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Report No: 76860-PK

PROJECT PAPER

ON A

PROPOSED ADDITIONAL CREDIT

IN THE AMOUNT OF SDR 93.1 MILLION
(US\$138 MILLION EQUIVALENT)

TO THE

ISLAMIC REPUBLIC OF PAKISTAN

FOR THE

SINDH WATER SECTOR IMPROVEMENT PHASE-I PROJECT

November 4, 2014

Water Global Practice
Region: South Asia

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CURRENCY EQUIVALENTS

September 30, 2014

Currency Unit = Pakistan Rupee (PRs)

PRs102.59 = US\$1

US\$1.48258 = SDR1

FISCAL YEAR

July 1 – June 30

ABBREVIATIONS AND ACRONYMS

| | |
|---------|--|
| AF | Additional Financing |
| AWB(s) | Area Water Board (s) |
| BP | Bank Procedure |
| CPS | Country Partnership Strategy |
| EA | Environmental Assessment |
| ERR | Economic Rate of Return |
| ESMP | Environmental and Social Plan |
| FM | Financial Management |
| FO | Farmers Organizations |
| GoP | Government of Pakistan |
| GoSindh | Government of Sindh |
| I&D | Irrigation and Drainage |
| IDA | International Development Association |
| IPD | Irrigation and Power Department |
| M&E | Monitoring and Evaluation |
| P&D | Planning & Development |
| PCMU | Project Coordination and Monitoring Unit |
| PDO | Project Development Objective |
| PIC | Project Implementation Consultants |
| PMCA | Project Management Consultant/Procurement Agent |
| PSC | Project Steering Committee |
| RP | Resettlement Plan |
| SA | Special Accounts |
| SIDA | Sindh Irrigation and Drainage Authority |
| SWMO | Sindh Water Management Ordinance |
| WSIP | Water Sector Improvement Project |

| | |
|-------------------------|------------------------|
| Vice President: | Philippe H. Le Houerou |
| Country Director: | Rachid Benmessaoud |
| Senior Director Water: | Junaid Kamal Ahmad |
| Practice Manager Water: | William Kingdom |
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ISLAMIC REPUBLIC OF PAKISTAN
SINDH WATER SECTOR IMPROVEMENT PHASE-I PROJECT
(ADDITIONAL FINANCING)

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ISLAMIC REPUBLIC OF PAKISTAN

ADDITIONAL FINANCING

SINDH WATER SECTOR IMPROVEMENT PHASE-I PROJECT

DATA SHEET

| Basic Information Additional Financing (AF) | |
|--|---|
| Country Director: Rachid Benmessaoud Senior Director: Junaid Kamal Ahmad Team Leader: Abdulhamid Azad Expected Effectiveness Date: 1/30/2015 Lending Instrument: Investment Project Financing Additional Financing Type: cost over-run Project ID: P131325 | Sectors: Water, Irrigation and Drainage (80%); General Water, sanitation and flood protection sector (20%) Themes: Water Resources Management (P); Rural Policies and institutions (S); Participation and civic engagement (S); Land Administration & management (S) Environmental category: A – Full Assessment Expected Closing Date: 12/31/2018 Joint IFC: No |
| Basic Information - Original Project | |
| Project ID: P084302 Project Name: Sind Water Sector Improvement Project Lending Instrument: Specific Investment Loan | Environmental category: A – Full Assessment Expected Closing Date: 2/28/2015 Joint IFC: No Joint Level: |
| AF Project Financing Data | |
| <input type="checkbox"/> Loan <input checked="" type="checkbox"/> Credit <input type="checkbox"/> Grant <input type="checkbox"/> Guarantee <input type="checkbox"/> Other: Proposed terms: Blend IDA terms and a final maturity of 25 years, including a grace period of five years | |
| AF Financing Plan (US\$ million) | |
| Source | Total Amount (US\$ Million) |
| Total Project Cost | 138 |
| Borrower | 0 |
| Total Bank Financing | 138 |
| IDA | 138 |
| Client Information | |
| Recipient: Islamic Republic of Pakistan Responsible Agency: Sindh Irrigation and Drainage Authority (SIDA), Government of Sindh Contact Person: Babar Hussain Effendi, Managing Director Sindh Irrigation and Drainage Authority (SIDA) Left Bank Barrage Colony, Hyderabad. Office: +9222 921 0080 Fax: +9222 921 0081 Email: mdsida@sida.org.pk ; www.sida.org.pk | |
| AF Estimated Disbursements (Bank FY/US\$ Million) | |

| FY | | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|-----------------------------------|------|------|----------|---------------|------|
| Annual | | 20 | 45 | 50 | 15 | 8 |
| Cumulative | | 20 | 65 | 115 | 130 | 138 |
| Project Development Objective and Description | | | | | | |
| <p>Original Project Development Objective is to improve the efficiency and effectiveness of irrigation water distribution in Ghotki Area Water Board (AWB), Nara AWB, and Left Bank AWB, all in the Province of Sindh, particularly with respect to measures of reliability, equity and user satisfaction.</p> <p>Revised Project Development Objective: The original project development objective will remain the same for the Additional Financing (AF).</p> <p>Project Description: The original project consists of the following five main components and the AF will provide continued support to these components in accordance with the original scope of the project:</p> <p>Component A: Community Development and Capacity Building. Component B: Rehabilitation and Improvement of Irrigation and Drainage System. Component C: Management Plan for major Irrigation and Drainage Infrastructure. Component D: Monitoring and Evaluation of the Project Impact and Environmental Management Plan. Component E: Project Coordination, Monitoring, Technical Assistance and Training.</p> | | | | | | |
| Safeguard and Exception to Policies | | | | | | |
| Safeguard policies triggered: | | | | | | |
| Environmental Assessment (OP/BP 4.01) | | | | | [X]Yes [] No | |
| Natural Habitats (OP/BP 4.04) | | | | | [X]Yes [] No | |
| Forests (OP/BP 4.36) | | | | | []Yes [X] No | |
| Pest Management (OP 4.09) | | | | | [X]Yes [] No | |
| Physical Cultural Resources (OP/BP 4.11) | | | | | []Yes [X] No | |
| Indigenous Peoples (OP/BP 4.10) | | | | | []Yes [X] No | |
| Involuntary Resettlement (OP/BP 4.12) | | | | | [X]Yes [] No | |
| Safety of Dams (OP/BP 4.37) | | | | | []Yes [X] No | |
| Projects on International Waterways (OP/BP 7.50) | | | | | [X]Yes [] No | |
| Projects in Disputed Areas (OP/BP 7.60) | | | | | []Yes [X] No | |
| Does the project require any waivers of Bank policies? | | | | | []Yes [X] No | |
| Have these been endorsed or approved by Bank management? | | | | | []Yes [] No | |
| Conditions and Legal Covenants: | | | | | | |
| Financing Agreement Reference | Description of Condition/Covenant | | | Date Due | | |

