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PROJECT PAPER

ON A

PROPOSED ADDITIONAL FINANCING GRANT

**IN THE AMOUNT OF SDR 17.1 MILLION
(US\$28.0 MILLION EQUIVALENT)**

TO THE

ISLAMIC REPUBLIC OF AFGHANISTAN

FOR AN

EMERGENCY IRRIGATION REHABILITATION PROJECT

May 1, 2008

**Sustainable Development Department
Agriculture and Rural Development Sector
Afghanistan Country Management Unit
South Asia Region**

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CURRENCY EQUIVALENTS

(Exchange rate is Kabul based open market buying rate effective April 23, 2008)

Currency Unit = Afghani
 Afghani 1.00 = US\$0.020
 US\$1.00 = Afghani 50.0

GOVERNMENT FISCAL YEAR

March 21 -- March 20

ABBREVIATIONS AND ACRONYMS

ARTF	Afghanistan Reconstruction Trust Fund	MACA	Mine Action Center for
CAS	Country Assistance Strategy	M&E	Afghanistan
CDC	Community Development Council	MEU	Monitoring and Evaluation
CNTF	Counter-Narcotics Trust Fund	MEW	Monitoring and Evaluation unit
EA	Environmental Assessment	MIS	Ministry of Energy and Water
EIRP	Emergency Irrigation Rehabilitation Project	MOF	Management Information System
EMF	Environmental Management Framework	MTR	Ministry of Finance
EMP	Environmental Management Plan	NGO	Mid Term Review
ESSF	Environmental and Social Safeguards Framework	NSP	Non-governmental Organization
FAO	Food and Agricultural Organization of the UN	O&M	National solidarity Program
FM	Financial Management	PCU	Operation and Maintenance
GoA	Government of Afghanistan	PSC	Project Coordination Unit
IDA	International Development Association	RCC	Project Steering Committee
IRR	Internal Rate of Return	TA	Regional Coordination
ISN	Interim Strategy Note	TOR	Committee
ISR	Implementation Status Report	WBG	Technical Assistance
ANDS	Afghanistan National Development Strategy	WUA	Terms of Reference World Bank Group Water User Association

GLOSSARY OF LOCAL TERMS USED

- Mirab:* Traditional water manager of local communities, responsible for operation and maintenance and water distribution
- Karez:* Traditional underground water channels that tap subsurface water streams in foothills. These channels connect with surface water channels which irrigate the command area.

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ISLAMIC REPUBLIC OF AFGHANISTAN
EMERGENCY IRRIGATION REHABILITATION PROJECT

Additional Financing Grant

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**ISLAMIC REPUBLIC OF AFGHANISTAN
EMERGENCY IRRIGATION REHABILITATION PROJECT
Additional Financing Grant**

Project Paper Data Sheet

Date: April 29, 2008 Country: Afghanistan Project Name: Emergency Irrigation Rehabilitation Project Additional Financing Project ID: P110893	Team Leader: Usman Qamar Sector Manager/Director: Adolfo Brizzi/Constance A. Bernard Country Director: Alastair J. McKechnie Environmental Category: B		
Recipient: Islamic Republic of Afghanistan Responsible agency: Ministry of Energy and Water			
Estimated disbursements (IDA FY/US\$m)			
FY	08/09	09/10	10/11
Annual	7.0	11.0	10.0
Cumulative	7.0	18.0	28.0
Closing date: March 31, 2011			
Does the additional funding require any exceptions from Bank policies?			No
Have these been approved by Bank management?			NA
Is approval for any policy exception sought from the Board?			No
Revised project development objective/outcome The project development objective remains the same: "to assist the Borrower in restoring irrigated agricultural production in its rural areas, through improved and reliable water supply to rehabilitated traditional irrigation schemes." Increased area under agricultural production; and increase in agricultural production in rehabilitated schemes are the key outcomes.			
Does the scaled-up or restructured project trigger any new safeguard policies? Yes, OP4.12 would be triggered.			
For Additional Financing			
<input type="checkbox"/> Loan <input type="checkbox"/> Credit <input checked="" type="checkbox"/> Grant For Loans/Credits/Grants: Total Bank financing SDR 17.1 million Proposed terms: Standard IDA Grant terms.			
Financing Plan (US\$ million)			
Source	Local	Foreign	Total
Recipient	0.0	0.0	0.0
IDA	10.0	18.0	28.0
Others	0.0	0.0	0.0
Total	10.0	18.0	28.0

I. Introduction

1. This Project Paper seeks approval of the Executive Directors to provide an additional grant in an amount of SDR 17.1 million (US\$28.0 million equivalent¹) for the Afghanistan Emergency Irrigation Rehabilitation Project (EIRP) (P078936), which is currently supported by IDA Credit 3845-AF (US\$40 million equivalent) and IDA Grant H284-AF (US\$25 million equivalent).

