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December 2, 2015

**Closing Date: Monday, December 21, 2015
at 6 p.m.**

FROM: The Corporate Secretary

Pakistan - Water Sector Capacity Building and Advisory Services Project

Project Paper

Attached is the Project Paper regarding a proposed additional credit to Pakistan for the Water Sector Capacity Building and Advisory Services Project. (IDA/R2015-0301), which is being processed on an absence-of-objection basis.

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Report No: PAD100302

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT PAPER

ON A

PROPOSED ADDITIONAL CREDIT

IN THE AMOUNT OF SDR25.1 MILLION
(US\$34.95 MILLION EQUIVALENT)

TO THE

ISLAMIC REPUBLIC OF PAKISTAN

FOR A

WATER SECTOR CAPACITY BUILDING AND ADVISORY SERVICES PROJECT

NOVEMBER 30, 2015

Water Global Practice

South Asia Region

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CURRENCY EQUIVALENT

October 31, 2015

Currency Unit	=	Pakistan Rupee (PKRs.)
PKRs.105	=	US\$1
US\$1.39687	=	SDR1

FISCAL YEAR

July 1 – June 30

ABBREVIATIONS AND ACRONYMS

AF	Additional Financing
BP	Bank Procedure
CMTL	Central Materials Testing Laboratory
CAS	Country Assistance Strategy
CPS	Country Partnership Strategy
Cr	Credit
DSS	Decision Support System
EA	Environmental Assessment
EAD	Economic Affairs Division
FFC	Federal Flood Commission
ERR	Economic Rate of Return
ESMP	Environmental and Social Management Plan
FM	Financial Management
GIS	Geographic Information System
HEP	Hydro Electric Project
MIS	Management Information System
GP	Global Practice
GoP	Government of Pakistan/Islamic Republic of Pakistan
IBIS	Indus Basin Irrigation System
IBMR	Indus Basin Model Revised
IBRD	International Bank for Reconstruction and Development
IC(R)R	Implementation Completion (and Results) Report
IPDF	Infrastructure Project Development Facility
IRSA	Indus River System Authority
IDA	International Development Association
Ln	Loan
M&E	Monitoring and Evaluation
MoF	Ministry of Finance
MoWP	Ministry of Water and Power
MW	Mega Watt
NFPP	National Flood Protection Plan
P&D	Planning & Development
PC	Planning Commission of Pakistan
PC-I	Planning Commission (Form) One
PC-II	Planning Commission (Form) Two
PDO	Project Development Objective

PMPIU	Project Management and Policy Implementation Unit
PP	Project Paper
PPIB	Private Power and Infrastructure Board
PRS	Pakistan Rupees
PSC	Project Steering Committee
RCC	Roller Compacted Concrete
RF	Results Framework
SA	Special Accounts
SDR/XDR	Special Drawing Rights
SSESA	Strategic/Sectoral Environmental and Social Assessment
TA	Technical Assistance
TF	Trust Fund
TT	Task Team
TTL	Task Team Leader
WAPDA	Water and Power Development Authority
WCAP	Water Sector Capacity Building and Advisory Services Project

Vice President:	Annette Dixon
Country Director:	Patchamuthu Illangovan
Senior Global Practice Director:	Junaid Kamal Ahmad
Practice Manager:	Parameswaran Iyer
Task Team Leader:	Javaid Afzal

ISLAMIC REPUBLIC OF PAKISTAN
ADDITIONAL FINANCING WATER SECTOR CAPACITY BUILDING AND
ADVISORY SERVICES PROJECT (WCAP)

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ADDITIONAL FINANCING DATA SHEET

Additional Financing for Water Sector Capacity Building and Advisory Services (P155226)

SOUTH ASIA

GWA06

Basic Information – Parent									
Parent Project ID:		P110099			Original EA Category:		B - Partial Assessment		
Current Closing Date:		31-Jan-2016							
Basic Information – Additional Financing (AF)									
Project ID:		P155226			Additional Financing Type (from AUS):		Scale Up		
Regional Vice President:		Annette Dixon			Proposed EA Category:		B		
Country Director:		Patchamuthu Illangovan			Expected Effectiveness Date:		01-February-2016		
Senior Global Practice Director:		Junaid Kamal Ahmad			Expected Closing Date:		30-Jun-2021		
Practice Manager/Manager:		Parameswaran Iyer			Report No:		PAD100302		
Team Leader(s):		Javaid Afzal							
Borrower									
Organization Name		Contact		Title		Telephone		Email	
Economic Affairs Division Government of Pakistan		Mr. Tariq Bajwa		Secretary		+ (92-51) 9210629		secretary@ead.gov. pk	
Project Financing Data - Parent (Water Sector Capacity Building & Advisory Services Project (WCAP)-P110099) (in USD Million)									
Key Dates									
Project	Ln/Cr/TF	Status	Approval Date	Signing Date	Effectiveness Date	Original Closing Date	Revised Closing Date		
P110099	IDA-44370	Effective	26-Jun-2008	14-Jul-2008	22-Sep-2008	28-Feb-2014	31-Jan-2016		
Disbursements									
Project	Ln/Cr/TF	Status	Currency	Original	Revised	Cancelled	Disbursed	Undisbursed	% Disbursed

P110099	IDA-44370	Effective	XDR	23.40	23.40	0.00	22.95	0.45	98.07
Project Financing Data - Additional Financing for Water Sect Capacity Building and Advisory Services (P155226)(in USD Million)									
<input type="checkbox"/> Loan <input type="checkbox"/> Grant <input type="checkbox"/> IDA Grant <input checked="" type="checkbox"/> Credit <input type="checkbox"/> Guarantee <input type="checkbox"/> Other									
Total Project Cost:		34.95		Total Bank Financing:		34.95			
Financing Gap:		0.00							
Financing Source – Additional Financing (AF)								Amount	
BORROWER/RECIPIENT								0.00	
International Development Association (IDA)								34.95	
Total								34.95	
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					
Javaid Afzal	Team Leader (ADM Responsible)	Senior Environmental Specialist	Environment	GENDR					
Rehan Hyder	Procurement Specialist	Senior Procurement Specialist	Procurement	GGODR					
Qurat ul Ain Hadi	Financial Management Specialist	Financial Management Specialist	Financial Management	GGODR					
Anwar Ali Bhatti	Team Member	Financial Analyst	Financial Management	SACPK					
Christina Leb	Team Member	Sr Water Resources Spec.	ICR / M&E	GWADR					
Laila Kasuri	Team Member	Consultant	ICR / M&E	GWA06					