| | | |
|--|--|-------------------------|
| <p>Financing Agreement, Section III.E of Schedule 2</p> | <p>Transitional provisions for procurement due to change of guidelines since Original Financing.</p> | |
| <p>Project Agreement, Section I.A.6 and 9 of the Schedule to the Project Agreement</p> | <p>Extension of the contracts of key consultants (Project Implementation Consultant and Project Management consultants/Procurement Agent).</p> | <p>January 30, 2015</p> |

ISLAMIC REPUBLIC OF PAKISTAN
SINDH WATER SECTOR IMPROVEMENT PHASE-1 PROJECT
ADDITIONAL FINANCING

I. INTRODUCTION

1. This Project Paper seeks the approval of the Executive Directors to provide an additional credit in an amount of SDR93.1 million (equivalent to US\$138 million) to the Islamic Republic of Pakistan for the Sindh Water Sector Improvement Phase 1 Project (WSIP, P084302), currently supported through an IDA Credit of SDR100.1 million (US\$150.2 million equivalent) under IDA Credit 43580. The proposed Additional Financing (AF) would help finance the costs associated with cost over-runs which will allow the original project targets to be met.

II. BACKGROUND AND RATIONALE FOR ADDITIONAL FINANCING

2. WSIP was approved by the Board on September 18, 2007 and the credit became effective on December 26, 2007. The project cost was estimated at US\$175 million, with IDA financing of US\$150.2 million and with the balance funded by the Government of Sindh.

3. The project development objective (PDO) is to improve the efficiency and effectiveness of irrigation water distribution in Ghotki Area Water Board (AWB), Nara AWB, and Left Bank AWB, all in the Province of Sindh, particularly with respect to measures of reliability, equity and user satisfaction.

4. **Current Status.** The project has made progress towards achieving its development objective and implementation is satisfactory notwithstanding a delay which occurred in 2010-2011 as a result of Cyclone Phet and super floods. As of September 2014, 100% of the IDA Credit is committed and about 85% of the Credit has been disbursed. Compliance with the legal covenants and environmental and social safeguards is satisfactory. The project comprises the following five main components:

5. **Component A: Community Development and Capacity Building.** Project provides support to enhancing the capacity of Farmers Organizations (FOs) and AWBs so that they will be able to carry out their functions in accordance with the Sindh Water Management Ordinance (SWMO) and will be able to satisfactorily implement the project. The project supports 344 FOs and provides trainings in its operational areas including planning and operation and maintenance, organizational development, book keeping, irrigation service fee (*abiana*) assessment and collection. However, additional support will be required to further strengthen the FOs of Ghotki main canal and Left Bank Area main canal. The project has made substantial achievements in enhancing women's participation in FOs. About 2,000 women land owners in selected minors and distributaries have been identified. 41% of these women have been successfully mobilized in their local FOs, and eight women have been elected in the FO board of management, including one chairperson.

6. **Component B: Rehabilitation and Improvement of the Irrigation and Drainage System.** Works on the largest International Competitive Bidding (ICB) civil works contract (NC-

01) for US\$75million are completed. All major hydraulic structures have been commissioned. The overall quality of structures and mechanical works are commendable. Progress on the second ICB civil work contract (NC-02) for US\$27 million is 81%. Work on 91 distributaries and minor canals has been completed and the canals have been handed over to the FOs. In addition seven community-based contracts were also completed by respective FOs. Agricultural productivity has increased on a total of 1.17 million hectares, benefiting over 380,000 farm-families, as a result of improved availability, reliability and equity of irrigation water deliveries. Due to cost over-runs only two of the original five large ICB civil works contracts have been implemented.

7. Component C: Management Plan for Major Irrigation and Drainage Infrastructure

The feasibility study for rehabilitation and modernization of the Guddu Barrage has been completed by the team of international consultants. The consultants identified solutions to issues encountered, proposing physical works for rehabilitation and modernization to make the barrage safe and able to withstand floods over the next 50 years. Based on these recommendations the Government of Sindh has started preparation of a new project for rehabilitation and modernization of the Guddu Barrage. However, additional inputs such as an independent environmental impact assessment and preparation of detailed designs are also required. A similar feasibility study has also been conducted by a separate team of international consultants for Sukkur Barrage. A Master Plan to address floods and drainage issues on the Left Bank of Indus, Delta and Coastal Zone has been prepared by international consultants and completed.

8. Component D: Monitoring and Evaluation of Project Impact and Environmental Management Plan. Various project entities have been conducting environmental training for the project staff and site workers on a regular basis. Monthly environmental reports are prepared and shared. These reports provide useful information on various aspects of the environmental management and monitoring, remedial measures undertaken or needed. The project has coordination with the Sindh Wildlife Departments to facilitate field inspection to monitor project's impacts on the flora and fauna and the mitigation measures being implemented to address these impacts. Monitoring and evaluation reports are prepared and shared with various project stakeholders.

