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May 20, 2016

Closing Date: Monday, May 23, 2016 at 6 p.m.

FROM: Vice President and Corporate Secretary

Afghanistan - Irrigation Restoration and Development Project
Proposal to Restructure

Corrigendum

1. Attached is the revised text of Annex 2-paragraph 2 on page 34 of the Project Paper entitled "Afghanistan - Irrigation Restoration and Development Project – Proposal to Restructure". The fully revised document has been placed on eBoard.

2. The second paragraph on page 34 should read:

> "**Subcomponent A.1 Rehabilitation of Irrigation Systems (US$103.6 million).** Of the additional financing of US$33.6 million, US$31.1 million will be allocated to support continued rehabilitation of existing irrigation schemes to restore irrigation services. US$8 million will be used to carry out repair works for irrigation schemes damaged by the 2014 floods. In all, about 210 irrigation schemes, covering approximately 215,000 hectares will be rehabilitated under this sub-component as originally envisaged under IRDP. This sub-component will be implemented according to the following principles:"

3. Questions on the document should be referred to Ms. Leb (ext. 33486) or Mr. Konishi (Dubai: 5379+1510 or tkonishi@worldbank.org).

Distribution:

Executive Directors and Alternates
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Report No: PAD1670

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT PAPER

ON A

PROPOSED PROJECT RESTRUCTURING

AND A

PROPOSED AFGHANISTAN RECONSTRUCTION TRUST FUND
ADDITIONAL GRANT

IN THE AMOUNT OF

US$70 MILLION

TO THE

ISLAMIC REPUBLIC OF AFHGANISTAN

FOR AN

IRRIGATION RESTORATION AND DEVELOPMENT PROJECT
(IDA-H6810)
APPROVED ON APRIL 28, 2011

MAY 10, 2016

Water Global Practice
South Asia Region

FISCAL YEAR

December 21-December 20

CURRENCY UNIT: Afghani (AFN)

USD 1= AFN65.359 (February 15, 2016)

ABBREVIATIONS AND ACRONYMS

AF	Additional Financing
AFMIS	Afghanistan Financial Management Information System
ARTF	Afghanistan Reconstruction Trust Fund
AT	Air temperature
AWARD	Afghanistan Water Resources Development Project
BP	Bank Procedure
CBR	Capacity Building for Results
CRREL	Cold Regions Research and Engineering Lab
DPC	Data Processing Center
DSP	Dam Safety Panel
EA	Environment assessment
ECOP	Environment Code of Practice
EIRP	Emergency Irrigation Rehabilitation Project
EIRR	Economic Internal Rate of Return
ESAP	Environmental and Social Advisory Panel
ESIAs	Environmental and Social Impact assessment
ESMF	Environmental and Social Management Framework
ESMPs	Environmental and Social Management Plans
FAO	Food and Agriculture Organization of the United Nations
FFEWS	Flood/Drought Forecasting and Early Warning System
FM	Financial Management
GDP	Gross Domestic Product
GoA	Government of Afghanistan
GHG	Green House Gas
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
GSM	Global System for Mobile
HYMEP	Hydromet Capacity Enhancement Project
IAs	Irrigation Associations
IDA	International Development Association
IFR	Interim Financial Report
IRDP	Irrigation Restoration and Development Project
ISDS	Integrated Safeguards Data Sheet
IWRM	Integrated Water Resources Management
JICA	Japan International Cooperation Agency

PMF	Pest Management Framework
MAIL	Ministry of Agriculture, Irrigation and Livestock
M&E	Monitoring & Evaluation
MEW	Ministry of Energy and Water
MoF	Ministry of Finance
MRRD	Ministry of Rural Rehabilitation & Development
MS	Moderately satisfactory
MTR	Mid-term Review
NEPA	National Environmental Protection Agency
NPP	National Priority Program
O&M	Operation & Maintenance
OFWMP	On Farm Water Management Project
OP	Operational Policy
PCU	Project Coordination Unit
PDO	Project Development Objective
PMO	Program Management Office
QCDP	Quality control and data processing
RAPs	Resettlement Action Plans
RH	Relative humidity
RPF	Resettlement Policy Framework
SAWI	South Asia Water Initiative
SCoLW	Supreme Council of Land and Water
SIGAs	Social inclusion and gender assistants
TA	Technical Assistance
TF	Trust fund
TOR	Terms of Reference
US$	United States Dollar
WB	World Bank
WDMP	Water-induced disaster management plans
WMGD	Water Management General Directorate
WRM	Water Resources Management
WRM&D	Water Resources Management and Development
WUAs	Water user associations

Vice President:	Annette Dixon
Country Director:	Robert Saum
Acting Senior Global Practice Director:	Jennifer Sara
Practice Manager:	Meike van Ginneken
Task Team Leader:	Toru Konishi
Co-Task Team Leaders:	Mir Ahmad Ahmad, Christina Leb

AFGHANISTAN
IRRIGATION RESTORATION AND DEVELOPMENT PROJECT

CONTENTS

ADDITIONAL FINANCING DATA SHEET

Afghanistan

Additional Financing: Irrigation Restoration and Development (P152892)

SOUTH ASIA

GWA06

Basic Information – Parent			
Parent Project ID:	P122235	Original EA Category:	A - Full Assessment
Current Closing Date:	31-Dec-2017		

Basic Information – Additional Financing (AF)			
Project ID:	P152892	Additional Financing Type (from AUS):	Scale Up
Regional Vice President:	Annette Dixon	Proposed EA Category:	A – Full Assessment
Country Director:	Robert J. Saum	Expected Effectiveness Date:	29-Jul-2016
Senior Global Practice Director:	Jennifer J. Sara	Expected Closing Date:	31-Dec-2020
Practice Manager/Manager:	Meike van Ginneken	Report No:	PAD1670
Team Leader(s):	Toru Konishi, Christina Leb, Mir Ahmad Ahmad		

Approval Authority
Approval Authority
Board/AOB Decision
Please explain
The proposed restructuring is subject to approval by both the Executive Directors of the World Bank and the Management Committee of the Afghanistan Reconstruction Trust Fund as the original project is co-financed by IDA and ARTF.

Borrower				
Organization Name	Contact	Title	Telephone	Email
Ministry of Energy and Water (MEW)	Mohammad Hamidi	Acting Project Director	93-0796002020	mhamidi@eirp-afg.org

Project Financing Data - Parent (AF Irrigation Restoration and Development Project-P122235) (in USD Million)

Key Dates

Project	Ln/Cr/TF	Status	Approval Date	Signing Date	Effectiveness Date	Original Closing Date	Revised Closing Date
P122235	IDA-H6810	Effective	28-Apr-2011	15-May-2011	15-Jun-2011	31-Dec-2017	31-Dec-2017
P122235	TF-12029	Effective	14-Mar-2012	14-Mar-2012	14-Mar-2012	31-Dec-2017	31-Dec-2017

Disbursements

Project	Ln/Cr/TF	Status	Currency	Original	Revised	Cancelled	Disbursed	Undisbursed	% Disbursed
P122235	IDA-H6810	Effective	USD	97.80	97.80	0.00	65.54	25.07	67.01
P122235	TF-12029	Effective	USD	48.40	48.40	0.00	19.90	28.50	41.12

Project Financing Data - Additional Financing: Irrigation Restoration and Development (P152892) (in USD Million)

[ ] Loan [X] Grant [ ] IDA Grant

[ ] Credit [ ] Guarantee [ ] Other

Total Project Cost: 71.00 Total Bank Financing: 0.00

Financing Gap: 0.00

Financing Source – Additional Financing (AF)	Amount
Borrower	1.00
Afghanistan Reconstruction Trust Fund	70.00
Total	71.00

Policy Waivers

Does the project depart from the CAS in content or in other significant respects?	No
Explanation	
Does the project require any policy waiver(s)?	No
Explanation	

Team Composition				
Bank Staff				
Name	**Role**	**Title**	**Specialization**	**Unit**
Toru Konishi	Team Leader (ADM Responsible)	Senior Economist	Economics	GWA06
Christina Leb	Team Leader	Sr Water Resources Spec.	Water Resources Management	GWA06
Mir Ahmad Ahmad	Team Leader	Water Resources Spec.	Water Resources	GWA06
Rahimullah Wardak	Procurement Specialist (ADM Responsible)	Senior Procurement Specialist	Procurement	GGO06
Asha Narayan	Financial Management Specialist	Sr Financial Management Specialist	Financial Management	GGO24
Chau-Ching Shen	Team Member	Senior Finance Officer	Disbursement	WFALN
Elizabeth Doris McCall	Safeguards Specialist	Consultant	Social Development	GEE06
James Orehmie Monday	Safeguards Specialist	Senior Environmental Engineer	Environmental Safeguard	GEN06
Juan Carlos Alvarez	Counsel	Senior Counsel	Legal	LEGES
Kazuhiro Yoshida	Team Member	Senior Irrigation Specialist	Irrigation Engineer	GWA06
Makoto Suwa	Team Member	Senior Disaster Risk Management Specialist	Hydromet and climate services	GFDRR
Mohammad Arif Rasuli	Safeguards Specialist	Senior Environmental Specialist	Environmental Safeguards	GEN06
Mohammad Ateeq Zaki	Safeguards Specialist	Consultant	Social Development	GSURR
Nilofar Amini	Team Member	Team Assistant	Team Support	SACKB

Extended Team		
Name	**Title**	**Location**

Locations					
Country	**First Administrative Division**	**Location**	**Planned**	**Actual**	**Comments**
Afghanistan		Wilayat-e Samangan			
Afghanistan		Qala-i-Naw			
Afghanistan		Wilayat-e Nangarhar			
Afghanistan		Wilayat-e Laghman			
Afghanistan		Wilayat-e Kapisa			
Afghanistan		Wilayat-e Ghor			
Afghanistan		Wilayat-e Farah			
Afghanistan		Wilayat-e Badakhshan			
Afghanistan		Baharak			
Afghanistan		Faizabad			
Afghanistan		Jurm			
Afghanistan		Khash			
Afghanistan		Shighnan			
Afghanistan		Shuhada			
Afghanistan		Muqur			
Afghanistan		Qadis			
Afghanistan		Baghlan-e Jadid			
Afghanistan		Doshi			
Afghanistan		Khinjan			
Afghanistan		Nahrin			
Afghanistan		Talah wa Barfak			
Afghanistan		Lash-e Juwayn			
Afghanistan		Shayb Koh			
Afghanistan		Khwajah Sabz Posh			
Afghanistan		Pashtun Kot			
Afghanistan		Ghazni			
Afghanistan		Chahar Sadah			
Afghanistan		Dowlatyar			
Afghanistan		Obeh			
Afghanistan		Gul Darah			
Afghanistan		Istalif			
Afghanistan		Achin			

Afghanistan		Goshtah			
Afghanistan		Nazian			
Afghanistan		Rodat			
Afghanistan		Surkh Rod			
Afghanistan		Kang			
Afghanistan		Daman			
Afghanistan		Khanabad			
Afghanistan		Warsaj			
Afghanistan		Markaz-e Behsud			
Afghanistan		Sangcharak			
Afghanistan		Sar-e Pul			
Afghanistan		Sozmah Qal'ah			
Afghanistan		Narang			
Afghanistan		Sar Kani			
Afghanistan		Alingar			
Afghanistan		Qarghah'i			
Afghanistan		Sayyid Karam			
Afghanistan		Tarin Kot			
Afghanistan		Surkh-e Parsa			
Afghanistan		Unabah			
Afghanistan		Mihtarlam			
Afghanistan		Kunduz			
Afghanistan		Farah			
Afghanistan		Chawkay			
Afghanistan		Daykundi			
Afghanistan		Dand			