2. The proposed additional financing would help finance costs associated with scaled up activities to enhance impact of a well-performing project, with a two and a half year (thirty months) extension of closing date. There would be no major changes. The proposed additional financing will support additional activities under the various components of the ongoing project: (i) rehabilitation of irrigation infrastructure; (ii) rehabilitation of hydro-meteorological network; (iii) monitoring and evaluation (M&E), and preparation of feasibility studies for future projects; and (iv) capacity building and institutional strengthening of the Ministry of Energy and Water (MEW). The additional financing would support rehabilitation of about 30 additional medium or lesser² and 4 large³ schemes; expansion of the hydro-meteorological network in Afghanistan⁴; preparation of irrigation schemes for future implementation⁵; M&E, including continued support to the M&E Unit, for, *inter alia*, mainstreaming of M&E activities in MEW; and continuation of various institutional strengthening and capacity building activities. Expected outcomes from the additional financing would be as follows: (i) irrigated agriculture would be restored in an additional area of over 42,000 ha⁶ that is currently out of command because of the dilapidated state of the irrigation facilities; (ii) increase in agricultural production in rehabilitated irrigation schemes; and (iii) enhanced capacity in MEW to better forecast river flows and water availability and provide prior warnings of floods and drought.

II. Background and Rationale for Additional Financing

3. An IDA Credit of SDR 27.9 million was approved for the EIRP on December 23, 2004 and became effective on March 19, 2004. The original project development objective (PDO) was: *“to assist the Government of Afghanistan in carrying out its agricultural rehabilitation involving: the provision to farmers and their families of improved, reliable and equitably distributed irrigation water. This is expected to increase agricultural productivity and farm income; improve food security and livelihoods and reduce vulnerability of farmers to droughts.”*

4. The original project scope included: (a) the rehabilitation and improvement of about 1,280 irrigation schemes consisting of small (1,100), medium (160) and large (20) irrigation

¹ As of March 31, 2008, SDR 1.00 =US\$ 1.6466

² “Medium or Lesser Irrigation Scheme” means an irrigation scheme covering an area of up to 750 hectares with estimated rehabilitation cost not exceeding \$300,000 equivalent.

³ “Large Irrigation Scheme” means an irrigation scheme covering an area of greater than 750 hectares with estimated rehabilitation cost of more than \$300,000 equivalent.

⁴ This would include cableways for flow measurement at about 40 sites as well meteorological stations and snow measurement stations.

⁵ Preparation of a project, including detailed engineering designs, for future implementation.

⁶ The cumulative target for this outcome indicator would be 122,000 ha of incremental areas brought under irrigation; over 80,000 ha of incremental area have already been achieved.

schemes (altogether serving an area of 280,000 ha); (b) rehabilitation of hydro-meteorological network in Afghanistan; (c) preparation of feasibility studies for irrigation and multi-purpose schemes; and (d) institutional development of the Ministry of Irrigation, Water Resources and Environment [now called the Ministry of Energy and Water (MEW)].

5. The project experienced initial implementation delays and its performance was less than satisfactory in the first two years. Based on the recommendations of the mid-term review in April 2006, the project was restructured in October 2006. Its PDO and outputs were revised. The hydro-meteorological component was canceled⁷ and the funds earmarked for this component were reallocated for rehabilitation of irrigation schemes.

6. The PDO was revised as follows “*to assist the Borrower in restoring irrigated agricultural production in its rural areas, through improved and reliable water supply to rehabilitated traditional irrigation schemes*”. Increased area under agricultural production; and increase in agricultural production in rehabilitated schemes were set as the key outcome indicators.

7. On April 10, 2007, the Board of Executive Directors approved additional financing of SDR 16.8 million for the project to fill a financing gap arising from the unavailability of funds from the Afghanistan Reconstruction Trust Fund (ARTF), originally envisaged in the project’s financing plan. The closing date was extended by one year from September 30, 2007 to September 30, 2008. The revised outputs included: under Component A - rehabilitation of 750 medium and lesser schemes, and 10 large schemes [the target for the key outcome indicator (incremental area brought under irrigation) was set at 80,000 ha]; under Component B – preparation of feasibility study for the Lower Kokcha multi-purpose water resources development project; M&E studies; and Component C- institutional development of the MEW. Considering the importance of hydro-meteorological data for the development and management of water resources in Afghanistan, the hydro-meteorological component was reinstated in the Project (as Component D) with a simplified design suitable for Afghanistan’s security conditions and skill levels.