9. Component E: Project Coordination, Monitoring, Technical Assistance and Training. The institutional arrangements are functional as per project design. The office of Project Coordination & Monitoring Unit (PCMU) established in the P&D Department of the Government of Sindh (GoSindh) is playing its role in an effective manner as per its mandate with overall guidance and supervision of the Project Steering Committee formed by the GoSindh and headed by the Additional Chief Secretary (Dev.) of the P&D Department. The Project Management Consultants/Procurement Agent (PMC/A) is ensuring a fair and transparent process in procurement of all project activities and is performing well. In addition, extensive national and international training courses have been provided in different areas of expertise to newly appointed project staff as well as staff of partner departments. About 51 international and national training courses have been organized and about 200 staff members have participated.

10. Rationale for Additional Financing. The proposed Additional Financing is to continue IDA support to the GoSindh's efforts to achieve the PDO. It would finance the costs associated

with improving the irrigation system including key hydraulic infrastructure works, main and branch canals, and distributaries and minors that were covered in the original project but could not be undertaken because of the cost escalations and subsequent shortage of funds.

11. Costs were estimated at appraisal on a cost per hectare of rehabilitation work basis, as there was very limited cost data in Sindh on recent construction works of this nature and scale. However, this may not have been optimal for the intended rehabilitation works and/or replace major structures on the main canals, as well as to carry out large scale earthworks to remodel canals and raise and strengthen canal embankments. During implementation the quantum of work increased because the majority of hydraulic structures proposed to be rehabilitated were found in a fragile condition and needed to be replaced. As a result, the cost of civil works turned out to be much higher than originally estimated.

12. The project's original financing arrangements will be insufficient to complete the planned activities. The PDO is expected to be fully achieved by the closing of the project with additional financing. The improved water management is expected to lead to increased agricultural production, employment and incomes over about 1.8 million ha (about 30% of the irrigated area in Sindh), which is one of the poorest regions of the country. The proposed additional funding is complementary to this initiative, and would ensure that the scope of work planned under the original project is completed by the closing date for the Additional Financing.

13. **The project is consistent with the government's 'Pakistan's Vision 2025'**, which aims at transforming Pakistan into a developed and export-led economy with strong social values through the promotion of inclusiveness, peace and security and greater inter-provincial harmony. The project contributes to the following 'pillars' of Vision 2025: sustained and inclusive higher growth, and private sector-led growth and modernization of existing infrastructure.

14. Pakistan also adopted a National Climate Change Policy in 2012, with the overall goals to promote climate-resilient development, and to mainstream climate change issues within various sectors of the economy through the implementation of adaptation and mitigation measures which will ensure water and food security.

15. The Additional Financing is **fully aligned with the Country Partnership Strategy (CPS)**. The overarching goal of the CPS is to help Pakistan accelerate poverty reduction and shared prosperity. The Additional Financing will contribute to "Increased Productivity of Farms" (Results Area 2 of the CPS).

16. The project aims to improve the currently unreliable irrigation water delivery, especially to the tail end farmers (generally the poorest farmers). The project includes structural and non-structural irrigation management activities which promote equitable distribution of irrigation water and therefore provide a boost to shared prosperity. The project will not only increase the farmers' income, but also reduce their vulnerability to future droughts.

III. PROPOSED CHANGES

17. **Project Development Objective.** This PDO remains valid and unchanged. It is expected to be achieved by the closing of the project with additional financing.

18. **Key Performance Indicator (KPIs).** As neither the PDO nor the scope of the project is proposed to be changed, the KPIs will also remain unchanged. However, the original targets have been adjusted based on implementation progress so far. In addition, the following “core sector” indicators have been added:

- Area provided with improved irrigation and drainage services (ha).
- Number of female and male water users provided with new/improved irrigation and drainage services: (i) Number of female water users; (ii) Number of male water users.
- Number of operational water user associations created and/or strengthened.

19. Details of the activities proposed to be financed under each component through the Additional Financing are summarized below.

20. **Component A: Community Development and Capacity Building (US\$6.6 million).** Provide continued support to strengthen the capacity of SIDA, AWBs and FOs to enable them to perform their responsibilities according to the Sindh Water Management Ordinance of 2002. Among other things, the Additional Financing will continue to strengthen the capacity of FOs to carry out operation and maintenance of the irrigation and drainage systems.

21. **Component B: Rehabilitation and Improvement of the Irrigation and Drainage System (US\$123.2 million).** The additional resources will be used to carry out the works for improvement of the main canal systems of Ghotki and Left Bank and for completing the remaining works on the Nara Canal through three large civil works contracts. Rehabilitation of the main canals will include the following works: (a) Rehabilitation or replacement of regulating structures including rehabilitation or replacement of gates including provision of hydraulic control gates; (b) Establishing a modified hydraulic profile of the three main canals; (c) Erosion protection works and canal embankment strengthening; (d) Rehabilitation of inspection and non-inspection canal roads; and (e) Rehabilitation or replacement of road bridges crossing the canals.

22. **Component C: Management Plan for major Irrigation and Drainage Infrastructure (US\$0.5 million).** The Additional Financing will continue to support the preparation of feasibility studies and detailed designs for rehabilitation of the Sindh barrages by extending the current consulting services contracts.

23. **Component D: Monitoring and Evaluation of Project Impact and Environmental Management Plan (US\$0.7 million).** The Additional Financing would continue to support monitoring and evaluation and supervision of the environment management plan and the social action plan. The current consulting services contract will be extended for the duration of the Additional Financing.

24. **Component E: Project Coordination, Monitoring, Technical Assistance and Training (US\$7 million).** The Additional Financing would continue to support the project

coordination, monitoring of implementation activities, management and supervision of procurement by an independent project management consultant, and technical assistance and training during the extended project duration. The current Project Management Consultant/Procurement Agent contract will be extended for the duration of the Additional Financing.