Institutional Data

Parent (AF Irrigation Restoration and Development Project-P122235)

Practice Area (Lead)

Water

Contributing Practice Areas

Cross Cutting Topics

[ ] Climate Change

[ ] Fragile, Conflict & Violence

[ ] Gender

[ ] 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	74		
Public Administration, Law, and Justice	Public administration-Agriculture, fishing and forestry	26		
Total		100		

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Environment and natural resources management	Water resource management	50
Rural development	Rural services and infrastructure	50
Total		100

Additional Financing AF Additional Financing: Irrigation Restoration and Development (P152892)

Practice Area (Lead)

Water

Contributing Practice Areas

Social, Urban, Rural and Resilience Global Practice

Cross Cutting Topics

[X] Climate Change

[X] Fragile, Conflict & Violence

[ ] Gender

[ ]] 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	50	80	
Public Administration, Law, and Justice	Public administration-Agriculture, fishing and forestry	10	40	
Water, sanitation and flood protection	Flood protection	10	80	
Water, sanitation and flood protection	General water, sanitation and flood protection sector	30	80	
Total		100		

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

Green House Gas Accounting

Net Emissions	42,000.00	Gross Emissions	54,000.00

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Social protection and risk management	Natural disaster management	10
Rural development	Rural services and infrastructure	50
Environment and natural resources management	Water resource management	40
Total		100

Consultants (Will be disclosed in the Monthly Operational Summary)

Consultants Required?
Consulting services to be determined

A. Introduction

1. This Project Paper seeks the approval of the Executive Directors of the World Bank and the Management Committee of the Afghanistan Reconstruction Trust Fund (ARTF) for the proposed restructuring of the Irrigation Restoration and Development Project (TF-12029 / IDA-H6810, IRDP) and the approval of the Management Committee of the ARTF for the proposed additional grant in the amount of US$70 million to the Islamic Republic of Afghanistan.

2. **Additional Financing (AF).** An additional financing of US$70 million is requested to: (i) address cost overruns in the rehabilitation of irrigation schemes; (ii) carry out river bank protection and dam safety works, which were found to be of high priority and (iii) scale up technical assistance on policy improvement and institutional strengthening activities on broader water resources management (WRM) issues.

3. **Level 1 Restructuring.** The proposed restructuring of the parent project includes changing the Project Development Objective (PDO) and triggering two new safeguards policies: Pest Management (OP 4.09) and Physical Cultural Resources (OP/BP 4.11). The proposed project restructuring will also include revision of the Results Framework, extension of the Closing Date by three years to December 31, 2020, revisions to project components and costs, and update of disbursement estimates and implementation schedule.

B. Background and Rationale for Additional Financing.

4. **Original Project.** IRDP was approved on April 28, 2011 in the amount of US$148.7 million, with an IDA grant of US$97.8 million (IDA-H6810), an ARTF grant of US$48.4 million (TF-12029), and recipient contribution of US$2.5 million. The project became effective on June 15, 2011 and the current closing date is December 31, 2017. The original project development objective (PDO) is to *increase agriculture production and productivity in the project areas.* The project comprises four components: (a) Rehabilitation of Irrigation Systems (Component A, US$70 million); (b) Small Dam Development (Component B, US$31.3 million); (c) Establishment of Hydro-meteorological Facilities and Services (Component C, US$8.2 million); and (d) Project Management and Capacity Building (Component D, US$39.2 million). The project is implemented by the Ministry of Energy and Water (MEW).

5. **Implementation Progress.** Progress towards achievement of the development objectives and implementation progress for IRDP are rated moderately satisfactory. The following is a summary of the progress in the implementation of each component:

- *Component A: Rehabilitation of Irrigation Systems.* Implementation of this component is rated moderately satisfactory, with good physical progress and tangible impact. A total of 118 irrigation schemes (about 120,000 hectares of irrigation command area) have been rehabilitated, benefiting more than 200,000 households. The current average cost of rehabilitation is about US$400 per hectare, and will increase up to US$600 per hectare in the future, which is significantly higher than the estimate at appraisal (US$200 per hectare). The cost increase is because of (a) an increase in security-related costs in light of worsening security risks; (b) increase in the cost of construction materials and labor; (c) required enhancements in technical standards needed to increase flood resilience, and (d) outreach for the more remote areas to address food

and job security. As a result of the cost increase, reaching the original target of rehabilitating 300,000 hectares will not be achieved without additional financing.

- *Component B: Small Dam Development.* Implementation of this component is rated moderately unsatisfactory. The component included the construction of at least three 25-35 meter high dams. However, economic analysis of these dams at the feasibility study stage conducted during project implementation indicated that to optimize benefits, the heights of these dams would need to be increased to 60-65 meters. This increase in dam height will significantly increase environmental and social impacts and will require rigorous environmental and social impact assessment. Further, access to the dam sites by works contractors is seriously hampered due to the worsening security conditions.

- *Component C: Establishment of Hydro-Meteorological Facilities and Services*. Implementation of this component is rated satisfactory, with good progress and substantial outputs. Twenty two hydrological stations[1] have been established and the establishment of 20 stations has been planned, while the remaining 27 stations are not accessible due to the prevailing security conditions. This component has also supported installation of 56 snow gauges and meteorological stations with telemetry (against a target of 55) and 40 cableway stations for flow measurement at selected hydrology stations, and has started producing an annual Hydrology Book. Coordination with the Japan International Cooperation Agency (JICA)-financed Hydromet Capacity Building Project to help increase technical capacity to analyze the hydromet data is also progressing satisfactorily but is highly dependent on improvements in the security situation to be completed as per the current closing date.

- *Component D: Project Management and Capacity Building*. The implementation of this component is rated moderately satisfactory. This component supports the technical assistance and implementation support mainly carried out by the FAO and incremental operating cost.

6. The pace of disbursement rate has accelerated after a slow start. The overall disbursement from the IDA grant and ARTF Grant has reached approximately US$88.0 million (about 60 percent of total donor funds for the project) as of April 30, 2016. Procurement performance is rated moderately satisfactory. Legal covenants and audit requirements are complied with. There is no overdue audit report.

7. **Safeguards Performance.** IRDP is a category A project, and triggered the following safeguards policies: OP 4.01 Environmental Assessment; OP 4.12 Involuntary Resettlement; OP 4.37 Safety of Dams; and OP 7.50 Projects on International Waterways. The approved Environmental and Social Management Framework (ESMF) and site-specific Environmental and Social Management Plans (ESMPs) are being satisfactorily applied. A Mid Term Review (MTR), conducted in March 2015, assessed safeguards performance as satisfactory. Project investments have had limited negative social and environmental impacts so far, as the majority of project investments are for the rehabilitation of existing irrigation schemes.

[1] A target is 69 hydrological stations, including 22 which were started under the earlier Emergency Irrigation Rehabilitation Project but were not completed)

8. **Rationale for restructuring and AF.** The original project is being restructured to provide financing for cost overruns and to enlarge the scope in order to meet the emerging challenges for sustainable management and development of the country's water resources for improved livelihoods and strengthened long-term water security. In particular, the new scope of the project includes technical assistance on broader water resources management (WRM) sector issues and strengthen inter-ministerial coordination in the water sector.

The IRDP MTR in March 2015 identified the need for restructuring IRDP and for additional financing for the following reasons:

- ***Cost overrun of irrigation rehabilitation activities (Component A)***. As discussed in paragraph 5, the appraisal estimate of US$ 200 per hectare for rehabilitation needs to be updated. The Appraisal Section summarizes the detailed analysis.

- ***Addressing capacity development of dam planning, supervision, operation and management (Component B)***. Dam construction is no longer feasible within the current project duration given the changes in design and the worsening security situation. The delay in preparing for the planned construction of dams has highlighted the acute need to increase the technical capacity of MEW to operate and maintain existing dams as well as to plan for new dams. MEW has recently established a Dam Unit responsible for overall planning, operation and maintenance of dams and has requested support to strengthen the unit under IRDP. The restructured project will no longer include the construction of dams but focus only on the preparatory work for dams (feasibility studies, environmental and social impact assessment) that can be completed under the proposed extended period of implementation.

- ***Strengthening end-to-end hydromet system and scaling up hydromet data collection under Component C.*** Accelerated hydromet data collection and analysis are a pre-requisite for sound water resources management and planning. Additional hydromet stations are needed to closely monitor snowmelt, which plays an important role in the hydrology of the country. Other priorities identified include: (a) establishing the baseline; (b) considering the effective use of regional and global products, including satellite remote sensing products, to ensure cost effective system development and coverage of areas with worsening security, where installation and operation of ground facilities is currently not a feasible option; and (c) groundwater monitoring to enable more informed management. In parallel, greater emphasis will need to be placed on capacity building.

- ***River Bank Erosion Protection***. In 2014, a major flood event led to the loss of over 25,000 hectares of arable land, due to river bank erosion. The proposed restructuring and additional financing will support erosion protection of riverbanks to mitigate natural disaster risks and to protect the livelihoods of rural populations.

- ***Request to support Policy Development and Institutional Strengthening***. The current legal and policy framework for WRM needs to be strengthened to establish an integrated water resources management (IWRM) policy in the country. Identified needs include: (a) amendment of the Water Law (2009) to redefine the mandates of the concerned institutions and ministries, and strengthen river basin management; (b) strengthening the Supreme Council of Land and Water as an inter-ministerial body to promote IWRM; (c) strengthening river basin

management, including data collection and analysis, and planning; and (d) increasing capacity to accelerate riparian dialogue on transboundary river basins for coordinated water resources development.

9. **Alternatives considered.** The following alternatives have been considered to the proposed AF and the restructuring and rejected:

- *Doing Nothing*. The project has encountered cost overrun in irrigation rehabilitation and delay in dam implementation. Delayed implementation of a comprehensive IWRM approach will further impede sustainable development in the sector. The MTR showed the need to deepen support to institutional strengthening. Thus, the "Doing Nothing" option is not considered appropriate.

- *Restructure without Additional Financing.* The proposed AF is critical to enhance the impact of the proposed restructuring by offsetting the cost overrun, scaling up project activities and carrying out additional activities, in particular by addressing the country's emerging WRM needs.

- *Preparation of a new WRM project to address emerging sector issues.* IRDP already includes important WRM components (e.g., strengthening of the hydromet network under Component C) and emerging policy issues can be addressed through a proposed new sub-component of the existing Component C. Using the existing project (IRDP) was considered preferable to preparing a new project in order to avoid parallel arrangements for implementation, integrate technical assistance into the investments, and utilize the existing well-functioning and effective Project Coordination Unit (PCU) and FAO technical assistance team.

- *Alternative funding source.* Afghanistan Reconstruction Trust Fund (ARTF), which already funds the original IRDP, has been identified by both the Government and the Bank as the best source of funding for the proposed AF. Bilateral and multi-lateral donors fund large parts of their engagement in Afghanistan through ARTF. The Government of Japan has also made a decision to provide the ARTF with US$30 million, earmarking its contribution to IRDP.

10. **Alignment with Government and Bank Strategies.** The proposed AF project would directly contribute to the Government's effort in improving natural resources management and increasing agricultural production.

