not yet fully clear. The Bank is maintaining a close policy dialogue at the national level on sectoral and project matters.

Three risk elements (Political and Governance, Macroeconomics, and Security) have been rated as High. Among these high risks, particular attention has been made on the security risk, which is unpredictable and may have major implication on project implementation. In order to mitigate the risk, the following measures will be taken: (a) making civil works contracts package smaller to enable smaller contractors and use of local unskilled labors, (b) adoption of phased programmatic approach enabling the flexibility of selecting investments particularly under Component 1 responding to the security situation, and (b) close periodical monitoring (weekly) on the security situation involving the project's regional offices to enable proactive and timely response.

V. World Bank Grievance Redress

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

Inspection Panel, please visit www.inspectionpanel.org.

Updated Results Framework and Monitoring		
Afghanistan: On Farm Water Management Project Additional Financing		
Revisions to the Results Framework	Comments/ Rationale for Change	
PDO		
<i>Current</i>	<i>Proposed</i>	
Project Development Objective (PDO): <i>improve agricultural productivity in project areas by enhancing the efficiency of water used</i>	No change	NA
PDO indicators		
<i>Current (PAD)</i>	<i>Proposed change*</i>	
Land productivity (Yield of wheat in tons/ha)	Maintained	Target figure remains the same.
Water productivity (Yield of wheat (t) per cubic meter of water used)	Maintained	An increase in 15 percent from the baseline established at the beginning of the original project
Increase in irrigated area (Percentage of the command area)	Dropped	Replaced by the area with improved irrigation (core indicators)
Number of beneficiaries (gender disaggregated)	New	Introduction of core indicators
Increased irrigated area (hectares)	New	Introduction of core indicators
Number of operational IAs established and strengthened	New	Was an intermediary indicator under the original project; upgraded as a PDO indicator as it is a core.
Agriculture productivity (agriculture production per hectare) due to the conversion to the higher value crops	New	An increase in 15 percent from the baseline established

		at the beginning of the original project
Feedback from the project beneficiaries (percentage of Irrigation Associations expressing satisfaction with the rehabilitation works)	New	A new indicator presenting citizen's engagement
Intermediate Results indicators		
<i>Current (PAD)</i>	<i>Proposed change*</i>	
Component 1: Irrigation Rehabilitation and Management in the Five Regions.		
Number of hectares rehabilitated	Dropped	Changed from length of canals rehabilitated as this would better capture the project's outputs.
Conveyance efficiency	Maintained	
Decrease in conveyance duration	Maintained	
Decrease in time to divert water to farmer's field	Maintained	
Length of canals rehabilitated	New	Captures the outputs
Proportion of rehabilitated schemes obtaining satisfactory rating from irrigation water users	Maintained	Feedback from beneficiaries
Component 2: Support for Enhancing Productivity		
Hectares of irrigation demonstration sites including land leveling and advanced irrigation technology	Revised	Metric changed from number to hectare to measure the magnitude of the impacts.
Number of farmers' information center built and operational	New	Captures an output from the activity planned under the Component.
Number of participants benefitting from the demonstration activities.	New	Captures an output from the activity planned under the Component.

Component 3: Institutional Strengthening and Capacity Building of the MAIL		
Number of persons MAIL staff trained for water management and irrigated agriculture	Revised.	Referral to Water Management Institute in Lahore dropped as it is not appropriate
Preparation of a draft Law on Irrigation and Drainage	New	Captures a critical output from the activity planned under the Component.
Recruitment of CBR based staff in the Irrigation Directorate	New	Captures the government's commitment on the strengthening of ID

Updated Results Framework and Monitoring
Afghanistan: On Farm Water Management Project (OFWMP) Additional Financing

Revisions to the Results Framework	Core	Unit of measurement	Baseline (2010)	Progress to date	End target 2019	Frequency	Methodology	Responsibility for data collection	Comments
Project Development Objective (PDO): <i>to improve agricultural productivity in project areas by enhancing the efficiency of water used.</i>									
PDO indicators									
Land Productivity (Yield of wheat in tons per ha)		Ton per hectares	2.00	2.35	2.40	Annual	Field visit	PMU	The current yield is estimated at 2.35 tons per ha. The baseline cited in the appraisal (2.29 tons per ha) was wrong; the new baseline was set based on a comprehensive survey at the start of the project, and the target has been revised based on the original assumption of a 20 percent increase.
Water Productivity (Yield of wheat per cubic meter of water used)		Ton per cu.meter used	0.63	0.71	0.76	Annual	Field visit	PMU	The target has been revised based on the original assumption of a 20 percent increase.
Number of beneficiaries (gender disaggregated)	X	Number	0	60,000 (30,000)	120,000 (60,000)	Annual	Field visit	PMU	New indicator
Increased irrigation area (hectare)	X	hectares		19,000	59,000	Annual	Report	PMU	New indicator
Number of Operational IAs established and strengthened	X	Number	0	175	325	Annual	Report	PMU	Upgraded from an intermediate indicator under Component A
Improved agriculture productivity due to the conversion to the higher value crop due to improved irrigation services	X	percentage	0	0	15	Annual	Field Survey	PMU	New indicator: Baseline will be 2015