25. Table 1 below indicates the costs and financing, by component, of the original project and the additional financing.

Table 1: Project Cost and IDA Credit Allocations (US\$ millions)

| Project Components | Original Project | | Additional Financing | | Total IDA Financing |
|---|------------------|--------------|----------------------|--------------|---------------------|
| | Total | IDA Share | Total | IDA Share | |
| A. Community Development & Capacity Building | 10 | 10 | 6.6 | 6.6 | 16.6 |
| B. Improvement of the Irrigation & Drainage System | 139.80 | 115 | 123.2 | 123.2 | 238.2 |
| C. Management Plan for Major Irrigation and Drainage Infrastructure | 12 | 12 | 0.5 | 0.5 | 12.5 |
| D. Monitoring & Evaluation and Environmental Management Plan | 4.2 | 4.2 | 0.7 | 0.7 | 4.9 |
| E. Project Coordination, Monitoring, Technical Assistance & Trainings | 9 | 9 | 7 | 7 | 16 |
| Total | 175.0 | 150.2 | 138.0 | 138.0 | 288.2 |

IV APPRAISAL SUMMARY

26. **Economic Returns and Financial Sustainability.** The economic and financial analysis has been updated to re-examine the viability of the project and its economic justification, taking into account the proposed additional financing. The results of the economic analysis indicate an overall EIRR of 16.5% (compared to the original estimate of 18%), with ERRs of 15% for Ghotki Canal AWB, 18% for Nara Canal AWB, and 15% for Left Bank Canal AWB. The principal factors impacting the economic viability of the project are: (i) increases in capital costs; and (ii) lengthening of the project implementation period. However, the impact is much less than expected due to the increase in agricultural commodity prices during the period of implementation. The project, despite the additional financing required completing it, remains economically justified.

27. **Fiscal Impact.** The original project and proposed AF contribute to improved fiscal sustainability of the irrigation and drainage sector by transferring O&M responsibility to FOs, improving *abiana* collection, implementing a sound program of infrastructure maintenance and repair at the canal level. Both the original project and the proposed AF will reduce the financial burden of the government, while improving the financial sustainability of the system by: (i) supporting the formation and strengthening of FOs to enable them to take over an increased share of the O&M burden that currently rests on the government budget; (ii) reducing O&M costs as a result of major improvements to the main canals and water control structures; and (iii)

improving the overall management efficiency of AWB and SIDA. In addition, there would be an increase in Government's *abiana* revenue as a result of increased agricultural production.

28. **Technical Aspects.** Works to be undertaken under the additional financing are now well defined and detailed designs and bid documents have been prepared jointly by international and national engineering firms for three large packages (US\$113 million). The costs of AF contract packages have been estimated based on contracts of a similar nature and size awarded within the past three years. There is therefore significantly greater confidence in the estimates for the additional financing than the earlier estimates. The works have been packaged for international competitive bidding purposes to attract qualified contractors, while contract management and construction supervision would be carried out with the assistance of a qualified engineering firm.

29. **Financial Management (FM)** arrangements used in the original project will continue to be used under the Additional Financing. The FM capacity of SIDA has been strengthened by adding an accountant and hiring an internal auditor to carry out regular internal audits. Technical assistance on FM under the parent project has served to strengthen the FM capacity of the implementing agency. During the Additional Financing period, audited financial statements (AFSS) of SIDA as an entity would not be required, only the AFSS related to the project expenditures would need to be submitted to IDA for review. There is no outstanding audit report under the original project.

30. **Disbursement Arrangements** under the additional financing will remain the same as under the original project, including funds flow arrangements already established for various implementing agencies. IDA disbursements will be based on quarterly IFRs, and advance to the segregated Designated Account (DA) in USD to be established for this AF at the National Bank of Pakistan will be based on six-month cash forecast. But for the reason set forth in subsection 5.2 of the Disbursement Guidelines (i.e. projects in the country portfolio with outstanding DA balances not accounted for or refunded two months after the Disbursement Deadline Date or Grace Period), advancing of IDA credit proceeds into a DA is not a Disbursement Method currently available under this additional financing. IDA financing under this additional financing will be 100% of eligible expenditures, inclusive of taxes.

| Category | Amount of the Financing Allocated (expressed in US\$ million) | Percentage of Expenditures to be Financed (inclusive of Taxes) |
|--|--|---|
| Works, goods, services, Training, and Workshops and Incremental Operating Cost | 138,000,000 | 100% |
| Total | 138,000,000 | |

31. **Procurement.** Procurement has been handled satisfactorily under the original project and there are no specific procurement issues. The procurement arrangements under the original project will continue. However, the Applicable Guidelines for Additional Financing would be "Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" dated January 2011 (revised July 2014), and "Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" dated January 2011 (revised July 2014).

32. An acceptable Procurement Plan has been prepared for the additional credit. The procurement plan will be updated at least annually or as required to reflect the project implementation needs. The major procurements of civil works have been finalized and are at pre-qualification stage.

33. **Institutional.** The existing implementing arrangements are satisfactory for planning, implementing, and coordinating project activities, including activities funded by the Additional Financing and no changes are proposed.

34. **Safeguards.** The Safeguard Category of the original project is 'A'. The original project has successfully mainstreamed both environmental and social aspects into the implementation arrangements. During the last five years no significant adverse impacts were identified. An Integrated Social and Environmental Assessment (ISEA) and a Resettlement Policy Framework (RPF) have been prepared for the original project, and these have been disclosed by the Project Coordination and Monitoring Unit (PCMU) on the P&D and SIDA websites and on the Bank's Infoshop. In accordance with the requirements detailed in ISEA, separate EAs/EMPs have been prepared for individual contract packages for the Additional Financing. The ISEA calls for an elaborate institutional set-up for safeguards management, and these arrangements are in place. Finally, even though this is a project on an international waterway (OP 7.50 has been triggered), as was determined for the original project, it falls under the exception to the notification to other riparians requirement.