- The proposed AF project is fully aligned with the World Bank Group's twin goals of eliminating extreme poverty by 2030 and boosting shared prosperity. It will reduce the vulnerability of the poorest to natural disasters (floods, droughts) and climate impacts. It will safeguard and strengthen the income base of the rural poor through risk reduction (dam safety), erosion control, and rehabilitation of irrigation infrastructure. Moreover, it will significantly contribute to job creation, including short-time construction works in irrigation rehabilitation works and river bank erosion protections works.

- The AF contributes to the three key pillars[2] of the Bank's Interim Strategy Note for Afghanistan (March 9, 2012) by: (a) building the capacity of the State through strengthening MEW's overall

[2] Three pillars are as follows: (i) Pillar 1 Building the Legitimacy and Capacity of Institutions, (ii) Pillar 2 Equitable Service Delivery; and (iii) Pillar 3 Inclusive Growth and Jobs.

capacity for water sector management by providing physical, legal, institutional and technical support (Components C and D); (b) promoting the growth of the rural economy and improving rural livelihoods, particularly in the Northern Basin, where the poverty rate (32.7 percent) is higher than in the rest of the country and where most of the current and new project investments are located (in particular Components A and B); and (c) supporting private sector growth by enhancing disaster risk management through capacity strengthening (Component C).

- The proposed project is fully aligned with the National Water and Natural Resources Development Program under the Agriculture and Rural Development Cluster's National Priority Program (NPP) developed by the Government of Afghanistan. NPP highlights: the creation of adequate functional irrigation and water storage systems; improvement of planning processes and institutional and legislative frameworks for effective water resource management; and provision of sufficient information for informed decision-making in water resources protection and conservation. The proposed AF will also facilitate collaboration and cooperation between different sectors and stakeholders under the overall framework of IWRM at the river basin level, and within respective mandate areas.

C. Proposed Changes

Summary of Proposed Changes	
The proposed AF will support the MEW to address cost overruns in the rehabilitation of irrigation schemes; and scale up technical assistance activities on broader WRM issues and strengthen inter-ministerial coordination in the water sector. The activities under the AF will be incorporated under existing project components. The proposed restructuring of the parent project includes changing the PDO to reflect the new project scope and triggering two new safeguards policies. The project results framework is also being updated. The project covenants are being revised. A closing date extension of three years, to 31 December 2020, is proposed to allow for completion of activities under the parent project. The disbursement estimates and implementation schedule are revised in line with the proposed new activities and new closing date of the parent project.	
Change in Implementing Agency	Yes [ ] No [X]
Change in Project's Development Objectives	Yes [X] No [ ]
Change in Results Framework	Yes [X] No [ ]
Change in Safeguard Policies Triggered	Yes [X] No [ ]
Change of EA category	Yes [ ] No [X]
Other Changes to Safeguards	Yes [ ] No [X]
Change in Legal Covenants	Yes [X] No [ ]
Change in Loan Closing Date(s)	Yes [X] No [ ]
Cancellations Proposed	Yes [ ] No [X]

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

Development Objective/Results

Project's Development Objectives

Original PDO

To increase agriculture productivity and production in the project areas.

Change in Project's Development Objectives

Explanation:

The revised PDO also corresponds to the revised project scope, especially cancellation of dam construction and inclusion of broader water resources management and development activities. The revised PDO is more closely linked to the anticipated project outcomes and eliminates the original reference to the higher-level objectives of agriculture production and productivity, which are not attributable to the project and depend on agronomic inputs that are outside the scope of the project.

Proposed New PDO - Additional Financing (AF)

Improve access to irrigation in targeted areas and strengthen capacity for water resources management.

Change in Results Framework

Explanation:

The results framework is being revised to: (a) reflect the above-mentioned changes in the PDO; (b) establish indicators at the outcome and intermediate results levels that appropriately measure progress towards achievement of the PDO, and to (c) take into account the new project closing date.

Compliance

Current and Proposed Safeguard Policies Triggered:	**Current(from Current Parent ISDS)**	**Proposed(from Additional Financing ISDS)**
Environmental Assessment (OP) (BP 4.01)	Yes	Yes
Natural Habitats (OP) (BP 4.04)	No	No
Forests (OP) (BP 4.36)	No	No

Pest Management (OP 4.09)	No	Yes
Physical Cultural Resources (OP) (BP 4.11)	No	Yes
Indigenous Peoples (OP) (BP 4.10)	No	No
Involuntary Resettlement (OP) (BP 4.12)	Yes	Yes
Safety of Dams (OP) (BP 4.37)	Yes	Yes
Projects on International Waterways (OP) (BP 7.50)	Yes	Yes
Projects in Disputed Areas (OP) (BP 7.60)	No	No

Covenants - AF Additional Financing: Irrigation Restoration and Development (P152892)

Source of Funds	Finance Agreement Reference	Description of Covenants	Date Due	Recurrent	Frequency	Action
ARTF	Schedule I, Section A, para 1 (c)	Maintaining M&E Unit	NA	X	NA	Dropped
ARTF	Schedule I, Section A para 1 (e)	Maintaining Budget Committee	NA	X	NA	Dropped
ARTF	Schedule II, Section F	Operation and Maintenance of Hydromet Data Collection	NA	X	NA	Revised

The three above-mentioned covenants will be revised: the first two have been considered redundant as the M&E and budget functions have been fully integrated into the PCU; and the third covenant will be revised to explicitly state the contribution from counterpart funds towards operation and maintenance of hydromet data collection equipment.

Conditions

None

Source Of Fund	Name	Type

Description of Condition

Risk

Risk Category	Rating (H, S, M, L)
1. Political and Governance	High

2. Macroeconomic	High
3. Sector Strategies and Policies	Substantial
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Substantial
8. Stakeholders	Substantial
9. Other	
OVERALL	Substantial

Finance

Grant Closing Date - Additional Financing: Irrigation Restoration and Development (P152892)

Source of Funds	Proposed Additional Financing Loan Closing Date
Afghanistan Reconstruction Trust Fund	31-Dec-2020

Grant Closing Date(s) - Parent (Irrigation Restoration and Development Project - P122235)

Explanation:

The closing dates of the parent IDA grant and the ARTF grant are proposed to be extended by three years to December 31, 2020 to complete remaining activities under the parent project. This is necessary to complete irrigation rehabilitation works (Component A) and the installation of the remaining hydromet stations (Component C) as implementation has been affected due to changing security situation in the project area. The extension is also required to complete new activities that have been added in components A, B and C under the restructuring to protect the rehabilitated irrigation infrastructure and river banks from erosion and to strengthen water resources management in the country.

Ln/Cr/TF	Status	Original Closing Date	Current Closing Date	Proposed Closing Date	Previous Closing Date(s)
IDA-H6810	Effective	31-Dec-2017	31-Dec-2017	31-Dec-2020	
TF-12029	Effective	31-Dec-2017	31-Dec-2017	31-Dec-2020	

Change in Disbursement Estimates (including all sources of Financing)

Explanation:

The disbursement estimates have been updated to incorporate the proposed additional financing and to account for the extended closing date.

Expected Disbursements (in USD Million)(including all Sources of Financing)

Fiscal Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual	5.00	10.00	20.00	25.00	35.00	35.00	35.00	30.00	17.20	4.00
Cumulative	5.00	15.00	35.00	60.00	95.00	130.00	165.00	195.00	212.20	216.20

Allocations - Additional Financing (AF Additional Financing: Irrigation Restoration and Development - P152892)

Source of Fund	Currency	Category of Expenditure	Allocation	Disbursement %(Type Total)
			Proposed	Proposed
ARTF	USD	Goods, works, non-consultants services, consultants' services, training and incremental operating cost	70,000,000.00	100.00
		Total:	70,000,000.00	

Components

Change to Components and Cost

Explanation:

The following changes are proposed:

(a) Component A will be renamed as Rehabilitation of Irrigation Systems and River Bank Protection. The component cost will be adjusted to meet cost overruns for the irrigation rehabilitation as a result of cost escalation in response to increasing construction costs, undertaking improved technical standards, and the worsening security situation. New activities related to support the protection of river bank against possible erosions will be added to the component.

(b) Component B will be renamed Support for Dam Development, Operation and Maintenance and restructured as follows:

- Activities dropped: Construction of small dams.
- Activities added: (i) provision of technical assistance for the operation and maintenance of existing dams, and (ii) undertaking of safety works for selected dams; (iii) provision of technical assistance for planning, preparing, designing, managing and monitoring construction; and (iv) monitoring compliance with environmental and social safeguards provisions and related Safeguard Instruments.

(c) Component C will be renamed as Water Resources Management and Development. The component will be scaled-up by including the following technical assistance activities: (i) policy and legal framework development for water resources management, (ii) Institutional support for the MEW

for promoting integrated water resources management, transboundary water dialogue, and (iii) strengthening technical capacity for river basin management.

(d) Component D will be renamed as Project Management as capacity building and technical assistance activities will be included in Components A-C above.

The cost for the original and revised component costs are provided in the table below.

Original Component Name	Revised Component Name	Original Cost (US$M)	Revised Cost (US$M)	Action
A: Rehabilitation of Irrigation Systems	Rehabilitation of Irrigation Systems and River Bank Protection	70.00	120.70	Revised
B: Small Dam Development	Support for Dam Development, Operation and Maintenance	31.30	17.40	Revised
C: Establishment of Hydro-Meteorological Facilities and Services	Water Resources Management and Development (WRM&D)	8.20	28.90	Revised
D: Project Management and Capacity Building	D: Project Management	39.20	52.70	Revised
	Total:	148.70	219.70	

Other Change(s)

Implementing Agency Name	Type	Action
No changes proposed.		

Change in Procurement

No changes proposed.

Change in Implementation Schedule

Explanation:

The implementation schedule is updated to reflect the AF activities and the proposed extension of the parent project closing date by three years, to December 31, 2020, which is required because of implementation delays due to the volatile security situation and for the implementation of new activities added under the restructuring and AF. Implementation arrangements remain the same as under the parent project.

D. Appraisal Summary

Economic and Financial Analysis

The 2011 appraisal included an economic assessment of IRDP was carried out based on samples drawn from the planned 241 irrigation schemes under the assumption of a 20 percent increase in the yield of wheat. No regional analysis was carried out. The overall Economic Internal Rate of Return (EIRR) of IRDP was estimated at 28 percent.

Economic Analysis of the Proposed Restructuring and Additional Financing. An updated economic analysis has been carried out for various activities under Component A based on unit costs incurred during IRDP implementation and taking account of regional differences.

Irrigation Rehabilitation Works (Component A). The overall EIRR of the irrigation rehabilitation sub-component is 17.9 percent and the estimated net present value discounted by six percent is US$68.4 million. The economic benefits of irrigation rehabilitation works include: (a) increased areas with improved and/or resumed irrigation services; and (b) increased crop yields. The analysis is based on the assumption of a useful life of 30 years. The results of the analysis are summarized in Table 1 below.

Table 1: Economic Analysis Summary by Region based on Sample Irrigation Schemes

	Project Region	Number of Sample Schemes	Total Costs (US$ M)	EIRR %	ENPV (US$M)
1	Hirat	3	6.5	16.3	8.4
2	Jalalabad	5	11.3	14.1	11.1
3	Kabul	9	9.0	18.0	13.7
4	Kandahar	6	10.2	22.9	23.6
5	Kunduz	5	4.7	20.2	8.5
6	Mazar	3	3.5	13.7	3.1
	Overall	**31**	**45.1**	**17.9%**	**68.4**

Sensitivity Analysis. To test the robustness of the EIRR, the economic analysis has been repeated for variations in the assumptions. The EIRR is robust for increases in capital costs, increases in O&M costs, and decreases in overall benefits (see Table 2).