Percentage of IAs expressing satisfaction with the project activities		percentage	NA	70	85	Annual	Field Survey and possible third party monitoring	PMU, WB	New indicator.
Intermediate Results indicators									
Component 1: On Farm Water Management									
	Core	Unit of measurement	Baseline (2010)	Progress to date	End target 2016	Frequency	Methodology	Responsibility for data collection	Comments
Portion of the rehabilitated scheme rated satisfactory by the beneficiaries		Percent	48	70	80	Annual	Surveys	PMU	Original indicator maintained
Conveyance efficiency		Percent	40	60	65	Annual	Surveys	PMU	Original indicator maintained
Decrease in conveyance duration		Percent	0	60	65	Annual	Surveys	PMU	Original indicator maintained
Decrease in time to divert water to farmer's field		Percent	0	70	65	Annual	Surveys	PMU	Original indicator maintained
Length of canal rehabilitated		kilometer	0	48.0	138.0	Annual	Report	PMU	New indicator
Annual On Farm Job Created		number	0	200,000	592,000	Annual	Report	PMU	New indicator
Component 2: Institutional Strengthening and Capacity Building of the MAIL									
Number of persons MAIL staff trained for water management and irrigated agriculture		Number	15	35	50	Annual	Annual Report	PMU	
Preparation of a draft Law on Irrigation and Drainage		Event	Not yet	Not yet	Draft	Annual	Desk review	PMU	
Recruitment of CBR based Staff in the ID		number	None	20	46	Annual	Annual Report	PMU	

Component 4: Support for Enhancing Productivity									
Hectares of irrigation demonstration sites including land leveling and advanced irrigation technology		Number	0	20	120	Annual	Field survey	Directorate General for Agricultural Development (DGAD)	
Number of farmers' information center built and operational.		Number	0	0	5	Annual	Field Surveys	Directorate General for Agricultural Development (DGAD)	
Number of participants benefitting from the demonstration activities		Number	0	2,000	4,000	Annual	Field Surveys	Directorate General for Agricultural Development (DGAD)	

Annex 2: Detailed Component and Activities Description

1. The project will have the following four components:

Component 1. On-Farm Water Management (US\$31.7 million). This component will support the continued physical rehabilitation and the associated institutional support to strengthen and establish IAs as follows:

Subcomponent 1.A. Establishing and Strengthening of IAs. This subcomponent will be implemented by the IA team established within the PMU and will have the following three activities.

- *Establishment and Strengthening of the IAs.* The proposed AF project will support (a) monitoring and continued TA for the 175 IAs established under the original project and (b) establishment of an additional 100 IAs for irrigation schemes rehabilitated under the proposed AF and other donor-financed projects, including the Bank-financed IRDP.
- *Developing the Standard Procedure for Establishing IAs.* Supporting the ID to compile an inventory of the existing training materials and guidelines, including those prepared by the MEW and MRRD, and consolidating them into a single standard document. The ID will then use the consolidated material for all donor projects, with periodical updates.
- *Performance Monitoring of the IAs.* Supporting the ID to develop a database for monitoring the performance of the IAs once the rehabilitated irrigation schemes are transferred. The database will contain basic information such as command area, irrigation area, irrigation fee collected, crop patterns, infrastructure inventory, and so on and will be used for technical and financial inspection by the IDs and its regional offices.

Sub-component 1.B. Improvement of Physical Irrigation Infrastructure. This component will support the continued rehabilitation works for the existing irrigation schemes covering 40,000 ha in total at the average price of US\$600 per ha. This component will be implemented in two phases:

- *Phase 1 (2016–2017).* The rehabilitation of approximately 90 irrigation schemes covering about 20,000 ha, estimated to cost US\$12 million, which had been planned but had been postponed due to the cancellation of US\$16 million under the original project. Design works have been completed and approximately US\$600,000 of civil works will be financed through the retroactive financing arrangement. The procurement for the rest of the civil works will start immediately after the approval of the proposed AF project. The majority of Phase 1 investments are small-scale independent schemes, typically around 500 ha. It will also include some 5 large schemes ranging from 2,500 ha to 5,000 ha to rehabilitate the secondary and tertiary canals where the ongoing IRDP managed by the MEW rehabilitates the headworks and main canals.
- *Phase 2 (2018–2019).* Phase 2 investments will be selected during the implementation of Phase 1, based on criteria such as potential economic viability, availability of water, readiness of the concerned communities, and prevailing security. The Phase 2 investments will be selected from Phase 2 NIP supported under Component 2.
- *Technical Assistance and Training.* In addition to the physical rehabilitation works, this component will also support the upgrading of the technical standard, particularly to increase flood resilience of the irrigation facilities, provision of training for private designer and

contractors for engineering designs, construction techniques, and contract management on a as-needed basis.