35. The Safeguard Category for Additional Financing will remain 'A'. The ISEA remains valid for the Additional Financing as well, since the document fully covers the components under the Additional Financing. The institutional set-up for safeguards management in place for the original project will also be retained for the Additional Financing, though further efforts will be made to strengthen the capacities of the PCMU and SIDA for enhanced compliance with the Environmental Management Plans during the Additional Financing. Training will be provided to the staff of SIDA and the PCMU to increase and refresh their knowledge/skills on the Bank's Safeguard Policies and national policies, laws, and environmental management tools applicable to irrigation. Such training will include lessons learnt during implementation of the original project.

36. Citizen engagement. As under the original project, beneficiary consultations will continue and user satisfaction with respect to irrigation water distribution is one of the main PDO level result indicators. This result indicator will continue to be monitored by the Project Coordination and Monitoring Unit.

37. **Gender-informed design.** The original project has increased women's participation in Farmers Organizations. Currently there are about 2,000 women who own land. In the Results Framework the monitoring of gender distribution by the Project Coordination and Monitoring Unit has been included in the core sector indicators.

38. **Mitigating Climate Risks.** The project activities will enhance adaptation to climate change in irrigation water management through the improvement in hydraulic infrastructure.

39. **Covenants.** All existing covenants for WSIP will apply under the Additional Financing. The key implementation contracts and the implementation arrangements will be expanded as necessary by January 30, 2015 to cover implementation of the AF.

40. **Risks:** The overall **risk** rating is **moderate** given the high level of ownership displayed at the GoSindh level including the Planning & Development Department, SIDA, AWB and FOs and given the experience of GoSindh in implementing Bank-funded projects. The Operational Risk Assessment Framework (ORAF) has been updated and is attached to this paper. Financial management risk, which is rated substantial, is being mitigated by enhanced support to the project's implementing agency and periodic review of technical, procurement and financial management matters to ensure timely implementation progress.

ANNEX 1: RESULTS FRAMEWORK AND MONITORING

Results Framework

| Revisions to the Results Framework | | Comments/ Rationale for Change |
|---|---|--|
| Project Development Objective (PDO) | | |
| <i>Current (PAD)</i> | <i>Proposed</i> | |
| To improve the efficiency and effectiveness of irrigation water distribution in Ghotki Area Water Board (AWB), Nara AWB, and Left Bank AWB, all in the Province of Sindh, particularly with respect to measures of reliability, equity and user satisfaction. | The PDO will remain the same | - |
| PDO indicators | | |
| <i>Current (PAD)</i> | <i>Proposed change</i> | |
| Efficiency: Evidence of increased channel conveyance efficiency of the distributary / minor canals, watercourses, farms, and reduced discharges of drainage water | The PDO indicator will remain the same. | The original targets have been adjusted based on implementation progress so far. |
| Reliability: Ratio between actual amounts of water supplied to the project area and the demand/planned water supply for the project area on a ten-day, monthly, seasonal and annual basis. Also decrease in the incidence of canal breaches. | The PDO indicator will remain the same. | The original targets have been adjusted based on implementation progress so far. |
| Equity:: Evidence of improvements in water distribution between head and tail watercourses measured. | The PDO indicator will remain the same. | The original targets have been adjusted based on implementation progress so far. |
| User Satisfaction: Improved user satisfaction with respect to water distribution practices, as shown in sample surveys conducted before and after project activities in each AWB. | The PDO indicator will remain the same. | The original targets have been adjusted based on implementation progress so far. |
| Intermediate Results indicators | | |
| <i>Current (PAD)</i> | <i>Proposed change*</i> | |
| Component A: Farmers organizations (FOs) carry out distributary level improvements as planned; while SIDA and AWBs improve main and branch canals in a coordinated fashion 1. Distributaries / minors improved by FOs in the project area 2. Main and branch canals improved by AWBs and SIDA 3. Evidence* of improved O&M and collection of abiana and increased budget for O&M of the irrigation and drainage | The intermediate results indicators will remain the same. | The original targets have been adjusted based on implementation progress so far. |

| Revisions to the Results Framework | | Comments/ Rationale for Change |
|--|--|--|
| systems in participating FOs and AWBs | | |
| <p>Component B: Construction completion of main and branch canals, distributaries and minors</p> <ol style="list-style-type: none"> 1. Number of main and branch canals, distributaries and minors improved 2. Number of contracts awarded 3. Expenditures and disbursements | The intermediate results indicators will remain the same | The original targets have been adjusted based on implementation progress so far. |
| <p>Component C: Management plans for major I&D infrastructure</p> <ol style="list-style-type: none"> 1. Contracts for preparation of feasibility studies for barrages (particularly for Guddu barrage) are started and safety issues related to the barrages are assessed. 2. Surveys, investigations and participatory consultations in preparing regional plan for drainage and flood management on left Bank of Indus river, Indus delta and coastal zones | remain the same | The original targets have been adjusted based on implementation progress so far. |
| <p>Component D: Baseline for M&E studies is established, major monitoring indicators are identified, and sample and control areas are established</p> <p>M&E studies show status of the project implementation, and impact</p> | The intermediate results indicators will remain the same | The original targets have been adjusted based on implementation progress so far. |
| <p>Component E: Project coordination and recruitment of Project Implementation Consultants and M&E consultants</p> <p>Performance of PMCA, Project Consultants in carrying out the rehabilitation works and M&E studies</p> <ol style="list-style-type: none"> 1. Project coordination, management, and capacity of the staff enhanced, and strategic studies are carried out. Performance of consultants is improved in delivery of timely and expected quality outputs 2. Future Project preparation TA and Trainings | The intermediate results indicators will remain the same | The original targets have been adjusted based on implementation progress so far. |

ANNEX1: RESULTS FRAMEWORK AND MONITORING

Project Development Objective: To improve the efficiency and effectiveness of irrigation water distribution in Ghotki Area Water Board (AWB), Nara AWB, and Left Bank AWB, all in the Province of Sindh, particularly with respect to measures of reliability, equity and user satisfaction.