Project Performance

8. Following restructuring in November 2006 the project performance started to turn around. Since then both Implementation Performance (IP) and Project Development Objective (PDO) have improved and have been consistently rated "satisfactory" including in the most recent ISR prepared in December 2007. Contracts have been awarded for rehabilitation of 634 irrigation schemes serving an area of about 473,000 ha. While the number of schemes taken up for rehabilitation is less than the target of 760 schemes, relatively larger schemes have been included under the project and the total area served is more than the original target of 280,000 ha envisaged at appraisal. One major contract for establishing 174 hydrological stations is ongoing. Institutional arrangements for hydrological services have been established and staff recruitment and training programs are proceeding. The feasibility study for the Lower Kokcha Irrigation

⁷ The main reasons for the cancellation of the Hydro-meteorological system were (i) protracted delays in the procurement; (ii) overly ambitious design of the component relative to the then existing capacity in MEW and prevailing conditions in Afghanistan; and (iii) shortage of funds for emergency rehabilitation works, which were the highest priority of the government.

scheme is expected to be completed by June 30, 2008. The quality of M&E of EIRP has also shown a marked improvement. The MEW is now mainstreaming M&E activities to cover other projects/programs as well. Institutional development and capacity building activities are proceeding, including training of farmers and *mirabs* in operation and maintenance (O&M) to ensure sustainability. The IDA Credit 3845-Af, and Grant H284-Af are almost fully committed. As of March 31, 2008, US\$ 37.9 million have been disbursed from the IDA Credit and US\$ 7.6 million from the IDA Grant. Although security problems are a matter of major concern and could result in implementation delays, overall the project is on track and its development objective is being achieved.

9. **Outcomes.** The status of key outcome indicators, based on M&E surveys carried out under the project is summarized below:

Key Indicator 1: Increase in irrigated area

	<i>Irrigated area under schemes rehabilitated (Before Rehab.)</i>	<i>Irrigated area under schemes rehabilitated (After Rehab.)</i>	<i>Increase in irrigated area</i>
Project Target [revised upwards in April 2007]	390,050 ha	470,050 ha	80,000 ha
Achievement as of February 29, 2008	390,050 ha	472,984 ha	82,934 ha

Key Indicator 2: Increase in productivity

<i>Sub- Indicator</i>	<i>Baseline (Before Rehabilitation)</i>	<i>(After Rehabilitation)</i>	<i>Percent Increase</i>
Crop Yields (Kg/ha)	Wheat - 1,075	Wheat - 1,331	25
	Potato - 6,420	Potato - 9,309	45
	Melon - 7,634	Melon - 8,016	5
	Onion - 4,650	Onion - 8,789	189
	Cotton - 652	Cotton - 1,038	59
Net farm income from agriculture production (Kabul Region)	US\$ 84 per ha	US\$169 per ha	104
Source: M&E Surveys; Note: Wheat is the main crop grown by most farmers			

It is clear from the above data that the project has (i) already met or exceeded the revised (higher) target set for increase in irrigated area; and (ii) resulted in substantial increases in crop

yields⁸. Farmers report that prior to the project interventions in rehabilitation, they had to invest significant collective labor and time to repair temporary canal structures which get typically washed off or damaged by rain and snow flows several times during every cultivation season. The provision of permanent hydraulic structures at critical locations of the canal systems to replace temporary structures have resulted in significant time and labor savings for farmers and ensured more reliable irrigation supplies. In addition, the project has made substantial contribution to building capacity within the MEW through on-the-job and hands-on training for, *inter alia*: (i) identifying, preparing, designing and implementing irrigation rehabilitation schemes with due regard to social and environmental considerations; (ii) reviving and operationalizing hydrological services in the country; (iii) initiating mainstreaming of M&E in MEW; and (iv) enhancing capacity for procurement and financial management. The project is in substantial compliance with legal covenants and there are no major unresolved fiduciary or safeguard issues. The Ministry of Finance (MOF) and MEW remain fully committed to the project and consider the EIRP as the “flagship” operation for irrigation rehabilitation.