Table 2: Results of Sensitivity Analysis

Results of Evaluation	Change %	EIRR %
Base Case (Overall for Sampled Schemes)		17.9
Sensitivity Scenarios		
Case 1 - Increase in Capital Costs	10	16.5
Case 2 - Increase in O&M Costs	10	17.6
Case 3 - Decrease in overall benefit	10	16.1
Case 4 - Combination of cases 1 and 3		14.4

Prevention of river bank erosion (Component A). Though only limited data was available, an economic analysis of this type of investments has been carried out for the 64 candidate schemes that are proposed to be supported under the AF. The standalone economic analysis for this sub-component indicates an EIRR of 20.9 percent. The economic benefits of the prevention of river bank erosion include: protection of infrastructure, private property and livelihood activities. Details are shown in Table 3.

Table 3: Summary of Data by Region for Prevention of River Bank Erosion Works

Project Region	Number of prioritized locations	Length of protection works (meters)	Preliminary Estimated cost (US$ M)	Supervision and Consultancy Costs (US$ M)	Total Costs (US$ M)	Avoided Loss of Infrastructure (US$ M)
Herat	10	9,900	3.238	0.210	3.449	4.654
Jalalabad	7	3,483	3.101	0.202	3.302	5.500
Kabul	7	3,900	2.520	0.164	2.684	4.071
Kandahar	4	3,200	2.864	0.186	3.050	6.700
Kunduz	11	1,375	1.782	0.116	1.897	1.437
Kunduz	19	1,825	2.122	0.138	2.260	1.743
Mazar	6	2,620	3.153	0.205	3.358	4.005
Overall	**64**	**26,303**	**18.779**	**1.221**	**20.000**	**28.110**

Proposed Dam Safety Works (Component B). The proposed safety works will reduce the risk of dam failure, which would affect 1,000 – 2,000 families located immediate downstream of the dam. Considering the scope and scale of works (typically stabilization of slopes and repairs to discharge channels, estimated to cost US$2 million per dam), the proposed works are considered to be well justified. The quantification of the economic benefits of dam safety works is challenging due to lack of reliable data. Similar investments in other countries indicate that such investments are of high economic and social value.

Non-quantifiable and indirect benefits. In addition to direct and quantifiable economic benefits, the project would also have non-quantifiable benefits: (a) improved and reliable irrigation water flow could potentially lead to better management of water and conversion to higher value crops; (b)

managed irrigation will deliver adaptation benefits by increasing Afghanistan's resilience to climate related water risks; (c) benefits from enhanced institutional capacity and from strengthening the government's ability to predict, plan for and respond to climate/water related hazards such as droughts and floods; and (d) carrying out preparatory works for small dams will facilitate their future appraisal.

Income Impacts. The proposed rehabilitation works would generate additional benefits of US$548 per hectare and result in an increase in income of US$39 per capita per annum for project beneficiary households. This increase would be equivalent to 6% of the country's per capita annual income (US$690)[3].

Poverty Impacts. The projected average increase in farm income by US$548/ha will help in reducing the incidence of poverty in beneficiary farm households in the project area. Each hectare of incremental irrigated area added due to the rehabilitation investments under the project has the potential to lift at least 4 family members in project beneficiary households above the poverty line. A total of 200,000 number of people are thus expected to directly and indirectly benefit from this project. Cash income from the sale of crops originating from project activities will also improve "cash liquidity" of beneficiary households, and help upgrade living standards.

Job Impacts. Job security is a serious threat to livelihoods, particularly in remote rural areas in Afghanistan, and the proposed AF project would contribute significantly to job creation. Investments under Component A, comprising irrigation rehabilitation works and river bank erosion protections works, would generate about 1,000,000 person days of short-time construction works, mainly for unskilled labor from the nearby areas. Riverbank protection works are expected to provide villagers skills to make gabions, which would be required by similar projects in the future.

The proposed project will generate about 92,000 long-term on farm jobs and secondary jobs (such as transportation and marketing) as a result of increased agriculture production from IRDP and the AF. In order to ensure that the project would also benefit remote impoverished farming communities, social criteria will be considered in selecting the target irrigation schemes, including remoteness, prevailing poverty, and number of small holders.

Technical Analysis

A. Technical Analysis

The project uses well established technologies and presents no unusual construction or operational challenges. The equipment and the technologies used in construction and operation are well known and proven. The project will observe conventional international standards for works and equipment specification to ensure that proper quality standards are maintained.

Component A

Scope of Irrigation Rehabilitation Works. Rehabilitation works under the AF will be based on a

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

comprehensive and participatory approach to modestly modernize and increase flood resilience to support farmers, based on the principles of flexibility, adequacy and equity within the context of water availability and water rights of a given system. The main scope of work involves: upgrading and protection of existing side intakes; improvement of main conveyance systems; and installation of minor water distribution and measuring structures, canal safety structures, and social infrastructure (foot bridges, washing platforms, and livestock watering places). Side intakes, where essential, would be improved with gates and concrete/masonry sections to control water flow in the main canal. Bank protection works (either gabion or masonry walls) would also be included as needed. Safety works include provision of escape structures, overflow spillways, sediment control and flushing structures, and other associated protection works to enhance the resilience of systems.

The team has appraised the cost of rehabilitation works based on a review of the historical cost of rehabilitation works under IRDP. The average rehabilitation cost per hectare for the 140 schemes rehabilitated to date under IRDP was approximately US$400, compared to the US$200 per hectare estimated at IRDP appraisal in 2011. The per hectare costs of rehabilitation under IRDP range from about US$200 per hectare to US$800 hectare, depending on the degree of deterioration, topography, size of command area, and access, as well as the underlying security situation. Moving forward, IRDP will continue to support rehabilitation of irrigation schemes with a similar approach, including in less accessible and less secure areas. In view of this, the estimated cost of rehabilitation works has been updated to US$600 per hectare.

Component B

The team decided to exclude the financing of dam construction from this component based on an analysis of six potential dam sites. The appraisal concluded that the height of the dams would need to be 60-65 meters which would have increase environmental and social impacts. In addition, access to the dam sites by works contractors is seriously hampered due to the worsening security conditions. The restructured project only includes the preparatory work (studies) for dams.

Dam Safety Works. Afghanistan has a number of dams (clay core with rock fill or concrete) built during the 1950 – 1970 period, most of which are below 50 meters in height. The condition of many of these dams is poor: there is a strong presence of erosion, sedimentation, concrete cracking, as well as inoperable electro-mechanical systems. Several bilateral donors funded projects as well as Government projects have addressed water infrastructure rehabilitation, including dams. However, a holistic and more structured approach to dam safety and prioritization of interventions has become urgent. It is therefore proposed to carry out dam safety works, after a comprehensive assessment during implementation based on technical, social and security criteria.

Institutional Strengthening. The team's appraisal concluded that the MEW requires consolidated management of dam development, supervision and safety. It is therefore proposed to review the existing legal framework and establish a dam unit within the MEW.

Component C

IRDP (and earlier, EIRP) has focused on restoration and expansion of the observation network for the development of hydromet services. The AF proposes to focus on the provision of user oriented

hydromet services by developing and operationalizing an integrated end-to-end hydromet system to serve the needs of water resources management, energy, disaster risk management, and climate change adaptation. This will accompany the significant capacity building program for staff of the Water Resources Department (WRD) to sustainably operate and maintain the entire system.

Improvement in the performance of particular types of the sensors/equipment will also be sought based on experience gained under IRDP. The performance of snow pillows for snow monitoring and bubblers for water level, for example, are less than expected and there is a need to reassess the suitability of this equipment in Afghanistan and potentially install alternative types of equipment/sensors. Collection of meteorological data, e.g., precipitation and air temperature /relative humidity in some of the stations may not be suitable as these are, in some cases, located in narrow valleys which do not meet the location criteria of "meteorological stations".

Use of global and regional products including remote sensing. For financial and security reasons, it is not currently feasible to install stations spread all over the country. The Project will therefore consider the use of global and regional products, including satellite remote sensing products available from various global and regional hydromet centres as well as space agencies, for global gridded datasets for key meteorological parameters, e.g., precipitation, temperature, relative humidity, solar radiation and potential evapotranspiration. Regular snow monitoring data areas provided by the US Air Force Weather and US Army ERDC-CRREL (Cold Regions Research and Engineering Lab). Glacier data are available from sources such as the Randolph Glacier Inventory. Available ground data would be used to validate and "bias correct" these climate surfaces and data, as required.

Groundwater management. Component C of the original project does not include the groundwater management; however, activities related to groundwater are proposed under the AF as part of Component C. This is because groundwater is an integral part of broader water resources management, and responsibilities for groundwater management have recently been transferred from the Ministry of Mining to MEW. Activities on groundwater proposed under the AF have been developed as a follow-up to the FAO Technical Cooperation Program, and will support institutional development of MEW for effective groundwater management through: developing a GIS based database compiling the existing research and studies, preliminary analysis on the distribution and availability of groundwater resources; and identification of critical areas. These initiatives would support the preparation of a national groundwater management plan through a possible follow-on project.

Linkage with Other Donor Operations. The Project will continue to coordinate closely with the operations of JICA (and any other emerging donor operations) in the hydromet sector to maximize synergies. JICA's Hydromet Capacity Enhancement Project (HYMEP) focuses on: (a) quality control and data processing; (b) data and information storage, access and dissemination; and (c) basic data analysis. HYMEP activities are important for the validation of the yearbook data and are synergistic to IRDP activities. JICA is now planning for the next phase of HYMEP.

B. Institutional Aspects

Operation and Maintenance of Irrigation Facilities. Afghanistan has a strong tradition of community-based irrigation management called *mirab*. IRDP has been working closely with *mirabs*,

and has provided *mirabs* training on technical aspects (operation and maintenance, and water distribution) as well as social issues (dispute resolution and gender mainstreaming). This will be continued under the proposed AF project.

The proposed AF project will support the amendment to the Water Law (2009), as the law does not fully recognize the role and responsibilities of *Mirabs*. Further, the law sets out the two forms of O&M arrangement - Water Users Associations (WUAs) and Irrigation Association (IAs) - which has led to the failure in recognizing the interconnectedness of the different levels of canal networks. Consensus has been emerging between MAIL and the MEW to gradually transform *mirabs* to IAs and modernize technical and administrative skills; and the amendment would be drafted based on this consensus. The Bank financed On Farm Water Management Project (OFWMP) continues to support this transformation.

Coordination between the Ministry of Agriculture, Irrigation and Livestock (MAIL) and MEW on Irrigation. It has been agreed that MAIL will focus on smaller irrigation schemes, typically with a command area less than 1,000 hectares, and MEW through IRDP, will focus on irrigation schemes with command areas more than 1,000 hectares. MEW will strengthen the administrative and technical (water management) capacity of existing *Mirabs*, while MAIL will gradually transform *Mirabs* into irrigation associations. MEW and MAIL will jointly carry out rehabilitation works in an integrated manner for larger irrigation schemes (typically 5,000 hectares). MEW and MAIL will coordinate closely to provide technical assistance on agriculture for irrigation schemes rehabilitated by MEW. MEW will draft the possible amendment to the Water Law with the support from the proposed AF, with the close guidance of the Supreme Council of Land and Water. The AF project will support the implementation of the above-mentioned agreement in close coordination with other concerned development partners.

Water Law. The 2009 Water Law aims to give effect to the principles of IWRM and addresses most of the issues that are generally found in a modern water law. There are nevertheless some issues that require further examination and possible amendment of the Water Law.