| Results and Indicators | Core | UOM | Baseline | Target | Progress of Year 2014 | Cumulative Target Values | | | | Frequency | Data Source/ Methodology | Responsibility for Data Collection | Comments |
|---|--------------------------|------------|----------|--------|-----------------------|--------------------------|------|------|------|--|--|--|----------|
| | | | | | | 2015 | 2016 | 2017 | 2018 | | | | |
| PDO Level Results and Indicators | | | | | | | | | | | | | |
| 1. - Efficiency: Evidence of increased channel conveyance efficiency of the distributary/minor canals, watercourses, farms, and reduced discharges of drainage water. | <input type="checkbox"/> | % | 69 | 71 | 71% | 80% | 90% | 100% | | Quarterly and Annual implementation progress reports and Annual M&E Reports. | Satellite images | SIDA, AWBs, FOs, PCMU and M&E Consultants. | |
| 2. Reliability: Ratio between actual amounts of water supplied to the project area and the demand/planned water supply for the project area on a ten-day, monthly, seasonal and annual basis. Also decrease in the incidence of canal breaches. | <input type="checkbox"/> | % | 53 | 59 | 59% | 80% | 90% | 100% | | Quarterly and Annual implementation progress reports and Annual M&E Reports. | Quarterly implementation progress Data collection under M&E Program and Field visits | SIDA, AWBs, FOs, PCMU and M&E Consultants. | |
| 3. Equity:: Evidence of improvements in water distribution between head and tail watercourses measured by the DPR | <input type="checkbox"/> | DPR Ratio | 0.51 | 0.64 | 0.64 | 80% | 90% | 100% | | Quarterly and Annual implementation progress reports and Annual M&E Reports. | Quarterly implementation progress data collection under M&E Program and Field visits | SIDA, AWBs, FOs, PCMU and M&E Consultants. | |
| 4. User Satisfaction: % user satisfaction with respect to water distribution practices, as shown in sample surveys conducted before and after project activities in each AWB. | <input type="checkbox"/> | % of users | 51 | 59 | 59% | 80% | 90% | 100% | | Quarterly and Annual implementation progress reports and Annual M&E Reports. | Quarterly implementation progress Data collection under M&E Program and Field visits | SIDA, AWBs, FOs, PCMU and M&E Consultants. | |

| Results and Indicators | Core | UOM | Baseline | Target | Progress of Year 2014 | Cumulative Target Values | | | | Frequency | Data Source/ Methodology | Responsibility for Data Collection | Comments |
|--|-------------------------------------|------------|----------|---------|-----------------------|--------------------------|---------|---------|---------|--|--|---|--|
| | | | | | | 2015 | 2016 | 2017 | 2018 | | | | |
| Project beneficiaries | <input checked="" type="checkbox"/> | | 0 | 612,300 | 390,000 | 527,300 | 542,700 | 573,000 | 612,300 | Annual implementation progress reports and Annual M&E Reports. | Implementation progress Data collection under M&E Program and Field visits | SIDA, AWBs, PCMU and M&E Consultants. | Only Farm House Holds; 6.8 persons Per farm Family; average farm size 7.6 acres (3 ha) |
| Area provided with improved irrigation and drainage services | <input checked="" type="checkbox"/> | Million ha | 0 | 1.837 | 1.17 | 1.582 | 1.628 | 1.72 | 1.837 | Annual implementation progress reports and Annual M&E Reports. | Implementation progress Data collection under M&E Program and Field visits | SIDA, AWBs, PCMU and M&E Consultants | Drainage area not included. Ha: hectare |
| Number of water users provided with improved irrigation water (male) | <input checked="" type="checkbox"/> | | 0 | 610,000 | 389,500 | 5263,00 | 541,200 | 571,000 | 610,000 | Annual implementation progress reports and Annual M&E Reports. | Implementation progress Data collection under M&E Program and Field visits | SIDA, AWBs, PCMU and M&E Consultants | |
| Number of water users provided with improved irrigation water (female) | <input checked="" type="checkbox"/> | | 0 | 2,300 | 500 | 1,000 | 1,500 | 2,000 | 2,300 | Annual implementation progress reports and Annual M&E Reports. | Implementation progress Data collection under M&E Program and Field visits | SIDA, AWBs, PCMU and M&E Consultants | Female headed household (landowners) Only direct beneficiaries |
| Number of operational water user associations created and/or strengthened | <input checked="" type="checkbox"/> | Number | 0 | 344 | 90 | 150 | 250 | 300 | 344 | Baseline survey | Estimated from baseline data | M&E Consultants | |
| Intermediate Results Indicators | | | | | | | | | | | | | |
| Intermediate Result 1: Component A – Farmers organizations (FOs) carry out distributary level improvements as planned; while SIDA and AWBs improve main and branch canals in a coordinated fashion. | | | | | | | | | | | | | |
| 1. Distributaries and minors improved by FOs in the project area | <input type="checkbox"/> | Number | 0 | 128 | 72% | 80% | 90% | 100% | | | | SIDA, AWBs, FOs, PCMU and M&E consultants | |

