Pakistan: Punjab Irrigated Agriculture Investment Program – Tranche 4

<table>
<thead>
<tr>
<th><strong>Project Name</strong></th>
<th>Punjab Irrigated Agriculture Investment Program – Tranche 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Number</strong></td>
<td>37231-044</td>
</tr>
<tr>
<td><strong>Country</strong></td>
<td>Pakistan</td>
</tr>
<tr>
<td><strong>Project Status</strong></td>
<td>Closed</td>
</tr>
<tr>
<td><strong>Project Type / Modality of Assistance</strong></td>
<td>Loan</td>
</tr>
<tr>
<td><strong>Source of Funding / Amount</strong></td>
<td>Loan 3351-PAK: Punjab Irrigated Agriculture Investment Program Tranche 4 Ordinary capital resources US$ 26.57 million</td>
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</table>

**Strategic Agendas**
- Environmentally sustainable growth
- Inclusive economic growth

**Drivers of Change**
- Governance and capacity development
- Knowledge solutions

**Sector / Subsector**
- Agriculture, natural resources and rural development - Irrigation

**Gender Equity and Mainstreaming**
- No gender elements

**Description**
ADB approved a multitranche financing facility (MFF) for the Punjab Irrigated Agriculture Investment Program for $900 million in December 2006 (reduced to $700 million in 2011 following amendment in MFF). Three tranches of total $538 million were approved. The proposed tranche is fourth and last tranche (T4), will meet $26.6 million cost overruns in T1 and remains within the MFF balance of $162 million. The T4 is classified category C for environment, involuntary resettlement, and indigenous peoples safeguards. The climate change classification is Medium as the region experienced recurring major flood events and may face future water stress. For knowledge solutions, groundwater management plan is developed in the project.

**Project Rationale and Linkage to Country/Regional Strategy**
The infrastructure has seriously deteriorated due to (i) age (much is nearly 100 years old); (ii) no asset management planning; and (iii) chronic underfunding and ineffective implementation of O&M. The poor condition of some large infrastructure poses serious risks, yet the deteriorated system more generally means unreliable irrigation service delivery, particularly to the tail ends of the canals. Farmers have adapted to unreliable and inadequate canal water by developing private tubewells.

**Impact**
Increased agricultural production and farm income in Lower Bari Doab Canal (LBDC) command area.

**Project Outcome**
LBDC command area receives a sustainably improved delivery of water services and management.

**Progress Toward Outcome**
The only newly awarded contract under loan is ICB-06A is substantially completed with overall physical progress of 93%. The rest of the loan financing covers cost overrun of Project 1 (Loan 2299-PAK).

**Implementation Progress**
Balloki Barrage rehabilitated on revised time schedule and within budget based on the detail design and model studies. A groundwater management plan and conjunctive use strategy for LBDC is operational. Farmers use improved on-farm water management practices. LBDC and distribution system rehabilitated on revised time schedule and within budget based on detail design. Due diligence of subsequent tranches.
Area Water Board (AWB) and Farmers Organizations (FOs) take responsibility for operations of canal systems.
The progress with respect to the Project Outputs as defined in the design monitoring framework is as given below:

**Output 1: Balloki Barrage rehabilitated on time and within budget**

**Progress Status:**
- The contractor achieved 96% progress and civil work is substantially completed.
- Discharge capacity at Head for BS Link increased by 10,000 cs by constructing an additional head regulator.
- The contractor achieved 96% progress and civil work is substantially completed.

**Output Indicator 1:** Barrage reliably diverts up to a sanction discharge of 278 m3s-1 to LBDC by 2015
**Progress Status:**
- Discharge capacity at Head for BS Link increased by 10,000 cs by constructing an additional head regulator.

**Output Indicator 2:** Barrage’s safe flood capacity increased from 6400 m3s-1 in 2009 to 7000 m3s-1 in 2015
**Progress Status:**
- Discharge capacity at Head for BS Link increased by 10,000 cs by constructing an additional head regulator.

**Output Indicator 3:** Barrage’s safe flood capacity increased from 6400 m3s-1 in 2009 to 7000 m3s-1 in 2015
**Progress Status:**
- Discharge capacity at Head for BS Link increased by 10,000 cs by constructing an additional head regulator.

**Output 2:** A groundwater management plan and conjunctive use strategy for LBDC is operational
**Progress Status:**
- Discharge capacity at Head for BS Link increased by 10,000 cs by constructing an additional head regulator.

**Output Indicator 1:** Groundwater data base in use by PID by 2015
**Progress Status:**
- Discharge capacity at Head for BS Link increased by 10,000 cs by constructing an additional head regulator.

**Output Indicator 2:** Groundwater data base and model have been developed and handed over to PID, staff has been trained, and database and model are being used by PID.
**Progress Status:**
- Discharge capacity at Head for BS Link increased by 10,000 cs by constructing an additional head regulator.

**Output 3:** Area Water Board (AWB) and Farmers Organizations (FOs) take responsibility for operations of canal systems.
**Progress Status:**
- Discharge capacity at Head for BS Link increased by 10,000 cs by constructing an additional head regulator.