Mehvish Altaf	Team Member	Temporary	Administration	SACPK
Mohammad Omar Khalid	Safeguards Specialist	Consultant	Environmental Safeguards	GENDR
Nadir Abbas	Team Member	Consultant	Water Specialist	GWADR
Salma Omar	Safeguards Specialist	Senior Social Development Specialist	Social Safeguards	GSURR
Sebnem Sahin	Team Member	Senior Environmental Economist	Environment	GENDR
Helene Bertaud	Country Lawyer	Senior Counsel	Legal	LEGES
Chau-Ching Shen	Finance Officer	Senior Finance Officer	Disbursement	WFALN
Shabir Ahmad	Team Member	Sr. Program Assistant	Administration	SACPK

Extended Team

Name	Title	Location

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Pakistan	Islamabad Capital Territory	Islamabad Capital Territory	X	X	
Pakistan	Sindh	Sindh	X	X	
Pakistan	Punjab	Punjab	X	X	
Pakistan	Khyber Pakhtunkhwa	Khyber Pakhtunkhwa Province	X	X	
Pakistan	Balochistān	Balochistān	X	X	

Institutional Data

Parent (Water Sector Capacity Building & Advisory Services Project (WCAP)-P110099)

Practice Area (Lead)

Water

Contributing Practice Areas

Cross Cutting Topics

[] Climate Change

<input type="checkbox"/> Fragile, Conflict & Violence <input type="checkbox"/> Gender <input type="checkbox"/> Jobs <input checked="" type="checkbox"/> Public Private Partnership				
Sectors / Climate Change				
Sector (Maximum 5 and total % must equal 100)				
Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Water, sanitation and flood protection	General water, sanitation and flood protection sector	53		
Public Administration, Law, and Justice	Central government administration	33		
Energy and mining	Hydropower	14		
Total		100		
Themes				
Theme (Maximum 5 and total % must equal 100)				
Major theme	Theme	%		
Environment and natural resources management	Water resource management	67		
Public sector governance	Other public sector governance	33		
Total		100		
Additional Financing for Water Sect Capacity Building and Advisory Services (P155226)				
Practice Area (Lead)				
Water				
Contributing Practice Areas				
Environment & Natural Resources				
Cross Cutting Topics				
<input checked="" type="checkbox"/> Climate Change <input type="checkbox"/> Fragile, Conflict & Violence <input checked="" type="checkbox"/> Gender <input type="checkbox"/> Jobs <input type="checkbox"/> Public Private Partnership				

Sectors / Climate Change				
Sector (Maximum 5 and total % must equal 100)				
Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Water, sanitation and flood protection	General water, sanitation and flood protection sector	100	100	
Themes				
Theme (Maximum 5 and total % must equal 100)				
Major theme	Theme	%		
Environment and natural resources management	Water resource management	70		
Environment and natural resources management	Climate change	30		
Total			100	
Consultants (Will be disclosed in the Monthly Operational Summary)				
Consultants Required? Consultants will be required				

INTRODUCTION

1. This Project Paper seeks the approval of the Executive Directors to provide an additional credit in an amount of SDR25.1 million (US\$34.95 million equivalent) to the Islamic Republic of Pakistan for the Water Sector Capacity Building and Advisory Project (WCAP, P110099). The proposed additional Credit would help finance the costs associated with scaling up project activities to further strengthen the achievement of the project development objective (PDO), as well as enhance capacity to address basin-level management of Indus water resources.

2. In addition, the following changes are proposed: (i) update of the results framework to better capture intended outcomes and update the targets to reflect the scale up; (ii) extension of the project implementation period by five years and five months to allow time for implementation of new and scaled up activities (resulting in a closing date for the additional financing - AF on June 30, 2021); (iii) revision of the disbursement estimates reflecting the additional credit and extended implementation period; and (iv) revision to components and costs.

BACKGROUND AND RATIONALE FOR ADDITIONAL FINANCING

3. The original Credit in the amount of SDR23.4 million (US\$38 million equivalent) was approved by the Board on June 6, 2008 and became effective on September 22, 2008. The development objective of the WCAP is to improve the management and investment planning of water resources in the Indus River System. Project implementation was slow during the first three years. Following the mid-term review in 2010, the project was restructured in March 2012. Key changes included cancellation of non-performing activities; enhancing support to better performing and more urgent activities (such as the preparation of detailed designs, tender documents and the Government's planning document PC-1 for the Tarbela 4th Extension Hydropower Project and the Dasu Run-of River Hydropower Project); and including some new high priority activities in view of the recurring flood emergencies.

4. The closing date of the original financing was extended three times to provide additional time for implementation to make up for delays during the initial years of project implementation and to allow time for the processing of the Additional Financing request. The original credit account will close on January 31, 2016.

5. As per the Additional Financing Guidelines, an Interim Implementation and Results Review Report (Interim ICRR) has been prepared for WCAP, as the proposed additional financing (AF) will result in the overall project life (i.e., WCAP + AF) to exceed ten years. The Interim ICRR rates the outcome of WCAP as satisfactory. The assessment of the achievement of WCAP objectives in the Interim ICRR is summarized below:

- **Improvement of water resources management in the Indus River System.** The project contributed substantially to the improvement of water resources management in the Indus River System by equipping key federal water management institutions with modern state of the art tools, improving management skills of their staff and delivering studies to inform policy. The nation-wide study of groundwater availability and conjunctive management provides the sector short, medium and long term plans for sustainable groundwater use. The establishment of

a Geographic Information System/Management Information System (GIS/MIS) Cell and Decision Support System at the Indus River System Authority (IRSA) has further improved the flow forecast and thus flow management capacity significantly. The Handbook on Water Statistics provides sector entities with reliable data sets and has been made publicly available. The National Flood Protection Plan, which is currently being finalized by the Federal Flood Commission, is expected to improve resilience and mitigate flood damage through improved country wide comprehensive flood management planning and implementation. The Draft River Act, restricting/prohibiting permanent settlements in high and medium flood risk areas, is being considered by federal and provincial stakeholders for follow-up action. Other important project studies include the sediment management study of Tarbela Reservoir and the institutional capacity assessment of IRSA, which are both under implementation.