The Water Law contains significant references to irrigation, however clarification is needed on the roles and responsibilities of MEW and MAIL. The law assigns MAIL as the primary responsible ministry to handle the irrigation sub-sector, while the law also stipulates that MEW is responsible for constructing 'main' irrigation canals, without defining 'main' irrigation canals. Further, the law also stipulates a parallel structure for the operation and maintenance of irrigation schemes: WUAs are to be established under MEW, while irrigation associations are to be established under MAIL, without fully recognizing the traditional *mirab* structure.

The Water Law also does not address in sufficient detail: elements of the water rights regime; aspects of water related disaster management, monitoring and data (including public access); protected areas and wetlands; international watercourses; and provisions on inspection, enforcement, and offences. Subordinate legislation needs to be reviewed to determine the amendments to that may be needed to the Water Law.

Transboundary Dialogue. Four Afghanistan's five river basins are shared with neighboring countries. In each of these basins, additional consumptive water use by Afghanistan will impact

downstream riparian countries. One of the policy priorities of the Government of Afghanistan (GoA) is to enhance its capacity in, and engaging on, transboundary water resources management and riparian dialogue with its co-riparian countries. GoA has prepared a Draft Policy on Transboundary Waters based on the 2009 Water Law, which outlines the following institutional mandates: "Management and planning for the transboundary waters between Afghanistan and its neighboring countries and changes of watercourses are the responsibility of MEW with agreement from the Ministry of Foreign Affairs, Ministry of Interior and the Ministry of Border and Tribal Affairs".

As the Policy is still in draft form, transboundary water issues are currently being addressed through *ad hoc* procedures.

A key aspect of establishing an institutional framework for transboundary water resources management is inter-ministerial coordination at the national level. Transboundary water management expertise and dedicated teams are needed, in particular within MEW, MAIL and the Ministry of Finance. It is proposed to set up an inter-ministerial mechanism for coordination between these ministries that can also reach out to other ministries with stakes in transboundary water management - Ministry of Rural Rehabilitation and Development (MRRD), National Environmental Protection Agency (NEPA), MAIL, etc. - to review, revise and finalize the Draft Transboundary Policy. The proposed AF will support the establishment of this inter-ministerial mechanism, including capacity strengthening of the key line ministries involved and through acquisition of physical assets (office infrastructure, library resources) to support implementation of transboundary water resources management and engagement in riparian dialogue with neighboring countries.

Fiduciary Analysis

Overall fiduciary assessment

The proposed AF will be implemented by MEW, the same ministry as IRDP. No changes are proposed to the fiduciary arrangements, which have been satisfactory. The overall fiduciary risk remains **Substantial** after project restructuring.

A. Financial management

The overall responsibility for financial management (FM) under IRDP rests with the Finance and Accounts Directorate of MEW and will be remain the same for the proposed AF. FM arrangements and performance under IRDP have been satisfactory.

Staffing. Staffing, both in terms of numbers and relevant experience, is adequate under the on-going project and no additional staff is proposed. The PCU has three national FM consultants. Two civil servants from the F&A directorate have also been introduced to the project. An International FM Specialist has been engaged through FAO; this arrangement will continue under the additional financing.

Budgeting. The project will follow MoF guidelines for budget preparation. The project budget will be based on the procurement plan and the annual work plan. Expenditures will be monitored against quarterly budgets, and will also be reported to the Bank.

Accounting. All accounting is centralized at the Ministry of Finance in AFMIS (Afghanistan Financial Management Information System). Subsidiary books of account (bank book, petty cash, contract register, etc.,) are maintained at the project level using Tally accounting software. Segregated books of account will continue to be maintained for the IDA grant and the ARTF grant.

Reporting. Quarterly Interim Financial Reports (IFRs) will continue to be submitted for the project within 45 days from the end of every quarter (based on Afghan fiscal year). There is good compliance, with reports being submitted timely and in form and substance satisfactory to the Bank.

Funds flow. The existing funds flow arrangements will continue. The designated account set up under the existing ARTF grant will continue to be used under the additional financing, with ceiling to be increased from US$ 2.5 million to US$ 4 million dollar. Project payments will be made either from the designated account or through direct payment.

Disbursement category. The disbursement category for the IDA funding will be revised to be identical to the ARTF Grant; i.e. "Goods, works, non-consultants services, consultants' services, Training, and Incremental Operating Costs" as resettlement costs and operation and maintenance contracts under previous Part C. 2 of the Project (previously included under IDA) are no longer required. There has been no disbursement against resettlement costs up to date and in future and resettlement costs will be financed by the counterpart funds, and the Government intends to carry out operation and maintenance of the hydromet equipment financed by previous Part C.2 of the project through engagement of the Water Resources Department of the MEW. The counterpart contribution further covers staff costs, office space and utilities required for the project.

Internal controls. The project follows the centralized payment mechanism applied in Afghanistan and controlled by MoF. Internal controls are adequate both at the central and implementing agency levels. There is adequate segregation of duties. Reconciliations are done on a monthly basis. All these controls have been reviewed and found satisfactory.

Project internal audit for the project is being carried out by the Internal Audit Unit of MoF since FY1393. This unit continues to be strengthened through the series of Public Financial Management Reform projects. Due to the coverage of all Bank funded/administered projects and limitations in resources, internal audit is currently being carried out annually.

External Audit. An annual project audit for all World Bank funded/administered projects is done by the Supreme Audit Office of Afghanistan with technical assistance from an internal audit firm. The latest audited financial statements for FY1393 (year ended December 21, 2014) were submitted within the due date and the auditors issued an unqualified opinion. There were no key FM issues from the audit.

There are no overdue audit reports under any closed or active projects implemented by MEW. The GoA has submitted an action plan to the Bank to address a pending issue of ineligible expenditures of US$299,399 incurred under the IDA-financed Afghanistan Power Sector Development Project. The action plan is considered to be satisfactory and is agreed to by the Bank.

B. Procurement

Procurement for the project will be administered in accordance with the World Bank's *Guidelines for Procurement of Goods, Works and Non-Consulting Services under IBRD Loans, IDA Credits and Grants by World Bank Borrowers* dated January 2011 revised July 2014 and *Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers,* dated January 2011 revised July 2014. The World Bank's Standard Bidding Documents (SBDs), Requests for Proposals, and Forms of Consultant Contract will be used. Goods following National Competitive Bidding (NCB) procedures shall be procured using the agreed SBDs for Afghanistan.

In case of conflict/contradiction between the World Bank's procurement procedures and any national rules and regulations, the World Bank's procurement procedures will take precedence as per the Article 4(2) of the Procurement Law of the Islamic Republic of Afghanistan dated October 7, 2015.

The threshold of **Moderate Risk** will apply for the prior review of the contracts under the project. The capacity of the project procurement unit will be periodically assessed and the threshold could be reviewed and updated accordingly.

Procurement arrangements. Institutional arrangements for AF procurement will remain the same as under IRDP. The PCU will be responsible for overall procurement, and the concerned departments of MEW would participate in the technical aspects (e.g., preparation of the technical specifications for specialized equipment and terms of reference for experts). The procurement plan for the first 18 months of AF implementation is acceptable to the Bank.

Procurement under IRDP has been moderately satisfactory; however, there have been a few instances of weak internal quality control resulting in deficiencies in documentation and delay. Under the AF, the PCU will engage an international procurement consultant to oversee procurement and ensure timely completion of procurement activities in full compliance with Bank requirements. The Bank will conduct at least two post procurement reviews during AF implementation.

Social Analysis

Social development and citizen engagement. In order to mainstream citizen engagement, an indicator (Proportion of rehabilitated schemes obtaining satisfactory rating from irrigation water users and beneficiaries for river bank erosion protection works), has been included to reflect feedback from the beneficiaries on Component A.

OP/BP 4.12: Involuntary Resettlement has been triggered due to potential land acquisition and remains applicable under the proposed AF.

No major land acquisition, and/or asset loss is expected from investments financed by the project. No investments requiring land acquisition or involuntary resettlement of more than 200 persons will be funded under the AF. Very small areas of land may be bought outright (willing buyer - willing seller), or acquired against community compensation, to facilitate the rehabilitation work. In exceptional cases, minor voluntary land donation may occur in certain areas, but only if there are no structures or assets on the land, and the impact of the donation on the livelihood of the landowner is

not significant (less than 10 per cent); the voluntary nature of the donation will be fully documented and independently verified.

A Resettlement Policy Framework (RPF) was a part of the ESMF for the original project. A separate and updated Resettlement Policy Framework (RPF) has been disclosed in-country and at the Bank's InfoShop on January 26, 2016. The RPF includes procedures and guidelines for small-scale land acquisition. The RPF explicitly states that any state land/public land acquired shall be free of squatters, competing claims, and other encumbrances. If necessary, site-specific Resettlement Action Plans (RAPs) will be prepared. Investments proposed will be screened for land and water disputes. Cost incurred by the implementation of RAPs including land acquisition will be financed exclusively by the Government's counterpart funds, and no ARTF funding will be used for such purposes.

Project activities (e.g., improved operation and maintenance of irrigation infrastructure, enhanced capacity of farmers, extended outreach to women and non-irrigation water users) are expected to lead to the expansion of existing, and the development of new, livelihood opportunities. The generation of new sources of income from an expanded employment base would likely have a positive impact on communities' health and education status.

Based on a rapid social review, procedures have been established and training materials have been prepared to ensure that *mirabs* will be managed in a transparent and inclusive manner for equitable benefit sharing with poor and vulnerable households. The strengthened Grievance Redress Mechanism (GRM), including greater community awareness on accessing it, together with renewed emphasis on consultations with various community-level groups at all stages of the project, will further ensure transparency and social inclusion in the project.

Gender. The MEW has an active social inclusion and gender team for the IRDP, which will be maintained under the proposed AF project. The proposed AF project will include women's viewpoints in the design of irrigation facilities under Component A. The social inclusion and gender assistants (SIGAs) will continue to reach out to women in their roles both as farmers and as non-irrigation water users, especially in conservative rural areas. SIGAs will consult women on all aspects of sub-project development and will seek to increase their involvement in water use management. Raising women's awareness of the GRM and ensuring female representation on grievance redress committees will enhance opportunities for women to have their voices heard.

Environmental Analysis

Safeguards Performance under IRDP. The PCU has a dedicated team for social and environmental safeguards and the GRM is functioning satisfactorily. No major negative social and environmental impacts have been observed.

Safeguards policies under the proposed restructuring and AF. All Bank safeguard policies triggered by the parent project and its current environmental Category A rating will apply to the proposed AF project. As a precaution, the Bank's Pest Management policy (OP/BP 4.09) and Physical Cultural Resources Policy (OP/BP 4.11) have also been triggered for the parent project and the proposed AF project. The applicable Bank safeguard policies – in addition to OP/BP4.12 - are summarized below:

- **OP/BP 4.01: Environmental Assessment.** The restructured IRDP is expected to have low adverse environmental and social impacts as the construction of dams will be dropped and only preparatory studies for a few dams (to be selected during implementation) will be financed. Investments planned under the proposed AF project - rehabilitation of existing irrigation schemes, erosion protection works on river banks, minor dam repairs, and construction of hydromet stations - would have limited social and environmental impacts that can be addressed by proper mitigation measures. As not all AF investment locations have been identified, an update (based on a review of the IRDP Environmental and Social Management Framework to take account of IRDP implementation experience and new activities to be financed under the AF project) of the IRDP ESMF will be used to guide the implementation of proposed AF activities.