Sector Background

10. Afghanistan’s harsh terrain⁹ and arid climate make it an unforgiving place for agriculture. Only 12 percent of the land is arable and 85 percent of that land requires irrigation. Adequate and reliable supply of irrigation is, therefore, essential for sustainable agricultural production, which is pivotal for overall economic growth and poverty reduction. Nearly 80 percent of the population lives in rural areas and have high incidence of poverty. Improved agricultural performance offers significant prospects for raising farmer incomes, contributing to food security, providing rural employment, and reducing vulnerability. Afghanistan’s agriculture has suffered from nearly a quarter century of prolonged war, political upheavals, damaging floods and drought, and neglected maintenance of the irrigation infrastructure. The main drivers of agricultural growth and rural poverty reduction – roads, irrigation, information and technology, education, and markets – have all deteriorated due to social conflict, lack of maintenance of infrastructure and collapse of technical information and market systems. This situation has been exacerbated by frequent droughts. To enable faster overall economic growth and significantly reduce rural poverty, agriculture needs to grow at a minimum rate of 5 percent per annum over the next decade.

11. At present, the irrigation infrastructure is in a serious state of disrepair. The traditional community based organizations, and particularly the government institutions have seriously deteriorated. About 60 to 70 percent of *Karezes* are not in use; most of the river diversion structures feeding the irrigation canals are dysfunctional or of a temporary nature; traditional and larger canal networks are damaged and partly or wholly dysfunctional. Irrigation schemes operate at about 25 percent efficiency, as compared to the norm of 40 percent to 60 percent, and are feeding only about one third of the pre-war irrigated areas. Consequently agriculture productivity remains low, highly variable and vulnerable to unreliable irrigation supplies.

⁸ Yields are still much lower than the achievable potential.

⁹ A major part of the country is covered with mountains and deserts.

Rationale for additional financing

12. The draft Afghanistan National Development Strategy (ANDS) assigns high priority to increasing agricultural productivity, combating food shortages, achieving self-sufficiency in food grains, promoting high value horticulture and value chains, and providing alternative sources of livelihood to poppy growing farmers. In this context, the Government recognizes that water resources need to be developed following an integrated river basin planning approach to meet the country's needs for drinking water supply, irrigation, hydropower, industry and environment, in an optimal manner. Given the more than two-fold difference in the productivity of irrigated and rain-fed lands, and the high gestation period of new irrigation development, the Government assigns high priority to rehabilitating the existing traditional irrigation systems which have been destroyed or rendered ineffective by the prolonged hostilities, ravages of the war, and lack of maintenance. Both MEW and MOF believe that rehabilitation is a key to quickly spreading the benefits of irrigation equitably all over the country, including remote areas. In this context, encouraged by the positive outcomes achieved, the Government considers the ongoing EIRP as a key instrument for restoring the irrigation infrastructure and building the capacity of the MEW. Although the EIRP has made significant achievements in this regard, Afghanistan's needs for irrigation rehabilitation are large. The total irrigated area in the country prior to 1979 (pre-conflict) was about 3.2 million ha. As a consequence, the total area under irrigation in 2007 was only 1.8 million ha. Of this irrigated area, irrigation rehabilitation projects/programs have so far covered only about 0.6 million ha. At least 1.2 million ha of existing irrigated area remain to be rehabilitated. If the pre-conflict irrigated area is taken into account the rehabilitation needs are many times larger. EIRP is the only country wide operation supporting irrigation rehabilitation and both MEW and MOF are committed to scale up its impact using available IDA resources as well as other sources of funding¹⁰. The EIRP has developed adequate capacity in MEW for undertaking scaled up activities. A healthy pipeline of schemes has been identified and the pace of disbursements has improved markedly during FY08.

III. Proposed Changes

13. The project objective, components, arrangements for implementation, procurement, financial management and disbursements would remain unchanged¹¹. The closing date would be extended by two and a half years (from September 30, 2008 to March 31, 2011). The proposed additional financing of US\$28 million equivalent would be provided under a separate Financing Agreement. Project costs under each component after the proposed additional financing would be as shown below.

¹⁰ MOF considers irrigation rehabilitation as one of the instruments for providing farmers alternatives to poppy cultivation and is contemplating seeking supplemental resources (including the counter-narcotics trust fund) to support irrigation rehabilitation in all the districts of Afghanistan. A second phase of EIRP is also envisaged.

¹¹ The number of irrigation schemes to be rehabilitated and the scope of the hydro-meteorological component have been modified to reflect the additional activities; the definitions of irrigation schemes have been clarified; and minor modifications have also been made in the scope of institutional strengthening.