- **Improvement in Investment Planning.** Investment planning has improved through studies which inform investments based on international standards, including the Strategic/Sectoral Environmental and Social Assessment of the Indus Basin and studies on Benefit Sharing and Resettlement. Both these studies have been applied to hydroelectric project (HEP) investments to which this project contributed, and will inform future hydropower and large infrastructure investments in the Indus Basin. Investment planning has been further improved through hands-on realization of investment planning studies, including completion of site identification and feasibility studies for two underground dams, as well as preparation of tender documents for eleven small dams. These studies provide federal and local level agencies with ready to implement investments. The high quality of planning for investments supported by the project supported two major HEP investments namely: the Tarbela 4th Extension (1410 MW) and the Dasu HEPs (4,320 MW).

6. **Rationale for Additional Financing.** Given the importance of water and energy resources to the country's economic development and the long-term benefits of investment in the water sector, the Government has requested additional financing from the World Bank to scale up existing activities as well as to enhance capacity to address basin level management of Indus water resources. Several alternative modalities for continued Bank support were explored, including a new investment project as well as non-lending advisory support. However, it was concluded that an additional financing to WCAP would be the best mechanism to ensure continuity of ongoing efforts under WCAP and to avoid a loss of momentum. The size of the proposed additional credit is considered appropriate to finance the high priority capacity strengthening interventions.

7. **Lessons Learned.** The design of the proposed AF incorporates lessons learned from the implementation of WCAP that are reflected in the Interim ICRR, in particular: (i) staying the course on capacity strengthening; (ii) continuing the process of transparency and trust building in the water allocation system; (iii) linking institutional reforms to tangible outputs; (iv) increasing the sustainability of implementation through the use of existing systems to the extent possible; and (v) strengthening the arrangements to monitor results under WCAP.

8. **Alignment with the World Bank Twin Goals and Country Strategy for Pakistan.** The proposed AF is aligned with the World Bank's goals of ending extreme poverty within a generation and boosting shared prosperity. Pakistan is one of the world's most arid countries with an average annual rainfall under 240 millimeters. Irrigation system developed in the middle of 19th century is the backbone of country's economy, which still has large contribution from agriculture sector. This massive irrigation system is deteriorating and in need of rehabilitation and reforms to increase efficiency and productivity. Development and management of water resources in the country is therefore need of the time to address the combination of population growth, rapid urbanization, persistent poverty and looming water resources constraints to meet the challenges of food and energy security. The proposed AF supports Results Area 1 of the World Bank Group's 2015-19 Country Partnership Strategy (CPS) for Pakistan through support to preparatory work for the exploitation of the country's hydropower potential. Hydropower development along the Indus River Cascade is the cornerstone of the WBG strategy for additional lower cost power generation. The project further supports the climate-change adaptation and mitigation cross-cutting area by focusing on investments and capacity building for energy, water and food security.

9. **The project is consistent with several "pillars" of Pakistan's "Vision 2025"** including: (i) sustained and inclusive higher growth; (ii) private sector-led growth; and (iii) modernization of existing infrastructure.

PROPOSED CHANGES

Summary of Proposed Changes	
The proposed additional credit would help finance the costs associated with scaling up of project activities to further strengthen the achievement of PDO, as well as enhance capacity to address basin-level management of the Indus water resources. In addition, the following changes are proposed: (i) an update of the results framework to better capture intended outcomes and update the targets to reflect the scale up; (ii) an extension of the project implementation period by five years and five months, resulting in a closing date for the additional financing on 30 June 2021 to allow implementation of new and scaled up activities; (iii) revised disbursement estimate reflecting additional credit and extended implementation period; and (iv) components and costs.	
Change in Implementing Agency	Yes [X] No []
Change in Project's Development Objectives	Yes [] No [X]
Change in Results Framework	Yes [X] No []
Change in Safeguard Policies Triggered	Yes [] No [X]
Change of EA category	Yes [] No [X]
Other Changes to Safeguards	Yes [] No [X]
Change in Legal Covenants	Yes [] No [X]
Change in Loan Closing Date(s)	Yes [] No [X]
Cancellations Proposed	Yes [] No [X]

Change in Disbursement Arrangements	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>]
Reallocation between Disbursement Categories	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>]
Change in Disbursement Estimates	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>]
Change to Components and Cost	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>]
Change in Institutional Arrangements	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>]
Change in Financial Management	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>]
Change in Procurement	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>]
Change in Implementation Schedule	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>]
Other Change(s)	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>]

Development Objective/Results

Project's Development Objectives

Original PDO

The project objective is to improve the management and investment planning of water resources in the Indus River system.

Change in Results Framework

Explanation:

One of the key findings of the interim ICR was the need for a strengthened and more easily monitored results framework. In response, the Results Framework has been modified to provide more clearly defined indicators and targets that reflect both the key outputs of the project as well as contributions to improved management and investment planning. The updated Result Framework and the rationale for the changes made are presented in Annex 1.