| Results and Indicators | Core | UOM | Baseline | Target | Progress of Year 2014 | Cumulative Target Values | | | | Frequency | Data Source/ Methodology | Responsibility for Data Collection | Comments |
|---|-------------------------------------|--------------|----------|--------------------------|-----------------------|--------------------------|-------|------|-------|-----------|--|---|---|
| | | | | | | 2015 | 2016 | 2017 | 2018 | | | | |
| 2. Main and branch canals improved by AWBs and SIDA | <input type="checkbox"/> | Number | 0 | 8 | 38% | 63% | 63% | 80% | 100% | | | SIDA, AWBs, PCMU and M&E consultants | |
| 3. Evidence of improved O&M and collection of <i>abiana</i> and increased budget for O&M of the irrigation and drainage systems in participating FOs and AWBs | <input type="checkbox"/> | % | 0 | 344 FOs 3 AWBs 80% | 50% | 50% | 60% | 80% | 80% | | | SIDA, AWBs, FOs, PCMU and M&E consultants | |
| Intermediate Result 2: Component B – Construction completion of main and branch canals, distributaries and minors | | | | | | | | | | | | | |
| % satisfactory completion of Component B outputs, compared to original plan | | % | 0 | 100 | 55 | 72 | 77 | 90% | 100% | | | | |
| 1. Number of main and branch canals improved | <input type="checkbox"/> | Number | 0 | 8 | 3 | 5 | 5 | 7 | 8 | | | SIDA, PCMU/ AWBs M&E Consultants. | |
| 2. No. of distributaries and minors improved | | | | 128 | 101 | 110 | 120 | 125 | 128 | | | | |
| Number of contracts awarded | <input type="checkbox"/> | Number | 0 | 5 | 2 | 5 | | | | | | SIDA, PCMU/ AWBs, M&E Consultants. | |
| 1. Main and branch canals | | | | 46 | 37 | 40 | 43 | 46 | | | | | |
| 2. Distributaries/minors | | | | | | | | | | | | | |
| 3. Expenditures and disbursements | <input type="checkbox"/> | % | 0 | 100 | 65 | 75 | 85 | 95 | 100 | | | SIDA, PCMU/ AWBs, M&E Consultants. | |
| Area provided with improved irrigation and drainage services | <input checked="" type="checkbox"/> | Million ha | 0 | 1.837 | 1.17 | 1.582 | 1.628 | 1.72 | 1.837 | | Baseline survey report & quarterly progress report | SIDA, PCMU/ AWBs M&E Consultants. | Total command area of the three main canals |
| Intermediate Result 3: Component C: Management Plans for Major I&D Infrastructure | | | | | | | | | | | | | |
| % Satisfactory completion studies for barrages | <input type="checkbox"/> | Study Report | % | 100% | 90% | 100% | | | | | Inception report, mid-term report and final report | SIDA, Consultants | |

| Results and Indicators | Core | UOM | Baseline | Target | Progress of Year 2014 | Cumulative Target Values | | | | Frequency | Data Source/ Methodology | Responsibility for Data Collection | Comments |
|--|--------------------------|--------------|----------|--------|-----------------------|--------------------------|------|------|------|---------------------|--|---|----------|
| | | | | | | 2015 | 2016 | 2017 | 2018 | | | | |
| Feasibility studies for barrages (particular Guddu barrage) completed Master Plans for addressing the storm drainage and floods on the left bank of Indus is prepared and for Indus delta and coastal zone | <input type="checkbox"/> | Study Report | | 100% | 100% | | | | | | Inception report, mid-term report and final report | SIDA, Consultants | |
| Intermediate Result 4: Component D: Baseline for M&E studies is established, major monitoring indicators are identified, and sample and control areas are established | | | | | | | | | | | | | |
| % satisfactory completion of component E compared to original plan Project coordination, management, and capacity of staff enhanced and strategic studies are carried out. Performance of consultants is improved in delivery of timely and expected quality outputs. Training | <input type="checkbox"/> | | 0% | 100% | 100% | 100% | 100% | 100% | 100% | Monthly & Quarterly | Field Data Collection by PCMU and M&ECs Meetings | PCMU and M&E consultants PCMU, PCMA, Project Steering Committee, P&D GoSindh | |

ANNEX 2: OPERATIONAL RISK ASSESSMENT FRAMEWORK (ORAF)

PAKISTAN: Additional Financing for Sindh Water Sector Improvement Phase-I Project

| 1. Project Stakeholder Risks | | Rating | Low | | |
|--|---|--------------------------|-------------------------|-----------------------------------|-------------------|
| <p>Description:</p> <p>Large landowners and rural elite may continue to perceive decentralization and participation through AWBs and FOs as threat and thus try to impede the reform program.</p> <p>The AWBs and FOs will remain the cornerstone of successful implementation of the irrigation reforms program. Strengthening these structures and enabling them to become strong institutions will remain a valid need under the Additional Financing.</p> | <p>Risk Management: The Sindh irrigation reforms have a legal cover through the Sindh Water Management Ordinance of 2002. The GoSindh is fully committed to successful implementation of the reforms program. Under the WSIP phase I, effective and multi-tiered consultation activities with all stakeholders in Sindh have significantly improved the understanding of the reforms programs and the role of SIDA, AWBs and FOs therein. The original project has also introduced an independent M&E system to assess the functioning and effectiveness of FOs. The complaint handling system has also provided to be effective in highlighting the irregularities and to bring up the issues to the attention of decision makers. The AF will further strengthen these measures. The communications and awareness raising will also continue during the AF to maintain the importance of irrigation reforms and promote stakeholder participation therein.</p> | | | | |
| | <p>Resp: Client</p> | <p>Stage: Imp</p> | <p>Due Date:</p> | <p>Status: Not yet Due</p> | |
| | <p>Risk Management: The project has a comprehensive capacity building program for strengthening of the SIDA, AWBs and FOs. The capacity building objectives directly relate to the envisaged role expected from SIDA, AWBs and FOs to implement the irrigation reforms program. This focus of capacity building of AWBs and FOs will be continued through the AF.</p> | | | | |
| | <p>Resp: Client</p> | <p>Stage: Imp</p> | <p>Due Date:</p> | <p>Status: Not yet Due</p> | |
| 2. Implementing Agency Risks | | | | | |
| 2.1 Capacity | | Rating: | Moderate | | |
| <p>Description: The SIDA has successfully implemented the program to date, with satisfactory financial management and procurement performance. However, the envisaged financial sustainability of I&D system would still require strengthening of institutional capacities of FOs and AWBs.</p> | <p>Risk Management: The FOs and AWBs will continue to receive capacity building inputs through technical assistance, social cohesion and the legal rights imbedded in the Irrigation and Drainage Management Transfer Arrangements (IDMTA) and bylaws for functioning of the FOs authorizing them to collect and take remedial actions against defaulters, and investments in improving the infrastructure. The AF will continue to investment in strengthening of SIDA through training and capacity building of its staff.</p> | | | | |
| | <p>Resp: Client</p> | <p>Stage: Imp</p> | <p>Due Date:</p> | <p>Status: Not yet Due</p> | |
| | 2.2 Financial Management | | Rating: | Substantial | |
| <p>Description: The FM capacity of the SIDA has been significantly improved. Additional support will however be needed for SIDA as well as the AWBs and FOs capacity for financial management.</p> | <p>Risk Management: The arrangements of external auditors were made available to strengthen the internal controls and compliance to FM procedures. The process for streamlining audits and financial management is now fully established and remains well functioning. During the AF phase, while the technical support to SIDA will continue to be provided, increased focus will be given for financial management capacity building of the AWBs and FOs.</p> | | | | |
| | <p>Resp: Client</p> | <p>Stage: Imp</p> | <p>Due Date:</p> | <p>Status: Not yet Due</p> | <p>Due</p> |