Project Cost

Component Description	Original Estimate at Appraisal			Current Project Cost	Total Cost after the Proposed Grant
	(US\$ m)				
	IDA	ARTF	Total		
1. Works					
(a) Small Irrigation Schemes*	3.0	7.0	10.0		
(b) Medium (and Lesser) Irrigation schemes*	1.0	23.0	24.0	25.0	28.6
(c) Large Irrigation Schemes	11.0	0.0	11.0	15.0	18.5
(d) Rehabilitation of Office Buildings	1.0	0.0	1.0	1.0	1.6
2 Goods					
(a) Hydro-meteorological equipment	8.5	0.0	8.5	4.75	10.95
(b) Survey/Office equipment and Vehicles	3.0	0.0	3.0	2.5	2.6
3. Consultants' Services and Training Including Auditing Services					
(a) Engineering Design; Construction supervision; Project Management; Hydromet design and Installation; Project Management Support; Institutional Strengthening; Technical Assistance and Training; and Auditing Services	12.0	0.0	12.0	12.0	22.3
(b) Monitoring and Evaluation and Feasibility Studies	0.0	5.0	5.0	4.0	7.35
4. Operating Costs and Incremental Operating Expenditures	0.5	0.0	0.5	0.75	1.10
Total	40.0	35.0	75.0	65.0	93.0

Notes: * When the project was restructured in November 2006, the two original categories "small irrigation schemes" and "medium irrigation schemes" were merged in to one category and renamed "medium and lesser irrigation schemes".

13. The amounts allocated for each Category from the Credit 3845-AF and Grant H284-AF as well as the proposed Grant are as follows:

Category	Amount of the Credit 3845-AF Allocated (SDR)	Amount of Grant H284-AF Allocated (SDR)	Amount of proposed Grant Allocated (SDR) ¹²	Percentage of Expenditures to be Financed
1, Civil Works				100
(a) Part A.1 of the Project	7,500,000	8,400,000	2,180,000	
(b) Part A.2 of the Project	4,800,000	4,700,000	2,130,000	
(c) Part C.1(b) of the Project	700,000		360,000	
(d) Part C of the Project prior to the Amendment dated November 19, 2006	70,000			
2. Goods				100
(a) Hydrometeorological equipment	140,000	2,700,000	3,770,000	
(b) Survey equipment, construction quality control equipment, office equipment and vehicles	1,600,000		70,000	
3. Consultants' services and training including auditing services for Parts A, B and C of the Project	11,000,000		7,680,000	100
4. Incremental operating costs	350,000		220,000	100
5. Unallocated	1,740,000	1,000,000	690,000	
Total	27,900,000	16,800,000	17,100,000	

IV Consistency with the Country Assistance Strategy

14. Because of the post-conflict nature of the country, the Bank has not prepared a CAS for Afghanistan. Instead, an Interim Strategy Note (ISN) was prepared in June 2006. The original EIRP and the proposed additional financing are fully consistent with the ISN, in particular with the pillar of promoting growth of the rural economy and improving rural livelihoods, which include activities that deliver community infrastructure, irrigation, and access to markets and improved services. The ISN identifies the EIRP as an appropriate instrument to rehabilitate Afghanistan's dilapidated irrigation infrastructure thereby improving access to irrigation water and agricultural productivity and better livelihood opportunities.

15. The proposed additional financing would help the Government in achieving its rural development benchmarks of the draft ANDS. It would also provide a clear signal of the Bank's

¹² As of March 31, 2008, SDR 1.00 =US\$1.6466

continued support for the Government's broad development efforts, especially for the need to better target benefits towards poor farming communities.

V Appraisal of Scaled up Activities

16. Institutional: Activities under the proposed additional financing would be similar to the ones already being financed under the ongoing project and would be carried out using the existing implementation arrangements. MEW would continue to have the overall responsibility for Project implementation. The Project Coordination Unit (PCU), with technical assistance from the FAO technical assistance team, and through the six regional offices and regional staff, would continue to be responsible for the execution of the project. The PCU and MEW staff have improved their technical skills and capacity to carry out the project activities through their engagement in the project and training over the past two years. The current implementation arrangements are satisfactory.

17. The Government has established a Supreme Council for Water Affairs Management (SCWAM) chaired by the First Vice-President and comprising ministers from the key water-related ministries and the Mayor of Kabul. The Deputy Minister of MEW is the Secretary of the SCWAM. A SCWAM Technical Secretariat has also been established. The SCWAM with technical support from its Secretariat is charged with the development of the national legal, policy and regulatory framework on water, and with coordinating multi-objective water development and management. The water sector institutional framework in the country is moving in the right direction, but the capacity of the SCWAM and its Technical Secretariat is very limited. The Bank's ongoing analytical and advisory assistance for the development of a decision support system for the upper Kabul river basin is helping MEW to develop capacity to support the SCWAM Technical Secretariat. EIRP is also contributing to this objective.