- **OP/BP 4.09: Pest Management.** This policy is now being triggered for the parent project and the proposed AF. As economic development is progressing steadily, it is expected that the use of the pesticides/agro-chemicals will increase in conjunction with the intensified irrigated agriculture. As part of the ESMP and safeguards training, efforts will be made to increase knowledge and understanding of farmers and local communities on the safe use, storage, and disposal of pesticides and agro-chemicals and on pest management regulations[4]. To ensure consistency of the training activities related to pest management during the implementation of the ESMF, a Pest Management Framework (PMF) has been prepared and it will be applied to irrigation rehabilitation schemes implemented under the AF project.

- **OP/BP 4.11: Physical Cultural Resources.** This policy is now being triggered for the parent project and the proposed AF. This is because there are chances that investments proposed under the proposed AF could be located in areas and locations that may negatively impact local cultural properties and/or historical sites, while such chances are remote. Correspondingly, appropriate measures have been incorporated in the ESMF and the "chance find" procedure has been incorporated in the Environmental Code of Practice (ECOP).

- **OP/BP 4.37: – Safety of Dams.** This policy was triggered under the original IRDP and is triggered under the proposed AF because of: (a) minor remedial works planned for a few existing dams (to be identified during project implementation); and (b) preparatory studies for the construction of a few new large dams. OP/BP 4.37 requires that preparation and construction of new large dams take into account the opinion of an independent panel of experts. In the case of existing dams, one or more independent dam specialists are required to be mobilized to: (a) inspect and evaluate the safety, appurtenances, and performance history; (b) review and evaluate the operation and maintenance procedures of the dam owner; and (c) provide a written report on findings and recommendations for any remedial work or safety-related measures necessary to upgrade the existing dam to an acceptable standard of safety. To comply with this policy, the ESMF requires that: (a) for critical minor safety works for a few existing dams (under Component B) a Dam Safety Report is required; and (b) as part of the Preparatory Studies for the new large dams, dam safety plans are required for Construction Supervision and Quality Assurance, Instrumentation Plan, Operations and Maintenance Plan, and Emergency Preparedness.

[4]Including the pesticides and plant protection and quarantine law being promulgated with support from another WB-funded project (AAIP)

- **OP/BP 7.50: Projects on International Waterways.** Four of Afghanistan's distinctive river basins (Amu-Panj, Kabul, Helmand, and Harirud/Murghab) are international waterways. The Amu-Panj River is shared with Tajikistan, Turkmenistan, Kazakhstan, and Uzbekistan; the Kabul River with Pakistan; the Helmand River with Iran; and the Harirud/Murghab Rivers are shared with Iran and Turkmenistan. The policy was triggered for the original project and will also be triggered for the proposed AF project. However, as the proposed AF contains new activities, an analysis was made to review the applicability of provisions for OP 7.50 for each type of activity proposed under the proposed AF. The below table summarizes the applicability of OP. 7.50 to investments proposed under the AF project. The Bank has determined that investment activities concerning the rehabilitation of irrigation systems carried out under Component A continue to be covered by the exception of OP 7.50 provided for the parent project and that newly added investment activities under Components B and C also fall within the exception to the notification requirement under paragraphs 7 (a) and (b) of the Policy respectively.

Type of investment	Summary
Rehabilitation of the existing irrigation schemes (Component A)	Provisions in para. 7 (a) applies. As the rehabilitation works will be strictly limited to rehabilitation of existing irrigation schemes, it will not increase the extraction of water from the original design specifications.
Erosion protection works (Component A)	Provisions of para. 7 (a) apply. The typical proposed erosion protection works will be small scale installation of gabions and stabilization of the river bank, and will not be carried out in the mainstream of the international rivers; therefore, the works will not change either the quantity or the quality of the flows to riparian countries.
Minor dam repairs (Component B)	Provisions of para. 7 (a) apply. The planned dam repairs would include: (a) slope stabilization; and (b) repairs to discharge canals. These would not affect either the flow or the water quality of the flows to riparian countries.
Installation of hydromet data stations and river basin management plan (Component C).	Provisions of para. 7 (b) apply. These works are considered to be in the nature of 'water survey' for the purposes of para. 7 (b).

Institutional Framework and Safeguards Instruments. Senior management of MEW has demonstrated its commitment to strengthen its current limited safeguards capacity by establishing a safeguards team within the PCU. The PCU will include a female social inclusion officer, an environmental officer and a communications officer at the national level. The FAO technical assistance team will include environment and social safeguards experts to provide hands on training and overall support to ensure compliance with environmental and social safeguards.

The following 'lessons learned' from safeguards implementation in the original project have been

incorporated in the updated ESMF for the AF:

- ***Emphasizing good construction practice and improving effectiveness of environmental mitigation measures.*** A generic Environmental Code of Practice (ECOP) has been prepared and will be included in the bidding and contract documents. The ECOP approach clarifies safeguard procedures and responsibilities of contractors and project staff/consultants during construction.
- ***Strengthening the Grievance Redress Mechanism (GRM).*** Emphasis is placed on ensuring that all groups within communities are aware of the GRM and how to access it. More training will be given to Grievance Redress Committee (GRC) members so that they can address complaints at the local level more effectively.
- ***Enhanced stakeholder engagement.*** Priority will continue to be given to outreach and consultation with various stakeholders, especially vulnerable groups including women and the landless, and water user associations and other water user groups, on all aspects of investment sub-projects. Activities will include pre-construction consultation with stakeholders and contractors on the content of the ECOP and the respective construction plans. Consultations on the ESMF of the parent project brought water user groups together to discuss their grievances, which will help avoid potential conflicts around water use.
- ***Safeguards training and capacity building.*** To enhance technical and management capacity of project staff both at headquarters and in regions, provision for training on safeguards and a range of social and environmental issues has been included in the AF project budget. Thematic areas of training will, *inter alia*, include ground water management and protection. In addition there will be more targeted on-the-job training on safeguards requirements for contractors, *Mirabs* and community members.
- ***Ensure quality of technical assistance.*** In the past, the technical assistance provided by the FAO was not necessarily effective. In order to ensure the quality of the FAO technical assistance, the following measures have been taken: (a) engagement of the FAO Regional Office and HQ offices for overall quality control and monitoring of the technical assistance, (b) engagement of a qualified dam specialist as the Chief Technical Advisor considering the difficulties experienced in implementing Component B in the past, and (c) strengthening the social and environmental safeguards aspects, particularly the Environmental and Social Advisory Panel, and the Dam Safety Panel, which will provide advice to project management on all safeguards matters related to dam investments under the IRDP AF. Further, in order to ensure sustainability, three key national safeguards staff will be changed from the project-financed position to the government-financed position under the Capacity Building for Results (CBR) facility.

Consultation and Disclosure. Consultations on the revised ESMF (including PMP) and RPF were held in Kabul on 9 January, 2016 and regionally in Mazar (27 December, 2015), Jalalabad (30 December, 2015), Kandahar (3 January, 2016) and in Herat (5 January, 2016). The ESMF and RPF was then reviewed to ensure that it took account of key points made during the consultations. The updated ESMF (English, Dari and Pashto versions) has been disclosed at the PCU at MEW and the PCU's six regional offices in the project area and at the Bank's InfoShop on January 26, 2016.

Green House Gas (GHG) Emissions. GHG analysis was carried out to assess the impacts of the proposed AF Project using the Ex-Ante Carbon-balance Tool (EX-ACT). The analysis confirmed that the proposed AF project would have very little impact on GHG emissions. Over a period of 20 years,

the net effect would only be 42,000 tons of CO2 equivalent emissions per year. As the project largely supports rehabilitation works where farming practices exist and would not lead to a major increase in fertilizer application (as confirmed under IRDP).

Risk

The overall implementation risk of the project is rated as Substantial due mainly to the fragile nature of the country. 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 just being formulated. The Bank is maintaining a close policy dialogue at the national level both on sectoral and project matters.

While the overall risk rating remains the same as the original project, rating for the security risks have been heightened to High because the security situation in the country is unpredictable and may have major implications for project implementation for at least some regions. In order to mitigate the security risks, the following measures have been put in place: (a) making civil works contracts packages smaller to enable smaller contractors to be engaged and for the use of local unskilled labor; (b) adoption of a phased programmatic approach, enabling flexibility in selecting investments (particularly under Component A) in response to the security situation; and (c) close periodic monitoring (weekly) of the security situation, involving the project's regional offices, to enable proactive and timely response.

The other noteworthy risks are related to technical capacity, stakeholder risk and sustainability. The fiduciary remains rated substantial and the project will continue to support the PCU with technical assistance. The proposed AF would be continuously implemented under a fragile and technically limited environment. On the other hand, the restructuring and additional financing would also tackle technically challenging matters under each component that were not originally included in the project. In order to assure smooth implementation, the role of FAO technical assistance will be shifted from implementation support to advice on critical technical issues, e.g., dam safety and hydromet data analysis. Under the proposed AF project, CBR-based government staff will replace the current project-financed project staff for identified critical positions and will engage concerned department staff to implement the project, thus contributing to sustainability.

The risks of cost overrun of irrigation rehabilitation works were reviewed during appraisal and the issues are summarized in the Technical Section of the appraisal summary. Rehabilitation costs have then been updated based on the appraisal.

Climate Change and Disaster Risk Management (DRM). The overall climate change and DRM risks associated with the project are considered to be moderate. However, the potential risks will increase substantially in future, resulting from decrease in snowfall, earlier timing of snowmelt, and the increased frequency and intensity of flood events. The proposed AF will support building MEW's overall capacity to increase the resilience and adaptive capacity from the impacts of these risks.

Rehabilitation works planned under Component A will increase conveyance capacity and reduce leakage. The design has been updated to increase flood resilience through an on-going technical

assistance funded by a GFDRR Grant activity (*Strengthening Resilience on Infrastructure in South Asia, TF018697*). Technical assistance will further support MEW in disseminating the design manual to the provinces and the private sector during the first year of implementation. The restructured Component B, which now includes dam safety, will contribute to reducing the risk of dam failure, which will also be affected by climate change. The proposed AF will, in close collaboration with the JICA-funded Hydromet Capacity Enhancement Project (HYMEP), also support further technical capacity development for hydromet data collection and analysis, particularly with respect to data related to the snowmelt.

E. World Bank Grievance Redress

11. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB'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 WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its 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.

ANNEX 1: RESULTS FRAMEWORK

Project Name:	AF Additional Financing: Irrigation Restoration and Development (P152892)		Project Stage:	Additional Financing	Status: DRAFT
Team Leader(s):	Toru Konishi	Requesting Unit:	SACKB	Created by:	Christina Leb on 20-Oct-2015
Product Line:	Recipient Executed Activities	Responsible Unit:	GWA06	Modified by:	Christina Leb on 05-May-2016
Country:	Afghanistan	Approval FY:	2016		
Region:	SOUTH ASIA	Lending Instrument:	Investment Project Financing		
Parent Project ID:	P122235	Parent Project Name:	AF Irrigation Restoration and Development Project (P122235)		

Project Development Objectives

Original Project Development Objective - Parent:

To increase agriculture productivity and production in the project areas

Proposed Project Development Objective - Additional Financing (AF):

Improve access to irrigation in targeted areas and strengthen capacity for water resources management.