| | | | | |
|--|--|---|------------------|----------------------------|
| | & Bank | | Date: | |
| 2.3 Procurement | | Rating: | Moderate | |
| Description: The project design included several measures to mitigate lack of transparency and accountability of procurement of contracts and their implementation. Implementing these measures resulted in time delays which affected the implementation progress. Under the Additional Financing similar measures will continue to remain in place with added support from the Bank team. | | Risk Management: The structure of Project Management Consultant / Procurement Agent (PMCA) was introduced to manage procurement process. Participation of farmers and stakeholders was ensured to provide accountability together with an external monitoring and evaluation (M&E) arrangement. The Transparency International (TI) Pakistan provided oversight to procurement planning and tracking system. The overall risk management measures remained effective and these measures will be continued under the AF. | | |
| | Resp: Client | Stage: Imp | Due Date: | Status: Not yet Due |
| 3.1. Governance | | Rating: | Low | |
| Description: Possibility of political interference during the implementation of project may remain a risk. The Project's effectiveness depends on the ownership of its public sector counterparts in Sindh. Any shift in the key positions within these two set ups can adversely affect the project milestones. | | Risk Management: The original project have put in place effective measures for coordination and decision making. These include: (i) the Project Steering Committee, which is chaired by the Additional Chief Secretary of GoSindh and having membership of all concerned line ministries; (ii) the Project Coordination and Management Unit (PCMU) housed within the Planning and Development (P&D) Department of GoSindh; (iii) the FOs Council in each AWBs; and (iv) the SIDA Board chaired by the Minister for Irrigation and represented by all stakeholders. These arrangements have mitigated the risk of undue political interference in implementation of the program and will remain unchanged for AF implementation. Direct and open communication with involvement of FOs has also provided an effective solution to limit the political interference. | | |
| | Resp: Client | Stage: Imp | Due Date: | Status: Not yet Due |
| | Risk Management: While it is difficult to mitigate this risk in Sindh given the frequent changes in key positions, however, as these positions are always occupied by trained public sector officials, the project's continuity would not be impacted. In addition, the implantation arrangements mentioned above will be continued under the Additional Financing. | | | |
| | Resp: Client | Stage: Imp | Due Date: | Status: Not yet Due |
| 4. Project Risks | | | | |
| 4.1. Design | | Rating: | Low | |
| Description: The design of the project will remain same as the original project, approved by the World Bank Board of Directors in 2007. The primary justification for Additional Financing remains that of a financing gap. The AF will be used to complete the works intended to be financed with the original credit. | | Risk Management: Since there is no change to the design of the project, there are no significant design risks to be mitigated. The AF will meet the financing gap in the original design of WSIP and will continue Bank's support to GoSindh in implementation of the Sindh irrigation reforms program. | | |
| | Resp: Client | Stage: Imp | Due Date: | Status: Not yet Due |
| 4.2. Social & Environmental | | Rating: | Low | |
| Description: Effective implementation of the ESMPs has been initiated under the original project. Additional capacity building of the SIDA and PCMU will need to be continued under the AF implementation. | | Risk Management: The Project triggers five safeguard policies, including environment assessment, natural habitats, pest management, involuntary resettlement, and project on international waterways all of which have been adequately addressed. The Environmental and Social Impact Management Frameworks are in place. An Integrated Social and Environmental | | |

| | | | |
|---|--|-------------------|-------------------------|
| | Assessment was prepared and published in the Bank's Infoshop. This was translated into Sindhi and consultations have been conducted regularly with beneficiaries, including local NGOs, farmers, women and fishermen. The Environment and Social Management Plans (ESMPs) have been implemented and the performance rating has remained Satisfactory in all ISRs. The additional financing will continue the same emphasis on environmental and social safeguards and EAs. | | |
| | Resp: Client | Stage: Imp | Due Date: |
| 4.3. Program & Donor | | | Rating: Low |
| Description: There has been good donor coordination around Sindh's water sector program. As a result, GoSindh, Bank and other development partners have coordinated their efforts for supporting Sindh's water sector investments. | Risk Management: There is no significant risk in donor and program coordination. | | |
| | Resp: Client & Bank | Stage: Imp | Due Date: |
| 4.4. Delivery Monitoring & Sustainability | | | Rating: Low |
| Description: The strengthening of the AWBs is critical for achieving the sustainability of the reforms program as this structure will undertake water management as well as water resource planning and will provide direct support to the FOs. Continuing with the capacity building of AWBs will therefore be necessary for successful program implementation. | Risk Management: The capacity and cadre in AWBs to undertake water management and water resource planning is being enhanced. Technical assistance is provided through Project Implementation Consultants (PICs) for design construction supervision and to ensure quality assurance and monitored by an independent M&E consultants. AWBs have started to work closely with the FOs to design schemes for rehabilitation of branch canals and for improved water management through Water Allocation Committees formed at the main and branch canal level. The AF will continue providing capacity inputs for sustainability of the AWBs and their effective functioning. | | |
| | Resp: Client | Stage: Imp | Due Date: |
| 5. Overall Implementation Risk | | | Rating: Moderate |
| | | | |