Compliance

Covenants - Additional Financing for Water Sect Capacity Building and Advisory Services - P155226)

Source of Funds	Finance Agreement Reference	Description of Covenants	Date Due	Recurrent	Frequency	Action
IDA	Schedule 2, Section I.D.2	Annual Work Plans	Effective Date + 1 month			
IDA	Schedule 2, Section I.D.2	Budgets furnished to the Association		X	Annual	
IDA	Schedule 2, Section II.A.2	Mid-term review	Effective Date + 30 months			

IDA	Schedule 2, Section III.E.1	Establishment of procurement grievance redress mechanism	Effective Date + 6 months			
IDA	Schedule 2, Section III.E.2	Establishment of procurement filing and book keeping	Effective Date + 6 months			
Conditions						
Source Of Fund		Name		Type		
IDA		Retroactive Financing.		Disbursement		
Description of Condition						
IDA credit may be used to retroactively finance expenditures incurred on or after October 1, 2015, not exceeding SDR 5,000,0000. All contracts eligible for retroactive financing are subject to IDA prior review.						
Risk						
Risk Category				Rating (H, S, M, L)		
1. Political and Governance				Substantial		
2. Macroeconomic				Moderate		
3. Sector Strategies and Policies				Substantial		
4. Technical Design of Project or Program				Substantial		
5. Institutional Capacity for Implementation and Sustainability				Moderate		
6. Fiduciary				Moderate		
7. Environment and Social				Moderate		
8. Stakeholders				Moderate		
9. Other						
OVERALL				Substantial		
Finance						
Loan Closing Date - Additional Financing)						
Source of Funds			Proposed Additional Financing Loan Closing Date			
International Development Association (IDA)			30-Jun-2021			
Ln/Cr/TF	Status	Original Closing Date	Current Closing Date	Proposed Closing Date	Previous Closing Date(s)	

IDA-44370(Original financing)	Effective	28-Feb-2014	31-Jan-2016	31-Jan-2016	28-Feb-2015, 30-Oct-2015, 31-Jan-2016					
Change in Disbursement Estimates (including all sources of Financing)										
Explanation: The estimates for disbursement under the proposed Additional Financing based on the proposed activities are given in the table.										
Expected Disbursements (in USD Million)(including all Sources of Financing)										
Fiscal Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Annual	3.00	5.00	6.00	6.00	7.00	7.95	0.00	0.00	0.00	0.00
Cumulative	3.00	8.00	14.00	20.00	27.00	34.95	0.00	0.00	0.00	0.00
Allocations - Additional Financing for Water Sect Capacity Building and Advisory Services - P155226)										
Source of Fund	Currency	Category of Expenditure	Allocation				Disbursement %(Type Total)			
			Proposed				Proposed			
IDA	XDR	Goods, Minor Works, non-consulting services, consultants' services, Training and Operating Costs	25100000				100.00			
		Total:	25100000							
Components										
Change to Components and Cost										
Explanation: The component structure will remain the same, with some changes to the sub-components. The following sections summarize the planned additional activities.										
<u>Component A: Capacity building of and support to the federal institutions in water resources planning and management.</u>										
Component A1: Capacity building in planning, development and testing of water resources infrastructure. The planned activities will address the enhancement of policy and planning capacity through the strengthening of provincial research labs whose research results inform federal policy and planning in the energy and agriculture sectors through the following: <ul style="list-style-type: none">Upgrading the Nandipur Irrigation Research Station.										

- Upgrading and strengthening capacity of Soil Mechanics Hydraulic Research Laboratories (Hyderabad and Karachi) of the Directorate for Research and Hydrology.
- Establishment of modern and computerized labs for survey, drawing and soil testing at Irrigation Unit/Division in Balochistan to support irrigation efficiency in the command areas linked to the Indus Basin Irrigation System (IBIS)

Component A2: Capacity building in system planning, management and operation. The planned activities will scale-up efforts to increase transparency in the inter-provincial water allocation system initiated under the original project and contribute to water conveyance efficiency in the IBIS through the following:

- Flow measurements at key locations of IBIS
- Analysis of seasonal and monthly water balance between several reaches in the Indus main stem and Jhelum-Chenab zones.

Component A3: This component was dropped after first Restructuring in March 2012 due to the overlap of activities between IPDF and PPIB. No new activities have been proposed for Additional Financing.

Component A4: Capacity Building for the Planning Development and Reform Division (Water Section) will support the establishment of an International Center at/through the Planning and Development Division for water issues and national and international coordination/cooperation.

Component B: Improvement in water resources management and development

Component B1: Upgrading (staffing, training, software, hardware, etc.) of tools, water resources databases, management systems and models: will finance enhancements for hydropower generation and development planning and flood resilience through the following three activities:

- Development of methodology, techniques and procedures for carrying out the study for developing seasonal as well as 10- Daily forecasts for River Chenab at Marala and River Kabul at Nowshera.
- Establishment of an integrated office management system at WAPDA to enhance its water and energy development and management capacity.

Component B2: Sediment management studies for Tarbela reservoir. These were completed under the original project. No new activities proposed for Additional Financing.

Component B3: Hydropower planning, asset management plans, dam safety inspections and studies will finance the upgrading (staffing, training, software, hardware, etc.) of the Concrete, Cement, Steel and Soil Dynamics Lab of the Central Material Testing Laboratory (CMTL) at WAPDA.

Component B4: Feasibility studies for hydropower projects will finance the feasibility studies

for one of the five priority hydropower projects under the Indus Cascade Hydropower Development Plan.

Component C: Project management and additional studies

Component C1: Project coordination, monitoring and evaluation will finance project management and general administration costs, including experts working with Project Management and Policy Implementation Unit, monitoring and evaluation, general operation and maintenance costs for equipment and vehicles, and necessary replacements.

Component C2: Strategic studies approved by the Steering Committee will be financed, including those identified under WCAP (upgrading capacity of the Federal Flood Commission in managing floods by undertaking studies and implementing pilots identified in the National Flood Protection Plan IV updated under the original WCAP and upgrading of the Master Plan of Flood Management of Hill Torrents of Pakistan and feasibility studies for check/recharge dams in the Suleiman Range and the Marri Bugti Hill Torrent), as well as additional studies that may be identified during implementation of the AF, e.g., Comprehensive Integrated Master Plan for the development and utilization of energy resources on tributaries in the Upper Indus basin, and ranking/privatization of raw sites.

Component C3: Technical Assistance, Capacity Building and Training will finance the continuation of the capacity building and training programs for government officials initiated under WCAP.