Results

Core sector indicators are considered: Yes Results reporting level: Project Level

Project Development Objective Indicators

Status	Indicator Name	Core	Unit of Measure		Baseline	Actual(Current)	End Target

Revised	Area provided with irrigation and drainage services (ha)	☒	Hectare(Ha)	Value	75000.00	120000.00	215000.00
				Date	31-Mar-2011	31-Dec-2015	31-Dec-2020
				Comment			
Revised	Area provided with irrigation and drainage services - Improved (ha)	☒	Hectare(Ha) Sub Type Breakdown	Value	70000.00	120000.00	215000.00
				Date	31-Mar-2011	31-Dec-2015	31-Dec-2020
				Comment			
New	Water users provided with new/improved irrigation and drainage services (number)	☒	Number	Value	0.00	206000.00	385000.00
				Date	31-Mar-2011	31-Dec-2015	31-Dec-2020
				Comment			
New	Water users provided with irrigation and drainage services - female (number)	☒	Number Sub Type Breakdown	Value	0.00	100000.00	200000.00
				Date	31-Mar-2011	31-Dec-2015	31-Dec-2020
				Comment			
New	Mirabs strengthened	☐	Number	Value	0.00	120.00	212.00
				Date	31-Dec-2015	15-Feb-2016	31-Dec-2020
				Comment			
New	Dams for which detailed preparation studies have been completed	☐	Number	Value	0.00	0.00	2.00
				Date	28-Feb-2013	15-Feb-2016	31-Dec-2020
				Comment			
New	Dams which have undergone dam safety review	☐	Number	Value	0.00	0.00	3.00
				Date	21-Mar-2012	26-Mar-2014	31-Dec-2020
				Comment			
New	Water Disaster Risk Management Plan (including	☐	Number	Value	0.00	0.00	3.00
				Date	31-Jan-2012	23-Mar-2015	31-Dec-2020

	flood/drought forecasting and early warning systems), two basin development plans, and the river bank protection plan for the Panju-Amu river prepared			Comment			
New	Direct project beneficiaries	☒	Number	Value	100000.00	200000.00	400000.00
				Date	31-Jan-2012	31-Dec-2015	31-Dec-2020
				Comment			
New	Female beneficiaries	☒	Percentage Sub Type Supplemental	Value	48.00	48.00	48.00
Marked for Deletion	Increase in agricultural Productivity	☐	Percentage	Value	0.00	32.00	20.00
				Date	31-Jan-2012	23-Mar-2015	31-Dec-2017
				Comment			
Marked for Deletion	Increase in irrigated area	☐	Percentage	Value	0.00	34.00	15.00
				Date	31-Mar-2011	23-Mar-2015	31-Dec-2017
				Comment			

Intermediate Results Indicators

Status	Indicator Name	Core	Unit of Measure		Baseline	Actual(Current)	End Target
New	Irrigation canals rehabilitated	☐	Kilometers	Value	0.00	500.00	900.00
				Date	14-Feb-2012	15-Feb-2016	31-Dec-2020
				Comment			
New		☐	Percentage	Value	0.00	80.00	90.00
				Date	31-Dec-2015	15-Feb-2016	31-Dec-2020

	Beneficiary satisfaction with involvement in rehabilitation design and implementation			Comment			
New	River bank protected from erosion	☐	Kilometers	Value	0.00	0.00	26.30
				Date	31-Dec-2015	15-Feb-2016	31-Dec-2020
				Comment			
New	Dams having undergone minor dam safety works	☐	Number	Value	0.00	0.00	2.00
				Date	31-Dec-2015	15-Feb-2016	31-Dec-2020
				Comment			
New	Dam safety and O&M guidelines and manuals prepared	☐	Number	Value	0.00	0.00	5.00
				Date	31-Dec-2015	15-Feb-2016	31-Dec-2020
				Comment			
New	Hydromet/weather/snow measurement stations installed	☐	Number	Value	183.00	183.00	230.00
				Date	31-Dec-2015	15-Feb-2016	31-Dec-2020
				Comment			
New	Transboundary water unit established at MEW	☐	Yes/No	Value	No	No	Yes
				Date	31-Mar-2011	23-Mar-2015	31-Dec-2020
				Comment			
New	Mandate for irrigation between MAIL and MEW clarified	☐	Yes/No	Value	No	No	Yes
				Date	05-Apr-2016	05-Apr-2016	31-Dec-2020
				Comment			
New	Government staff trained on topics related to river bank protection, dam planning and management, water resources	☐	Number	Value	5.00	5.00	30.00
				Date	31-Dec-2015	15-Feb-2016	31-Dec-2020
				Comment			

	management and development (of which female)						
Marked for Deletion	% of sub-projects designed using data from the established hydro-meteorological facilities and services	☐	Percentage	Value	0.00	0.00	100.00
				Date	31-Mar-2011	23-Mar-2015	31-Dec-2017
				Comment			
Marked for Deletion	Water related disputes	☐	Percentage	Value	100.00	0.00	50.00
				Date		30-Sep-2014	
				Comment			
Marked for Deletion	% of trainees who agree that the training has helped them to do their job better	☐	Percentage	Value	0.00	0.00	70.00
				Date	31-Mar-2011	23-Mar-2015	31-Dec-2017
				Comment			
Marked for Deletion	Number of small dams completed	☐	Number	Value	0.00	0.00	3.00
				Date	31-Mar-2011	23-Mar-2015	31-Dec-2017
				Comment			

Indicator Description

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Area provided with irrigation and drainage services (ha)	Total area of land provided with irrigation and drainage services under the project through rehabilitation of irrigation systems. "Improved" refers to the area of land served by rehabilitated infrastructure.	Bi-annual	Reports	PCU

Water users provided with new/improved irrigation and drainage services	This indicator will be measured based on number of households provided with water services through rehabilitation of systems	Bi-annual	Reports	PCU
Mirabs strengthened	Number of *Mirabs* who have benefitted from training activities carried out under Component A.	Bi-Annual	Reports	PCU
Dams for which detailed preparation studies have been completed	Detailed preparation studies is defined as the finalization of the economic/financial analysis, water balance development studies for the respective sub-basin, safeguards documents (EIA, SIA, Land Acquisition and Resettlement Plans) and detailed design documents.	Annual	Reports	PCU
Dams which have undergone dam safety review	Dams which have undergone annual dam safety review.	Annual	Reports	PCU
Water Disaster Risk Management Plan (including flood/drought forecasting and early warning systems), two basin development plans, and the river bank protection plan for the Panju-Amu river prepared	This indicator captures models and plans developed under Component C. Prepared means that plans are available, they do not necessarily have to have been adopted by government ministries.	Annual	Reports	PCU
Direct project beneficiaries (of which female)	This includes all women and men living in an area benefiting from irrigation system rehabilitation (irrigation and non-irrigation water users), living downstream of dams having undergone repair works and safety reviews, or living in river basins for which	Annual	Reports	PCU

	river basin development plans have been completed.			

Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Irrigation canals rehabilitated	The indicator captures the length of irrigation canals that have been rehabilitated as part of the rehabilitation of existing irrigation schemes under Component A.1	Bi-annual	Reports	PCU
Beneficiary satisfaction with involvement in rehabilitation design and implementation	Percentage of beneficiaries satisfied with community involvement in design and implementation of the irrigation rehabilitation works is measured through survey of community members and farmers in the rehabilitated command area after rehabilitation works are completed.	Annual	Reports	PCU
River bank protected from erosion	Kilometers of river bank for which erosion protection works have been carried out under Component A.2	Bi-annual	Reports	PCU
Dams having undergone minor dam safety works	This indicator captures results of Component B.2; minor dam safety works considered here include any or a combination of the following: repair/rehabilitation/maintenance of the approach road, improvements in the side intakes, repairs in the spillway and gates, repair and protection of downstream channel, slope protection works, strengthening of the embankment in the channel.	Annual	Reports	PCU

Dam safety and O&M guidelines and manuals prepared	This indicator captures results of component B.2 in terms of preparation of tools and assessments for dam safety and management.	Annual	Reports	PCU
Hydromet/weather /snow measurement stations installed	This captures installation of hydrological stations, snow gauges, and meteorological stations with telemetry and cable way stations for flow measurement under Component C.1.	Bi-annual	Reports	PCU
Transboundary water unit established at MEW	The unit that leads the MEW's engagement on riparian dialogue is led by a coordinator and includes 1-2 support staff. The unit coordinates with other government ministries, including MoF and MoFA, on implementation of riparian dialogue with neighboring countries.	Annual	Reports	PCU
Mandate for irrigation between MAIL and MEW clarified	The respective roles and mandates of MAIL and MEW regarding planning, operation and maintenance for irrigation schemes have been agreed upon and are reflected in national legislation.	Annual	Reports	PCU
Government staff trained on topics related to river bank protection, dam planning and management, water resources management and development (of which female)	This indicator tracks results of training carried out under Components B and C including on technical aspects of river bank protection, economic and financial analysis of new dam infrastructure, methodology of review of detailed design, environmental and social safeguards, dam O&M, O&M planning for hydromet systems, dam inspections, dam management, and transboundary water resources management. Numbers will be gender disaggregated.	Bi-annual	Reports	PCU

ANNEX 2: Detailed Description of Modified or New Project Activities

Component A: Rehabilitation of Irrigation Systems and River Bank Protection (US$120.7 million). This component will continue to support rehabilitation of the existing irrigation schemes and will finance river bank erosion protection works as a complementary new activity.

Subcomponent A.1 Rehabilitation of Irrigation Systems (US$103.6 million). Of the additional financing of US$33.6 million, US$ 31.1 million will be allocated to support continued rehabilitation of existing irrigation schemes to restore irrigation services. US$8 million will be used to carry out repair works for irrigation schemes damaged by the 2014 floods. In all, about 210 irrigation schemes, covering approximately 215,000 hectares will be rehabilitated under this sub-component as originally envisaged under IRDP. This sub-component will be implemented according to the following principles:

Selection of the target schemes. Irrigation schemes to be supported will be selected during implementation based on the following criteria specified in the Operations Manual: (a) economic viability (EIRR and cost per hectare); (b) exposure to perceived flood risks; (c) commitment of the concerned communities for operations and maintenance through *mirab;* (d) social status; and (e) adequate security.

Size of the Irrigation Schemes. This sub-component will mainly support irrigation schemes with a command area of more than 1,000 hectares; irrigation schemes with command areas less than 1,000 hectare will be rehabilitated under the Bank financed On Farm Water Management Project.

Implementation Cycle. Under the original project, irrigation schemes were selected in an *ad hoc* manner, without considering overall cost effectiveness and explicit priorities. Under the AF, the planning and implementation of rehabilitation works will follow an annual cycle in order to improve cost effectiveness, establish clear steps from planning, execution, monitoring to evaluation, and set up procedures for potential output based financing in the future. This would help MEW shift from a project driven approach to a program based approach with a clear long-term vision.

- Planning. An annual plan proposing about 30,000 hectares of irrigation rehabilitation works will be prepared beginning of the each year commencing July 1, 2016 and will be sent to the Bank by July 1 of each year for review and no objection.

- Output Monitoring and Reporting. Commencing by July 1, 2017 (the second year), together with the forthcoming year's annual component investment plan, MEW will prepare an output monitoring report. MEW will engage an independent monitoring and verification agency to review the monitoring report.

- Approval of Annual Investment Planning. Based on the monitoring report and verification, the Bank will approve the forthcoming year's annual component investment plan. The Bank may also engage an independent verification agency to authenticate the monitoring report.

Support for Operation and Maintenance. The AF project will support technical assistance to *mirabs* to strengthen their administrative, technical and social capacity, e.g., dispute resolution and water management.