**Output Indicator 3:** By 2015 PID uses guidelines for groundwater use
**Progress Status:**
- Discharge capacity at Head for BS Link increased by 10,000 cs by constructing an additional head regulator.

**Output 4:** The LBDC and distribution system rehabilitated on time and within budget.
**Progress Status:**
- Discharge capacity at Head for BS Link increased by 10,000 cs by constructing an additional head regulator.

**Output Indicator 4:** 1700 km main and distributary canals and 3000 appurtenant structures rehabilitated by 2015
**Progress Status:**
- Discharge capacity at Head for BS Link increased by 10,000 cs by constructing an additional head regulator.

**Output overachieved.**
- Against target of establishing one AWB, 50 FOs and more than 3000 Khal Punchayats (KPs), the Project was able to establish one AWB, 53 FOs and more than 3000 Khal Punchayats (KPs) established by 2015
**Progress Status:**
- Discharge capacity at Head for BS Link increased by 10,000 cs by constructing an additional head regulator.

**Output 5:** Due diligence of subsequent tranches
**Progress Status:**
- Discharge capacity at Head for BS Link increased by 10,000 cs by constructing an additional head regulator.

1. Tranche 2 for New Khanki Barrage approved in Q4 2011
2. Tranche 3 for Suleimanki Barrage and Pakpattan Canal Improvement Project approved in Q4 2012
3. Trimmu-Panjnad (Stand alone) approved in Q3 2014
4. Pakpattan Distribution System for $120 million. Project is ready:
   a. Feasibility study is in progress.
   b. PC-1 is under preparation.
5. Thal Canal ($250 million): Project is ready:
   a. Feasibility study, and detailed design completed.
   b. Climate change assessment study is underway.
   c. PC-1 is under preparation.
6. Cholistan Water Resources Development Project:
   a. Climate change assessment study is underway.
   b. Climate change assessment study is underway.
   c. PC-1 is under preparation.
   d. Environmental impact assessment completed.
   e. PC-1 is under preparation.
7. Thal Canal Rehabilitation:
   a. Feasibility study is substantially completed.
   b. Climate change assessment study is underway.
   c. PC-1 is under preparation.
8. Cholistan Water Resources Development Project:
   a. Feasibility study is in progress.
   b. PC-1 is under preparation.
   c. Six development projects have been identified including:
      - Water User Associations (WUAs) have been formed.
      - FOBs are participating in rehabilitation and upgradation of distributory and main canals.
      - They are also responsible for i) collecting water charges (Abiana) and ii) operation and management.

**Safeguard Categories**

<table>
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<tr>
<th>Environment</th>
<th>C</th>
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<tbody>
<tr>
<td>Involuntary Resettlement</td>
<td>C</td>
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<tr>
<td>Indigenous Peoples</td>
<td>C</td>
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</table>

**Geographical Location**

Punjab

**Summary of Environmental and Social Aspects**

**Environmental Aspects**

An EMP was prepared that addresses impacts of the Project to enhance project benefits and to introduce standards of good practice to be adopted for all project works. The EMP, along with all other activities and outputs from the Project, also provide guidance for subsequent projects to be taken up under the program. The overall responsibility for compliance with the EMP rests on the PID.

**Involuntary Resettlement**

Output overachieved.

**Indigenous Peoples**

- Dredging of canals and auxiliary works.
- Rehabilitation of structures.
- Land rehabilitation works.

**Stakeholder Communication, Participation, and Consultation**

**During Project Design**

Stakeholders, beneficiaries, and people directly affected have been consulted during finalization of project design and implementation. A participatory and consultative methodology was adopted to undertake social analysis during the project preparatory technical assistance. It involved (i) initial field reconnaissance discussions with project stakeholders, (ii) focus group discussions with women in core subproject areas, (iii) detailed household survey with male respondents in core subproject areas, (iv) key informant interviews, and (v) detailed survey questionnaires of households directly affected by land acquisition and civil works on the rights-of-way.

**During Project Implementation**

- The project team has been actively involved in stakeholder consultations, public meetings, and community dialogues. Stakeholders have been consulted throughout the project implementation phase to ensure that their needs and concerns are addressed.
- Farmers organizations (FOs) and Water User Associations (WUAs) have been formed.
- FOs are participating in rehabilitation and upgradation of distributory and main canals.
- They are also responsible for i) collecting water charges (Abiana) and ii) operation and management.

**Responsible ADB Officer**

Zafar, Asad A.

**Responsible ADB Department**

Central and West Asia Department

**Responsible ADB Division**

Pakistan Resident Mission

**Executing Agencies**

- Irrigation Department of the Government of Punjab
- c/o Superintending Engineer
- Link Canal Circle, Canal Bank
- Mughalpur, Lahore, Pakistan
Loan 3351-PAK

Milestones

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<th>Approval</th>
<th>Signing Date</th>
<th>Effectivity Date</th>
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<td>08 Dec 2015</td>
<td>14 Dec 2015</td>
<td>11 Jan 2016</td>
<td>30 Jun 2017</td>
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Financing Plan

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<th>Others</th>
<th>Net Percentage</th>
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<td>08 Dec 2015</td>
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