Component 2. Institutional Strengthening and Capacity Building of the MAIL (US\$3.7 million)

This component will support the strengthening of the ID. The organizational structure and the staffing plan is being finalized under the JICA-financed CDISP and this component will help the ID strengthen its technical and administrative capacity, develop a legal framework for the irrigation and drainage subsector, and develop Phase 2 NIP. The details of the activities are as follows;

Subcomponent 2.A. Institutional Strengthening of the ID. This component will mainly support the training needs assessment, TA, and training covering the following aspects: (a) investment planning, (b) technical design standards, (c) oversight on construction works, (e) monitoring and providing technical support to IAs, (f) overall sector M&E, (g) FM, and (h) safeguards and social development (including gender). This subcomponent will include logistics, office renovation, and TA, overseas and domestic training, workshops, and exposure visits. This sub-component will also include TA to be provided by the FAO.

Subcomponent 2.B. Development of a Draft Irrigation and Drainage Law. This subcomponent will help the MAIL consolidate the current ministerial procedures issued separately by the MEW, MRRD, and MAIL into a law governing the sector. The law would providing underlying legal recognition to the traditional *mirab*, stipulating the responsibilities and privilege of the Irrigation Associations (IAs) and provides enabling framework for the IAs to manage main canals and headworks through their federation. This subcomponent will be implemented in parallel with the government's effort to amend the current Water Law to be supported by the proposed AF project for the IRDP in collaboration with other concerned ministries and under the auspices of the Supreme Council for Water Resources.

Subcomponent 2.C. Preparation of Phase 2 NIP. This subcomponent will support the ID to develop Phase 2 NIP based on Phase 1 NIP to be finalized soon. The preparatory works for Phase 2 NIP will include (a) developing a database on the current irrigation schemes with assessment on the current physical status; (b) priority analysis based on the social, economic, and environmental criteria; and (c) assessment of the administrative costs based on the prevailing security and necessary logistics. Phase 2 NIP would also include a 10-year implementation plan which will guide the development partners' support in the future.

Component 3. Project Management, Coordination, and Monitoring and Evaluation (US\$6.0 million). This component will continue supporting the incremental operating cost, project staff cost, logistics (vehicles), and critical office equipment pertaining to project implementation so as to ensure sound management of the project. The project costs include the US\$2.4 million of counterpart funds which would be financed in-kind contribution such as personal costs (including those to be recruited under the CBR), office spaces, and utilities. This component will also support the costs necessary to outreach the project content and impact to general public such as media, workshops, and publications.

Component 4. Support for Productivity Enhancement (US\$6.0 million). The main objective of this component is to enhance agriculture and water productivity in the areas supported by Component 1 through demonstration activities and technical assistance. The specific activities to be implemented under this component will include (a) promotion of laser

land leveling and high-efficiency irrigation systems; (b) training and capacity building for IAs and farmers in various agronomic practices, farm management techniques, and integrated pest management; (c) operation of demonstration sites to disseminate a wide range of improved water management and agronomic practices; and (d) establishment of farmers' information service centers linked with internet and mobile phone services. The DGAED will be responsible for the technical aspects of the component.

The activities under the component will mainly be focused on the 23 districts where the irrigation demonstration plots have already been set up under the OFWMP. First, the component will support the strengthening and expansion of the 25 demonstration plots undertaken under the original project and then establish approximately 120 additional demonstration plots. The identified technologies and practices will include the following:

- (a) *Water conservation technologies.* Laser land leveling, high-efficiency irrigation systems, including drip, sprinkler, bubbler irrigation systems, water storage pond/tank, gated pipe irrigation, and so on.
- (b) *Agronomic and soil management practices.* System of rice intensification, bed and furrow irrigation, bed planting of crops, line sowing, minimum/zero tillage, mulching, and so on.
- (c) *Investment support to private service providers/farmers.* This activity will provide TA to private farmers and service providers to promote laser land levelers and high-efficiency irrigation technologies in the project area in close coordination with the possible private suppliers.
- (d) *Improvement of selected provincial- and district-level DGAED offices* to serve as information centers for farmers.
- (e) *Integrated pest management.* As part of the ESMF, the PMP was prepared. This activity will support the implementation of the PMP to help beneficiaries to understand the rationalized use of pesticides in the project area. Activities will include training of farmers and IA staff on general information on available pesticides, application of the pesticides and herbicides, IPM practices, monitoring of pesticide residues on selected crops (horticulture produce/vegetables), and dissemination of information. This activity will be implemented in close collaboration with the IAs.

Table 1: Summary of the Project Cost and Financing

		Cost US\$ m
Component A.	Irrigation Rehabilitation and Management in the Five Regions	31.7
1.A	Establishment and strengthening of irrigation associations (IAs)	3.2
1.B	Improvement of infrastructure for the existing irrigation schemes	28.5
Component B.	Support for Enhancing Productivity	6.3
Component C.	Institutional Strengthening and Capacity Building of the MAIL	3.7
Component D.	Project Management, Coordination and Monitoring and Evaluation	6.0
TOTAL		47.7
Financing		
	ARIF	45.0
	Government Inkind	0.5
	Government – CBR	1.9
	Beneficiaries	0.3
	TOTAL FINANCING	47.7