Subcomponent A.2: Critical River Bank Erosion Protection (US$17.1 million). This new sub-component will comprise the following activities:

- **Formulation of national policy and guidelines on river bank protection.** The policy and guidelines (covering social, economic, and technical aspects) will integrate experience and lessons from similar countries and tailor them to Afghan conditions. The guidelines will set criteria for the identification of priority areas for protection.

- **Institutional strengthening and capacity development.** This activity will provide technical support to: (a) strengthening river bank protection monitoring and planning capacity in MEW and in the river basin agencies; and (b) awareness raising of local communities on selected subjects relating to river bank protection.

- **Protection of identified river banks.** Approximately 25 kilometers of erosion bank protection, covering protecting about 20,000 hectares of arable land, will be provided under this sub-component to selected priority damaged or endangered locations of river banks.

Component B: Support for Dam Development, Operation and Maintenance. (US$17.4 million).
This component has been restructured by dropping of dam construction and adding dam safety and institutional strengthening and consequently its name has been changed. This component would have the following three sub-components:

Sub-Component B.1 – Preparation studies for a few dams identified under the original project in the Northern River Basin (US$3.6 million)

This sub-component would support continued preparation for a few dams located in the Northern River Basin. Of the 22 potential dam sites for which feasibility studies have been carried out, 6 have been selected for further examination. This sub-component will support the following studies:

- Financial / Economic and Technical analysis of revised dam structures.
- Water balance development studies for the respective sub-basins.
- Safeguards documents, including EIA, SIA, and detailed Land Acquisition and Resettlement Plans.
- Detailed design documents, including tender design, detailed drawings and bid documents for the construction of the selected dams.

Sub-Component B.2 – Support for Dam Safety Works (US$11.8 million)

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This sub-component will fund the following activities:

- Preparation of Dam Safety Guidelines and Manual.
- Minor dam safety works would include works such as: repair/rehabilitation of the approach road, improvements in the side intake in the river, repairs in the spillway and gates, repair

and protection of downstream channel, slope protection works, strengthening of the embankment in the channel, slope protection, protection of downstream channels, and maintenance of access roads, spillway and downstream repair.

- Monitoring compliance with environmental and social safeguards provisions and related Safeguard Instruments
- Preparation of O&M Guidelines and Manual**.**

Sub-Component B.3 – Institutional Strengthening of the Dam Unit of MEW (US$2.0 million). This sub-component will support the following activities:

- *Planning and supervision* will include training on economic and financial analyses of new dam infrastructure; methodology for review of detailed designs; construction supervision of rehabilitation of dam's safeguards; and other topics related to dam development on a need basis.

- *Operation and Maintenance* will include training on general dam safety, dam O&M, dam inspections and dam management both from the consultants developing the respective manuals, from the FAO technical assistance team through on the job technical assistance and through selected courses outside the country, temporary work placements or study tours to entities dealing with dam safety, operations and management, as well as transboundary issues.

- *Legal Framework* will cover the analysis of the current legal framework for dam management and support for developing a suitable legal framework for dam development and management with reference to international good practices.

- *Record Keeping*, including design and investigation documents, dam safety review reports, O&M manuals, emergency action plans, as built-drawings, permits, etc.

Component C: Water Resources Management and Development (US$28.9 million).

This component was originally dedicated to the restoration of hydromet data collection and technical assistance for analyzing collected data. With the restructuring and the proposed AF, the scope of this component would be expanded to strengthen institutions and policies, and support river basin management.

Sub-component C.1: Improvement of Hydromet Services (US$22.8 million)
This component will be expanded substantially from the original project (US$8.2 million). Activities that will be funded by this component include the following:

- *Continued Support for Hydromet network improvement.* This sub-component will provide continued support for the restoration of existing stations and the development of critical new stations. For the 27 stations originally planned but whose planned locations are not considered secure, installation and final locations will be determined during implementation after careful assessment of the security situation and the requirements for network coverage in the country. Additional current meters and boats for discharge measurements in large, fast flowing rivers

will be procured as well as high priority spare parts. The appropriateness of particular types of sensors/equipment (such as that for water level measurements, snow depth and the telemetry system) will be reassessed based on experience gained under IRDP and necessary adjustments will be made to the extent possible. Further expansion of the installed hydromet network will be guided by the integrated end-to-end system design and will include evaporation measurements and glacier and snow monitoring (including snow depth sensors) for selected river basins.

- *Development of a User-oriented hydro-meteorological services.* The proposed AF project would emphasize the establishment of user oriented hydromet services to contribute to sound WRM (e.g., dam development and operation, irrigation planning, flood risk management, and river basin planning). It would support an integrated hydromet system design and operation, establishment and operationalization of the hydromet working group within the Technical Secretariat of the Supreme Council of Land and Water, strengthening the linkage between users and WRD, development of value-added hydromet information products using suitable models and data analysis, as well as river basin hydrological models. Initial focus would be on the high priority river basins of Kabul and Harirud/Murghab.

- *Capacity Building.* In conjunction with activities under Sub-component C2, this sub-component would also provide specific technical training to WRD staff based on an assessment of their current capacity, identification of training needs and development of a time-bound training plan. Training would include in-country as well as international training and exposure visits. Technical areas where WRD needs to build capacity include (but are not limited to) hydrological data analysis, forecast models, database management, and instrument maintenance and calibration. Training for senior management will also be considered.

- *O&M of the hydromet system.* A business plan will be prepared to ensure long-term sustainability and to determine interim financial needs. A few key positions of WRD staff will be converted to CBR positions in order to ensure the quality of staff. The project will also finance critical incremental operating costs, logistics and office equipment in the interim in order to ensure sound operation.

- *Upgrading Facilities.* A new office building and associated facilities will be constructed for WRD/MEW to house the Flood/Drought Forecasting and Early Warning System (FFDEWS), Data Processing Centre (DPC), Equipment Repair Laboratories and stores for spare parts and equipment. These facilities will be co-located with the offices of Water Management General Directorate (WMGD).

- *Groundwater management*. As a follow-up to the initiative taken under the FAO's technical cooperation program on ground water management, this activity will support existing reports and documents prepared by various donors to date, store data in the GIS-based database, and identify gaps which would contribute to the further elaboration of a national level management plan and a technical program to address key issues. The expected outputs from this activity are a preliminary groundwater resource and demand map, a groundwater database, and training of the concerned departments in MEW in planning, monitoring and control of groundwater resources.

Sub-component C.2: Support for Legal and Institutional Framework for WRM and River Basin Planning (US$6.1 million).

This sub-component will address immediate government priorities to strengthen the water resources management sector by addressing legal and institutional frameworks, transboundary water resources management, and river basin management. These activities will build on work carried out under the Afghanistan Water Resources Development (AWARD) Project (closed in 2013) and the recent work under South Asia Water Initiative (SAWI). In particular, this component will comprise the following three sets of activities:

Policy and Legal framework. This activity will support strengthening of the Policy Department to work on the update of the National Water Management Policy (NWMP) and 2009 Water Law. The Water Law needs to be reviewed and amended to: (a) better clarify the mandates and roles of relevant stakeholders in water resources development, management and utilization under the framework of integrated water resources management (IWRM) in river basins; (b) clearly define the institutional arrangements for operation and maintenance (O&M) of different types of water infrastructure; and (c) specify the general approach and procedure for each type of institutional arrangement. Under this activity, support will be provided for: (a) review and update of NWMP; and (b) review and amendment of the 2009 Water Law. The project will finance a team of legal and water experts to support MEW in exploring options for the updates/amendments, as well as consultation workshops and exposure visits to learn from global good practice.

Institutional strengthening of MEW and SCoLW Secretariat (Water), including support for riparian dialogue. This sub-component will include: (a) Support for the Technical Secretariat of the Supreme Council of Land and Water at MEW; (b) Support for Riparian Dialogue; and (c) Support for Re-organization and strengthening of the Water Program of the MEW. The details are summarized below:

- *Support for the Technical Secretariat of the Supreme Council of Water:* This activity will support the Technical Secretariat of SCoLW on initial operations, including office equipment, administration, staffing, inter-ministerial workshops, and training.

- *Support for Riparian Dialogue.* This activity will support: (a) establishment and initial operation of the Transboundary Water Unit in MEW (staff, office equipment, and incremental operation costs); (b) establishment of a transboundary water library in the Ministry of Foreign Affairs (office renovation, office equipment, project staff and incremental cost) pending agreement between MEW and MoFA; (iii) organization of inter-ministerial workshops; and (iv) external training, including exposure visits.

- *Support for MEW Water Program Re-organization.* This activity would provide MEW with technical and financial support to undertake a re-organization of the Water program under MEW and would include: (a) assessment of the current activities and identification of the priority mandate and work focus of MEW; (b) preparation of a new organizational structure of the water sector of MEW; (c) undertaking staff capacity and training needs assessment; and (d) provision of priority training, including exposure visits.

River Basin Management Support. This activity aims to improve river basin planning and management for optimal development and management of available water resources in the target areas. Activities will include:

- Support for river basin management, mainly logistics, training, stakeholder workshops and business plans for the five General Directorates of River Basin Management, as well as the General Directorate of Water Management in MEW covering: monitoring of *mirab*s/local institutions' performance, update of inventory, operation of important infrastructure, and asset management (maintenance and repairs).

- Update of the river basin development and management plan for the Kabul River Basin, including a strategic environmental assessment, and preparation of an initial river basin assessment (water accounting and scenario development) for selected sub-basins of the Northern Basin.

- Preparation of a Panju-Amu river bank protection plan, including: (a) detailed surveys and studies, and identifying high priority areas for protection works; (b) development of pre-feasibility studies and options assessment for identified high priority areas; (c) identification of policy, institutional, technical and physical options for implementation in the short, medium and long-term.

Component D: Project Management (US$52.7 million,). This component supports project administration, management, monitoring and evaluation, in particular: (a) continued support for the six Regional Offices (including physical construction of small office buildings); (b) office equipment and vehicles essential to carry out project implementation; (c) incremental operating costs; and (d) assistance for project implementation in general. The increase in costs is mainly due to the additional implementation period of the project.

Appendix

Revised Estimate of Project Costs
(US$ million)

		Original Allocation		Proposed Reallocation and AF		
		GoA Counterpart funds	ARTF and IDA	GoA Counterpart funds	ARTF and IDA	Total
Component A	**Rehabilitation of Irrigation Systems and River Bank Protection**	**0.0**	**70.5**	**0.2**	**50.7**	**120.7**
Sub-Component A.1	**Rehabilitation of Irrigation Systems**	0.0	70.0	0.7	33.6	103.6
Sub-Component A.2	**Critical River Bank Erosion Protection**	0.0	0	0.0	17.1	17.1
Component B	**Support for Dam Development, Operation and Maintenance**	**0.0**	**31.3**	**0.1**	**-14.0**	**17.4**
Component C	**Water Resources Management and**	**0.0**	**8.2**	**0.2**	**20.7**	**28.9**
Sub-Component C.1	**Development**	0.0	8.2	0.1	14.6	**22.7**
Sub-Component C.2	**Improvement of Hydromet Services Support for Legal and Institutional Framework for WRM and River Basin Planning**	0.0	0	0.1	6.1	**6.2**
Component D	**Project Management**	**2.5**	**36.7**	**0.5**	**13.0**	**52.7**
Total						
GoA Counterpart fund			2.5	**1.0**	1.0	3.5
ARTF			48.4	**70.0**	70.0	118.4
IDA			97.8	**0.0**	0.0	97.8
			148.7		**71.0**	**219.7**