Current Component Name	Proposed Component Name	Current Cost (US\$M)	Proposed Cost (US\$M)	Action
Component A: Capacity building of and support to the federal institutions in water resources planning and management.	Component A: Capacity building of and support to the federal institutions in water resources planning and management.	8.65	19.22	Revised
Component B: Improvement in water resources management and development	Component B: Improvement in water resources management and development	21.93	39.08	Revised
Component C: Project management and additional studies	Component C: Project management and additional studies	7.42	14.65	Revised
	Total:	38.00	72.95	
Other Change(s)				

Change in Implementing Agency
<p>Explanation:</p> <p>The implementation agencies for the AF will be the same as for WCAP. However, since Component A3 of WCAP is not proposed to be financed under the AF, Infrastructure Project Development Facility (IPDF), which was the Implementing Agency for sub-component A3, will not be involved in the implementation of the AF.</p>
Change in Procurement
<p>Explanation:</p> <p>Procurement under the AF will be carried out under using the Bank's new guidelines: (i) "Guidelines: Procurement of Goods, Works and Non-consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers" dated January 2011 (revised July 2014) ("Procurement Guidelines"), in the case of goods and non-consulting services; and (ii) "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers" dated January 2011 (revised July 2014) ("Consultant Guidelines"), in the case of consultants' services will apply. The Bank's new prior/post review thresholds for Pakistan will apply to the AF.</p> <p>PMPIU will establish within six months after the project becomes effective and thereafter maintain throughout Project implementation, a system for the handling of procurement complaints as well as a procurement documentation and record keeping system in form and substance acceptable to the Bank.</p>
Change in Implementation Schedule
<p>Explanation:</p> <p>The proposed AF implementation period from October 2015 to June 30, 2021 takes into account experience under WCAP (including lack of familiarity with Bank procurement guidelines and procedures) and is considered appropriate for implementation of the AF's new and scaled up activities.</p>
Appraisal Summary
Economic and Financial Analysis
<p>Explanation:</p> <p>The interim ICR concluded that the project's relatively small investment in capacity building and technical assistance has made a significant contribution to address the country's power crisis, in particular to improving investment planning. Funds were utilized efficiently, and where specific activities were either delayed or were not producing the desired results, funds were re-allocated to help finance better performing activities.</p> <p>The AF will continue to support improved water resources management, improved planning and development of water resources of the Indus Basin with better environmental and social consideration. The Project will support studies, and analytical work that would lead to sustainable development of water and hydropower resources. Given the nature of some of the interventions (capacity building, training, studies), which mostly focus on enhancing technical capacity in water</p>

resources management, it is not feasible to fully quantify the benefits of the AF.

With Pakistan being a water deficient country, these interventions will enhance the economic usage of a scarce resource, expected improvements in sector governance and enhancements in technical efficiency. Proposed actions on institutional capacity building (including modeling, flood forecasting etc.) will improve implementing agencies' (including WAPDA) performance towards timely completion of current Bank projects. Without WCAP and the proposed AF, current Bank-financed projects could have been significantly delayed.

The project estimated the damage to country's GDP due to delays in hydropower project construction at 1.36% (in cumulative terms over the next 11 years). The foregone benefits from new investment, compared to the economic cost of WCAP (including the proposed AF) result in a benefit-cost ratio of 1.2.

Technical Analysis

Explanation:

WCAP design was informed by lessons from similar projects in Pakistan, Indonesia and other global experience. Given the need for technical, and human resource development to cope with capacity constraints in Pakistan, WCAP provided software and tools for improved operations. For example, under WCAP, Antelope software was provided to WAPDA to analyze seismic data locally, leading to foreign exchange and time savings.

The proposed AF includes capacity development of institutions which are either part of decision making in water resources management (including IRSA and PC) and/or are responsible for hydropower development in the country (e.g., WAPDA). It will upgrade hydraulic research laboratories to provide state of the art physical and numerical modeling facilities to support design of new hydropower and irrigation infrastructure. Some of the existing physical modeling facilities in Punjab, Sindh and Balochistan will be upgraded. Some of the laboratories also plan to update their existing numerical modeling resources with newer software. Equipment required to support geophysical survey for hydroelectric power projects will be supported under proposed sub-activities for WAPDA. To help address recurring floods of the recent past, the AF will finance the implementation plan for the National Flood Protection Plan IV, which was prepared under WCAP.

AF design limits technical assistance to a few federal/provincial institutions, thus avoiding excessive complexity. Complementarities would be established through linkages among provincial institutions under the proposed AF or other Bank-financed operations. Namely, technical assistance and consulting contracts are being packaged to the extent possible in order to avoid lengthy procedures and overhead in the selection, monitoring and management of these contracts.

Measures to improve the procurement and management of contracts (such as establishment of a procurement website) will be introduced to facilitate greater focus on the delivery of outputs and outcomes. The Project Steering Committee will be retained as the responsible for strategic direction and guidance.

Social Analysis

Explanation:

The proposed AF is expected to have significant impacts in strengthening local capacity to manage social aspects. Beneficiary engagement will be held through community conversations with both men and women. A water-energy-food nexus lens will be applied where feasible to create awareness and devise solutions for managing water resources in an efficient and sustainable manner. Beneficiary feedback would be obtained through short surveys, and will include women as possible. The project will include female government employees in the training and capacity development program; project management and feasibility studies will also include a gender lens where possible.

None of the project activities to be supported through additional financing will require any new land acquisition or involuntary resettlement.

Environmental Analysis

Explanation:

The WCAP Safeguard Category of 'B' will apply to the proposed AF. An Environmental and Social Management Plan (ESMP) acceptable to the Bank, has been prepared to provide guidance to contractors on environmental management applicable to minor construction works under Component A1. Activities to be financed under the AF may include feasibility studies for future infrastructure activities, including the design of small dams and flood protection infrastructure; however, the AF will not finance infrastructure construction. The projects under which these infrastructure will be financed will prepare specific environmental and social assessments in accordance with the Bank's safeguards policies and guidelines, irrespective of the source of financing. As specific infrastructure building activities have not been identified for funding under the AF, no specific Environmental Assessment (EA) or Social Assessment (SA) has been prepared at this time.