18. Financial Management (FM): Project financial management has been generally satisfactory. The current financial management arrangements for the project have been reassessed by the Bank for the additional financing and found to be adequate. The FM assessment also indicated that the overall financial management risk rating for the project remains substantial. There are no over due audit reports for this project and for other projects being implemented by MEW. Key issues raised in the latest audit report for the project, March 20, 2007 (Afghan solar year 1385), have recently been communicated by the Bank and the project's response is expected in due course. Low capacity for financial management is common across most ministries and project implementing agencies in Afghanistan. EIRP specific issues discussed during the last supervision mission in December 2007, included, the need for: (i) ensuring proper assets management by putting in place a fixed assets register; (ii) maintaining a contract register to enhance contract management; (iii) ensuring that contractors' invoices include amounts and are supported by bill of measurements prepared by the contractors; (iv) maintaining close liaison with MOF and the Control and Audit Office (CAO) to ensure that the audit reports are completed and submitted to the Bank on time; and (v) putting in place adequate arrangements for internal audit and reporting. MEW has already started action on the first four issues and made some progress. Regarding arrangements for internal audit and reporting¹³ it has

¹³ The proposed Internal Audit Directorate of the MOF was expected to assign personnel to perform the internal audit functions but this has not yet materialized.

been agreed that MEW will employ a firm of auditors or individual auditors by September 2008, with terms of reference and reporting arrangements satisfactory to the Bank. The existing disbursement methods and expenditure reporting arrangements are satisfactory and would continue to remain in effect, including using the same Designated Account already opened at Da Afghanistan Bank and managed by MOF and the same thresholds for use of Statements of Expenditures.

19. Procurement Administration: The procurement administration is satisfactory. Procurement under the proposed additional financing would be done in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" (dated May 2004; revised October 2006); "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" (dated May 2004; revised October 2006); and the provisions stipulated in the Financing Agreement. The Bank's Standard Bidding Documents, Requests for Proposals, and Forms of Consultant Contract will be used. In case of conflict/contradiction between the Bank's procurement procedures and any national rules and regulations, the Bank's procurement procedures will take precedence. A detailed procurement plan has been prepared by the PCU indicating description of the packages, estimated prices, method of procurements, requirement of Bank review, expected bids/proposal opening, etc.

20. Technical Aspects: The PCU and regional staff are now well familiar with technical aspects of identification, preparation and quality control during construction of irrigation schemes¹⁴. The FAO technical assistance team provides oversight and guidance. The FAO team leader has very good technical, managerial and interpersonal skills. FAO has also designated its Land & Water Division in Rome to supervise and support the project team and assigned an international FAO technical expert from its regional office in Bangkok to guide the project team leader. MEW has requested the Bank to maintain continuity of the FAO team through the extended project period. One major gap in MEW is the lack of capacity to supervise preparation of feasibility studies for major multipurpose water sector projects. The additional financing will support building this capacity through short term consultants' inputs as well as through on-the-job and class room training.

21. Environmental and Social Safeguards: The additional financing will support essentially the same project components that are already being implemented under the ongoing project. The EIRP has had no significant irreversible environmental and social impacts, and has a Category B environmental classification. No schemes are approved, and funds are not allocated, until the environmental viability is ascertained in accordance with the Environmental and Social Safeguard Management Framework (ESSMF) included in the Technical Annex of the ongoing project. Site specific environmental impacts are dealt with at the design stage and during actual rehabilitation using codes of practices that are outlined in the ESSMF. OP 4.12 would be triggered considering that larger schemes may involve some voluntary or involuntary land acquisition. The environmental category of activities under the additional financing would remain unchanged and rehabilitation schemes will continue to be subjected to the ESSMF, which would be supplemented with an abbreviated resettlement framework. Feasibility studies for the

¹⁴ The Bank team has introduced a simplified template for sub-project proposal preparation and appraisal, which facilitates planning and design work. The PCU is now also equipped with necessary quality control equipment

rehabilitation of large irrigation schemes will include a full environmental and social assessment. Also, during the extended project period attention to environmental and social issues would be further enhanced by (i) appointing *Environmental Focal Persons* in the PCU and field teams; (ii) including focused training in identification, mitigation, monitoring and reporting of environmental issues, in the agenda for training and capacity building; (iii) adding environmental monitoring and reporting in the terms of reference of the M&E unit of EIRP; and (iv) maintaining close coordination with the Ministry of Agriculture to benefit from the integrated pest management program (IPM) initiated under the Bank-assisted Horticulture and Livestock Project.