Given that certain activities to be financed under the Project will be located on the Indus River or within the Indus basin, the Bank's safeguard policy on International Waters has been triggered. None of the studies for which financing under the AF is proposed qualifies as a "detailed design and engineering study" (i.e., a study which would be implementation-ready and on the basis of which construction bids could be issued) for which a riparian notification is required. The Bank will ensure that the terms of reference of the studies proposed for financing by AF incorporate a requirement to analyze potential transboundary impacts of the investment under review. The Bank will also verify that the proposed studies do not raise any policy issue and are not detailed design and engineering studies but water resource surveys and feasibility studies, which fall within the riparian notification exceptions under paragraphs 7(b) of OP 7.50 (Projects on International Waterways). Appropriate provisions have been included in the Financing Agreement accordingly. The exception to notification of riparian countries that is provided under the Bank's policy OP 7.50 has thus been applied, with Management approval.

OP 4.37 (Safety of Dams) is not triggered despite the inclusion of feasibility studies for hydropower projects and dam safety inspections and studies, because projects for which feasibility studies are proposed under the AF are not known at this stage. The OP 4.37 will be triggered as appropriate when these projects have been identified.

The original project financed the preparation of detailed designs for the Dasu and Tarbela 4th Hydropower projects, for which detailed environmental and social assessments were carried out as part of project preparations. Both these projects are under implementation and WAPDA, the implementing agency for both projects, is implementing the ESMPs.

Risk

Explanation:

The overall risk rating is Substantial.

Political and Governance risks are considered to be Substantial due to possible political pressures related to reforms in the sector that could challenge continued progress and undermine governance.

The risk relating to Sector Strategies and Policies remains Substantial because of possible resistance to the progressive transfer of competence in water resources management activities to IRSA.

Majority of the activities proposed under the AF, like the original project, are studies and by four implementing agencies. Experience from the original project has indicated that procurement of consultancies takes longer time to deliver the project activities. This mainly is due to the complexities of the design of proposed studies, inadequate capacity with the implementing agency except PMPIU which has recruited Procurement Specialist upfront.

Institutional capacity for implementation and sustainability risk, as well as fiduciary and environmental and social risks rated Moderate because of the experience gained by the implementing agencies during WCAP implementation.

Close liaison between the task team and implementing agencies will mitigate risks associated with technical design, institutional capacity and implementation arrangements. Implementation experience gained through the original project by the implementing agencies will also help in mitigating risks associated with the fiduciary and environmental aspects.

World Bank Grievance Redress

10. 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 AND MONITORING

Revisions to the Results Framework		Comments/ Rationale for Change
PDO		
<i>Current (PAD)</i>	<i>Proposed</i>	
The project objective is to improve the management and investment planning of water resources in the Indus River System.	<i>No change</i>	
PDO indicators		
<i>Current</i>	<i>Proposed change</i>	
Enhanced capacity of institutions to manage water resources using modern tools, techniques and methodologies	<i>Replaced by:</i> Number of modern tools operationalized and used for decision making	Revisions made to increase specificity of the indicators. Definitions of the new indicators are presented below. Targets increased from 06 tools to 13 and from 02 investments informed to 03.
Enhanced capability in planning and financing investments in water and hydropower sector	<i>Replaced by:</i> Number of investments informed by WCAP outputs/activities approved for detailed design/implementation.	
Direct Project Beneficiaries	<i>New</i>	Core indicator added. The project provides support to Ministry of Water & Power, Water Section of Planning Development and Reform, staff working at the Water section of WAPDA, IRSA and the Provincial Irrigation Departments of Sindh, Punjab and Balochistan. One percent of staff are expected to be female.
Intermediate Results indicators		
<i>Current</i>	<i>Proposed change</i>	
Strategic assessments for improved water management carried out (number)	<i>New</i>	Similar indicator has been tracked in the ISRs reflecting one of the core results of the project. This is now being incorporated into the results framework formally.
Number of staff identified and trained in various institutions to improve management and planning of the Indus River System	<i>Replaced by:</i> Number of staff trained in federal institutions on water resources management, hydropower related issues and project management.	Clarification provided on the training target group and content.

Revisions to the Results Framework		Comments/ Rationale for Change
Telemetry stations upgraded and staff trained for continuous data collection and monitoring to perform flow measurements (05)	<i>Replaced by:</i> Number of telemetry stations upgraded	
Financial business model developed and approved by IPDF	<i>Dropped</i>	Sub-component was dropped at 2012 Restructuring. Planned permanent Water Cell at IPDF was streamlined into IPDF structure which continues engagement in PPP financing in the hydropower sector.
Quality of data accessible to the public through an upgraded network system and transferred to an enhanced IRSA	<i>Replaced by</i> Water balance and flow data made accessible publically	
Sediment management studies and flushing tests for the Tarbela Reservoir carried out	<i>No change</i>	Completed under original financing.
Number of hydropower sites identified by WAPDA and put forward for feasibility studies	<i>Dropped</i>	Covered by other new PDO and intermediate indicators.
	<i>New:</i> No. of decision support tools and models for water resources management established and/or upgraded	
	<i>New:</i> No. of labs and facilities for water resources management established and/or upgraded	
	<i>New:</i> Studies for investment planning developed	
	<i>New:</i> Assessments carried out for improved operations of hydraulic infrastructure	

REVISED RESULT FRAMEWORK

Project Name:	Additional Financing for Water Sect Capacity Building and Advisory Services (P155226)	Project Stage:	Additional Financing	Status:	DRAFT
Team Leader(s):	Javaid Afzal	Requesting Unit:	SACPK	Created by:	Christina Leb on 01-Jun-2015
Product Line:	IBRD/IDA	Responsible Unit:	GWA06	Modified by:	Javaid Afzal on 16-Oct-2015
Country:	Pakistan	Approval FY:	2016		
Region:	SOUTH ASIA	Lending Instrument:	Investment Project Financing		
Parent Project ID:	P110099	Parent Project Name:	PK Water Sector Capacity Building & Advisory Services Project (WCAP) (P110099)		

Project Development Objectives

Original Project Development Objective - Parent:

The project objective is to improve the management and investment planning of water resources in the Indus River system.