22. Economic Analysis: An economic evaluation was carried covering 27 completed rehabilitation schemes in four of the six regions, in which the project is being implemented. The results indicated: (i) increases of up to 54 percent in wheat yields; (ii) increases of up to 33 percent in irrigated area; (iii) net returns of US\$60-160 per ha after rehabilitation; and (iv) generally high economic rates of return (ERRs): 17 schemes had ERRs greater than 28 percent; one had 15 percent; and the remaining below 12 percent. These results are in line with the expectations at appraisal. It is expected that the rehabilitation schemes to be financed by the additional financing would also be economically viable. Furthermore, during the extended project period some of the rehabilitation investments would be targeted at areas where horticulture development activities under the ongoing Emergency Horticulture and Livestock Project (HLP) are being implemented. This would result in synergy and lead to higher economic and financial returns.

23. Sustainability: The sustainability of the traditional irrigation systems in Afghanistan is underpinned by the *mirab* system – a time tested institutional arrangements for self management and maintenance of the schemes. Although the prolonged conflict has adversely affected this system, *mirabs* and communities play a key role in the identification, surveys, investigations, design and implementation of the rehabilitation schemes supported by the EIRP. Simple as-built drawings and post-completion O&M manuals are produced for each rehabilitated scheme for future use by farmers and *mirabs*. Most of the rehabilitated schemes are of a small to medium-scale and continue to be self-managed by the farmers and *mirabs*. The capacity building component of the EIRP includes training of farmers and *mirabs* in irrigation management and operations and maintenance (O&M) of rehabilitated schemes. The EIRP is also endeavoring to link farmers with provincial agricultural agencies to enable access to improved input supplies. Coordination with other ongoing projects, including the Emergency Horticulture and Livestock Project is also being developed to promote synergies. For some of the larger schemes and the hydro-meteorological network, the government has allocated funds for O&M, and in some cases awarded O&M performance based contracts. In the medium to long term, Afghanistan will need to introduce the concept of O&M cost recovery for large irrigation infrastructure whose operation and maintenance responsibility would rest with the government or river basin agencies representing all stakeholders. The Bank's ongoing analytical and advisory assistance for the Kabul river basin as well as European Community (EC) and Asian Development Bank (ADB) funded projects are supporting this long term objective in selected river basins¹⁵.

¹⁵ These cover Kundoz, Balkh, and Harirud river basins.

VI. Expected Outputs and Outcomes

24. The additional financing would support rehabilitation of about 30 medium and lesser, and 4 relatively larger irrigation schemes¹⁶, which would bring over 42,000 ha of incremental area under irrigation¹⁷. In addition, the project would support: (a) the review of the feasibility study and preparation of detailed design for the Lower Kokcha multipurpose irrigation project as well as preparation of various pre-feasibility studies needed in the context of river basin planning framework, and (b) preparation of the next irrigation project for possible Bank support. The project would also continue to improve the institutional and staff capacity of MEW in the identification, planning, design, implementation, quality assurance, and monitoring and evaluation of irrigation schemes. In addition, enhanced attention would be paid to building MEW staff capacity for hydrological monitoring and analysis, and identification of social and environmental safeguard issues and their mitigation in irrigation schemes.

VII Benefits and Risks

25. **Benefits:** Irrigation rehabilitation investments generally yield high economic returns. This is particularly true for Afghanistan. Because of the highly dilapidated state of the irrigation infrastructure, large tracts of land which used to receive water in the past are out of command. Even those areas that do receive water have very low irrigation efficiencies. Because of the temporary nature of diversion structures and frequent damages caused by "flood washes" (high velocity run-off or hill torrents) farmers have to constantly invest labor and time in repair and maintenance to keep the systems functional. In such conditions, rehabilitation, improvement of diversion structures, and construction of appropriate protective structures (flood water bridges or over-passes) typically result in (i) substantial increases in irrigated area; (ii) improvement in the reliability of irrigation supplies; and (iii) reduction in O&M costs. This leads to increased productivity.

26. As of February 29, 2008, irrigation rehabilitation investments supported by EIRP have benefited over 390,000 ha of existing irrigated area, and brought nearly 83,000 ha of incremental area under irrigation. This incremental area could not be irrigated prior to the project due to the dilapidated state and temporary nature of irrigation structures. The provision of well engineered and more permanent hydraulic structures have resulted in significant time and labor savings for farmers, and ensured reliable and more adequate irrigation supplies. Farmers report that prior to the project interventions, they spent significant collective labor and time to repair temporary structures which used to get washed off or damaged by rain and/or snow melt flows several times during the cultivation season, resulting in crop and infrastructure losses. Rehabilitation schemes supported by the additional financing would yield similar benefits. Finally, more reliable irrigation supplies would open the opportunity for farmers to grow higher-value labor-intensive cash crops and substitute poppy.

27. The establishment of hydro-meteorological network would help the country to re-start collection and analysis of hydro-meteorological data required for planning, development and

¹⁶ The total number of schemes rehabilitated under the project would reach 668 (634 already started +34 new) by the end of the project.

¹⁷ The total incremental area brought under irrigation would reach 122,000 ha by the end of the project

management of the country's water resources. This would include key data required for dealing with riparian issues, including those relating to international waters.

28. **Risks:** The various risks the project faces and measures to mitigate them are summarized below.

Risk	Mitigation Plan
Weak institutional capacity of MEW and its impact on EIRP operations.	On-the-job and class room training of PCU staff would be continued. Construction supervision responsibility for some schemes would be outsourced to private consultancy firms to augment existing PCU capacity. No major capacity bottlenecks are anticipated.
<p>--The security situation in the country remains fragile and may discourage both contractors and consultants to participate in the rehabilitation work. It also limits site supervision by Bank staff.</p> <p>--Supervision does not involve comprehensive site visits or physical inspection, and when inspections occur they are not too detailed; supervision is delegated to the Recipient and excessive reliance on government produced administrative data.</p>	<p>--Close participation of farmers and local communities in the identification preparation and implementation of rehabilitation schemes and the resulting benefits, promote ownership and build trust, which mitigate the security risks to an extent. The Project continues to operate in risky areas despite several serious incidents. However, as a fall back position the project would avoid highly insecure areas.</p> <p>--Supervision mission include civil works specialists who focus on quality of works.</p> <p>--Monthly progress reports to include information on quality control issues and remedial actions taken, as well as environmental audits.</p> <p>--The Bank will explore in coordination with the Controller of Audit Office the possibility of introducing a system of operational audits for Bank-assisted projects, including field checks, which would feed into the financial audit reports.</p>
Land mines in certain areas (rivers, canals, springs, <i>karez</i> s) pose a real danger to workers.	This has not been a major issue so far. Extensive field surveys were carried out for the ongoing Kokcha Feasibility Study without any mine related incidents. However, the Project will continue to ensure that areas selected for rehabilitation are certified by the United Nations Mine Action Center for Afghanistan (MACA). The active involvement of farmers and community leaders in project identification, preparation and implementation has been a key to identifying mine related risks. The Project will continue to encourage and demand active participation of beneficiaries during scheme identification and prioritization.
There could be riparian issues given that Afghanistan shares five of its major rivers with other riparian countries.	The EIRP activities are limited to rehabilitation of existing irrigation systems. This limitation would be adhered to in the future as well.
Lack of coordination among MEW, MAIL and other ministries prevents possible	A system of regular inter-ministerial coordination meetings is being initiated with a follow-up mechanism at the project director level. In

synergies among various ongoing operations	addition, for Bank-assisted projects, the respective task teams would ensure better coordination, for example, helping selection of scheme sites that offer mutual advantages. Also, linkages would be established with community development councils (CDCs) and their clusters, established under the National Solidarity Program (NSP) during scheme identification, preparation and implementation to forge cooperation across communities in larger schemes, and achieve alignment and coordination with activities managed by other ministries.
Recurrence of drought and floods could affect project outcomes	The hydro-meteorological Network being established under the project would help to provide prior warning of floods and drought. Also, as the hydro-met database grows and flood return periods are established more reliably, water diversion and other structures would be designed with greater confidence.
There is a dearth of skilled national staff in Afghanistan and the market demand is high. There is, therefore, a risk that trained and skilled project staff may move on to better paying jobs.	This risk would be mitigated by further improving the performance based incentives package already available to the PCU staff.
Potential misuse of funds (risk of fraud and corruption)	--Oversight of FAO technical assistance team on all aspects of project implementation. --Adequate system of internal control. --Introduction of internal audit system. --Incorporation of Bank's new anticorruption guidelines in to the project's internal control system.
Critical implementation failures for proper operation of assets created with Bank financing are not properly identified and mitigated	--Local communities and <i>mirabs</i> (community water managers) responsible for operation and maintenance (O&M). --Training of communities and <i>mirabs</i> in O&M. --Preparation of as-built drawings and O&M manuals for use by communities and <i>mirabs</i> . --Use of updated hydro-met data, as it becomes available, for designing irrigation schemes.

VIII. Financial Terms and Conditions for the Additional Financing

29. The proposed additional financing would be provided on Standard IDA grant terms. The Government has requested for retroactive financing of US\$ 2 million (SDR 1.22 million) for eligible expenditures incurred after March 1, 2008, to allow uninterrupted continuation of project activities.