Proposed Project Development Objective - Additional Financing (AF):

Results

Core sector indicators are considered: Yes

Results reporting level: Project Level

Project Development Objective Indicators							
Indicator Name	Core	Unit of Measure		Baseline	Actual(Current)	End Target	
Number of modern tools operationalized and used for decision making	<input type="checkbox"/>	Number	Value	2.00	6.00	13.00	
			Date	22-Jul-2008	31-May-2015	30-Jun-2021	
			Comment				
Number of investments informed by WCAP outputs/activities approved for detailed design/implementation.	<input type="checkbox"/>	Number	Value	0.00	2.00	3.00	
			Date	15-Jul-2008	31-May-2015	30-Jun-2021	
			Comment				
Direct Project Beneficiaries (number), of which female (%)	X <input type="checkbox"/>	Number	Value	0.00	Staff at the Ministry of Water & Power dealing with Water, Water section of Planning Development and Reform, Water section of WAPDA, IRSA. Total Staff is about 200 including around 1 percent female.	Staff at the Ministry of Water & Power dealing with Water, Water section of Planning Development and Reform, Water section of WAPDA, IRSA and Provincial Irrigation Departments of the Sindh, Punjab and Balochistan province. Total staff expected to increase to 250 including around 1 percent female.	

			Date	15-Jul-2008	31-May-2015	30-Jun-2021
			Comment			
Intermediate Results Indicators						
Indicator Name	Core	Unit of Measure		Baseline	Actual(Current)	End Target
Strategic assessments for improved water management carried out	<input type="checkbox"/>	Number	Value	0.00	5.00	7.00
			Date	22-Sep-2008	31-May-2015	30-Jun-2021
			Comment		Groundwater study; flood plan study; institutional assessment of IRSA and MoWP.	Strategic studies under National FPP IV, Master Plan for Hill Torrents in Suleman Range; and Studies for small hydropower on nullahs in Upper Indus basin
No. of staff trained in federal institutions on water resources management, hydropower related issues and project management.	<input type="checkbox"/>	Number	Value	0.00	65.00	90.00
			Date	15-Jul-2008	31-May-2015	30-Jun-2021
			Comment		Personnel trained in dam safety and use of equipment.	
Telemetry stations upgraded	<input type="checkbox"/>	Number	Value	80	85	90
			Date	15-Jul-2008	11/30/2015	30-June -2021
			Comment			
Water balance and flow data made accessible publically (Citizen Engagement Indicator)	<input type="checkbox"/>	Text	Value	No	Yes	Yes
			Date	15-Jul-2008	31-May-2015	30-Jun-2021
			Comment			

Sediment management studies and flushing tests for the Tarbela Reservoir carried out.	<input type="checkbox"/>	Text	Value	Initial sediment studies are now outdated and required more recent investigation.	Completed.	Sediment management studies and flushing tests for Tarbela are completed.
			Date	26-Aug-2008	26-Nov-2014	29-Nov-2013
			Comment			
No. of decision support tools and models for water resources management established and/or upgraded	<input type="checkbox"/>	Number	Value	0.00	5.00	7.00
			Date	15-Jul-2008	31-May-2015	30-Jun-2021
			Comment		Hydrological models and tools; water flow measurement system at key points; IBMR and Database; Agro-Economic Farm Survey; procurement of software.	Flow measurement at key points in IBIS, water balance study in various zones of Jhelum, Chenab and Indus river Flow forecasting models for Kabul and Chenab river basins; Asset management plans
No. of labs and facilities for water resources management established and/or upgraded	<input type="checkbox"/>	Number	Value	0.00	2.00	4.00
			Date	15-Jul-2008	31-May-2015	30-Jun-2021
			Comment	Existing labs lack GIS/MIS facilities. No labs upgraded.	-GIS/MIS Center -CMTL Lab	-Lab upgrades at Nandipur, Hyderabad and Karachi) - Modernization of labs in Balochistan.

Studies for investment planning developed	<input type="checkbox"/>	Number	Value	0.00	7.00	8.00
			Date	16-Jul-2008	31-May-2015	30-Jun-2021
			Comment		Studies completed include (1) resettlement study; (2) environmental/social assessment; (3) hydropower benefit sharing; (4) IPDF Investment plan; (5) Feasibility Study - underground dams; (6) Feasibility Study- Small dams/storages; (7) design and tender studies for two major hydropower projects	Feasibility study for a large hydropower project completed.
Assessments carried out for improved operations of hydraulic infrastructure	<input type="checkbox"/>	Number	Value	0.00	1.00	1.00
			Date	25-Sep-2008	31-May-2015	30-Jun-2021
			Comment		Activities completed include sediment assessment study with flushing tests for sediment management.	No activities proposed under AF.

Indicator Description

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Number of modern tools operationalized and used for decision making	Tools are defined as mathematical/hydrological models. Use for decision making would be evidenced by the use of the models by implementing agencies.	Annual	Reports/records of tools being used	IRSA, MoWP, WAPDA
Number of investments informed by WCAP outputs/activities approved for implementation.	Hydropower and other investments (water resources development) that have resulted from Feasibility Studies, carried out under the project.	Annual	Reports/records of approved investment plans	IPDF, WAPDA, MoWP

Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Strategic assessments for improved water management carried out	This indicator captures: <ul style="list-style-type: none"> - A1 (groundwater study; flood plan study) - C (Institutional Assessment of IRSA; MoWP). - C2 under AF (strategic studies; water quality, flood master plan) 	Bi-annual	Report, minutes or other records.	PMPIU, WAPDA, IRSA, IPDF, PC
No. of staff trained in federal institutions on water resources management, hydropower related issues and project management.	This indicator captures results from <ul style="list-style-type: none"> - B3 (dam safety training) - C3 (Training) Focused on water resources management, hydropower and project management.	Annual	No. of staff trained	PMPIU, WAPDA, IRSA, IPDF, PID, PCIW, MoWP
Water balance and flood data made accessible publicly	Subcomponent C (Handbook of Water Statistics). Every year the handbook of water statistics including water balance and flood data will be made available to the public by uploading at the project's website.	Annual	Report	IRSA, MoWP, WAPDA
No. of decision support tools and models for water resources management	The indicator captures results from <ul style="list-style-type: none"> - A2 (hydrological models and tools, water flow measurement system at key points) - B1(IBM & Database; Agro-Economic Farm Survey; 	Annual	Report, minutes or other records.	WAPDA, IRSA

established and/or upgraded	<ul style="list-style-type: none"> - procurement of software) - B3 (Antelope software) 			
No. of labs and facilities for water resources management established and/or upgraded	<p>The indicator captures results from</p> <ul style="list-style-type: none"> - A1 under AF (4 lab upgrades; Nandipur Irrigation Research Station; Soil Mechanics Hydraulic Research Laboratories in Hyderabad and Karachi of the Directorate for Research and Hydrology. Modern, computerized labs for survey, drawing and soil testing at Irrigation Unit/Division in Balochistan. - A2 (GIS/MIS Center) - A4 under AF (Establishment of an International Center in the Planning and Development Division. - B3 (CMTL Lab) 	Annual	Report, minutes or other records.	WAPDA, IRSA
Studies for investment planning developed	<p>This indicator captures</p> <ul style="list-style-type: none"> - A1 (Resettlement study; environmental/social assessment, hydropower benefit sharing) - A3 (IPDF Investment plan) - C (FS - underground dams; FS - Small dams/storages) - B4 (design and tender studies for two major hydropower projects) - C2 under AF(hydro studies; master plan; additional FS) 	Bi-annual and quarterly	Report, minutes or other records.	IRSA, MoWP, WAPDA
Assessments carried out for improved operations of hydraulic infrastructure	<p>This indicator includes</p> <ul style="list-style-type: none"> - B2 (Sediment study; flushing tests) - B3 under AF (Asset management plans, dam safety inspections and studies) 	Annual	Report, minutes or other records.	WAPDA

APPENDIX: REVISED PROJECT COST AND IDA CREDIT ALLOCATIONS (US\$ MILLIONS)

Sr. No	Description	Agency Responsible	Component Cost
			Million US\$
A:	Capacity Building of and support to Federal Institutions in Water Resources Planning and Management		
A1:	Capacity Building in planning, development and testing of water resources infrastructure		6.07
	1. Nandipur Irrigation Research Station Upgradation (New)	PMPIU/ PID Punjab	1.50
	2. Up-gradation & strengthening capacity of Soil Mechanics Hydraulic Research Laboratories at Hyderabad & Karachi (New)	PMPIU/ PID Sindh	1.50
	3. Establishment of modern/computerized labs for survey, drawing and soil testing at each Irrigation Unit/Division in Balochistan (New)	PMPIU/ PID Balochistan	1.50
	4. Individual Consultants	PMPIU	1.15
	5. Incremental operating cost (for technical consultant support staff)	PMPIU	0.42
A2:	Capacity Building in system planning management and operation		2.50
	1. Flow measurement at key locations of IBIS	IRSA	1.50
	2. Determination of losses & gains between several reaches in Indus and Jhelum Chenab Zones (New)	IRSA	1.00
A3:	Dropped		
A4:	Capacity Building of Planning Development and Reform Division (Water Section) Establishment of International Center at/through P&D for water issues and national and international coordination/cooperation (New)	P&D Division	2.00
Sub-Total (A)			10.57
B:	Improvement in Water, Resources Management and Development		
B1:	Upgrading of tools, water resources database, management system, models, Phase-II	WAPDA	8.75
	1. Up-gradation of existing network of climate stations and flood telemetric network with integration of meteorological Sensors.		
	2. Proposal for flow forecasting of Chenab and Kabul River Basins.		
	3. Establishment of Integrated Office Management System for WAPDA (Consultancy Services & Goods)		
	4. Goods, Equipment and Misc, Expenditures		
	5. Purchase/ R&M of Vehicles		
	6. Incremental Operating Expenditures		
	7. Incremental Operating Expenditures (for supporting staff)		
B2:	Dropped		
B3:	Hydropower Planning, asset management plans, dam safety inspections and studies	WAPDA	0.90
	Assets Management Plans Phase-II		

Sr. No	Description	Agency Responsible	Component Cost
			Million US\$
B4:	Feasibility Studies for run of the river Hydropower projects	WAPDA	7.50
	Feasibility Study of a large Hydropower Project		7.50
Sub-Total (B)			17.15
C:	Project Management, coordination, strategic studies, training		
C1:	Project coordination, Monitoring and Evaluation	PMPIU	2.94
	1. Incremental Operating Cost, General & Administration cost	All Executing Agencies	2.45
	2. Goods, Equipment & Misc. items	PMPIU	0.27
	3. Purchase/replacement of Vehicles	PMPIU	0.22
C2:	Strategic Studies Approved by the Steering Committee during implementation		3.80
	1. Studies identified in the Integrated National Flood Protection Plan (NFPP-IV)	PMPIU	1.00
	2. Up-gradation of Master Plan of Flood Management of Hill Torrents of Pakistan and Feasibility Studies for check/recharge dams in Sulaiman Range, Feasibility study of Marri Bugti Hill Torrent	PMPIU	1.80
	3. Preparation of Comprehensive Plan for the development and utilization of Power and Energy Resources on streams and nullahs (Upper Indus basin), (New)	PMPIU	1.00
C3:	Technical Assistance, Capacity Building and Training (Federal & Provincial Water Sector Institutions), Seminars/Workshops etc	All stakeholders	0.50
Sub-Total (C)			7.23
	Contingencies	All Components	0.00
Grand Total			34.95
Conversion: US \$ 1 = PKR 100			