Integrated Water Resources Management in Ten Basins (P151851)

LATIN AMERICA AND CARIBBEAN | Peru | Water Global Practice |
IBRD/IDA | Investment Project Financing | FY 2017 | Seq No: 5 | ARCHIVED on 21-Aug-2019 | ISR36543 |

Implementing Agencies: National Water Authority of the Ministry of Agriculture - Autoridad Nacional del Agua (ANA), REPUBLIC OF PERU

Key Dates

Key Project Dates

- Bank Approval Date: 28-Apr-2017
- Effectiveness Date: 12-Mar-2018
- Planned Mid Term Review Date: 16-Mar-2020
- Actual Mid-Term Review Date: --
- Original Closing Date: 30-Dec-2022
- Revised Closing Date: 30-Dec-2022

Project Development Objectives

Project Development Objective (from Project Appraisal Document)
The proposed Project Development Objective (PDO) is to strengthen the capacity of targeted water resources management related institutions to plan, monitor and manage water resources at the national level and in selected river basins in Peru.

Has the Project Development Objective been changed since Board Approval of the Project Objective? No

Components

Name

- Component 1: Consolidating IWRM at the National Level:(Cost $65.16 M)
- Component 2: Improving WRM in Selected Pilot River Basins:(Cost $14.80 M)
- Component 3: General Project Administration:(Cost $8.19 M)

Overall Ratings

<table>
<thead>
<tr>
<th>Name</th>
<th>Previous Rating</th>
<th>Current Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progress towards achievement of PDO</td>
<td>Moderately Satisfactory</td>
<td>Moderately Satisfactory</td>
</tr>
<tr>
<td>Overall Implementation Progress (IP)</td>
<td>Moderately Satisfactory</td>
<td>Moderately Satisfactory</td>
</tr>
<tr>
<td>Overall Risk Rating</td>
<td>Substantial</td>
<td>Substantial</td>
</tr>
</tbody>
</table>

Implementation Status and Key Decisions

This ISR covers the period from January 2019 to July 2019 and reflects the findings of a technical mission in March 2019, an implementation support mission carried out in June 2019 and several video-conferences and meetings for project monitoring.

The Loan for the Integrated Water Resources Management in Ten Basins Project was approved by the Board on April 28, 2017. The Loan Agreement was signed on September 25, 2017 and became effective on March 12, 2018. Project activities have begun following effectiveness and ANA is advancing with investments to be undertaken in the thematic areas included in the Project. Progress has been made with the procurement processes of several packages, the execution of two contracts has been completed and of several others is underway. The Bank team and ANA are working closely in monitoring and maintaining safeguard requirements that apply to this Project.
Risks

Systematic Operations Risk-rating Tool

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Rating at Approval</th>
<th>Previous Rating</th>
<th>Current Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political and Governance</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Substantial</td>
</tr>
<tr>
<td>Macroeconomic</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Sector Strategies and Policies</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Substantial</td>
</tr>
<tr>
<td>Technical Design of Project or Program</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>Institutional Capacity for Implementation and Sustainability</td>
<td>Substantial</td>
<td>Substantial</td>
<td>Substantial</td>
</tr>
<tr>
<td>Fiduciary</td>
<td>Moderate</td>
<td>Substantial</td>
<td>Substantial</td>
</tr>
<tr>
<td>Environment and Social</td>
<td>Substantial</td>
<td>Substantial</td>
<td>Substantial</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Substantial</td>
<td>Substantial</td>
<td>Substantial</td>
</tr>
<tr>
<td>Other</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Overall</td>
<td>Substantial</td>
<td>Substantial</td>
<td>Substantial</td>
</tr>
</tbody>
</table>

Results

PDO Indicators by Objectives / Outcomes

**Strengthen capacity of targeted WRM related institutions to plan, monitor and manage water resources**

- National Water Resources Information System providing validated online data and information products to decision makers, water resources professionals and general public (Text, Custom)

<table>
<thead>
<tr>
<th>Value</th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWRIS databases established.</td>
<td>--</td>
<td>--</td>
<td>NWRIS databases</td>
<td>NWRIS fully integrated with monitoring systems, DSS tools and providing data and information products.</td>
</tr>
</tbody>
</table>

Comments: Development of the NWRIS is underway, including the procurement of IT equipment, the design of the decision support tool, and the development of data collection and data mainstreaming.

**Dam safety unit established and operational (Text, Custom)**

<table>
<thead>
<tr>
<th>Value</th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>No unit.</td>
<td>--</td>
<td>--</td>
<td>Dam Safety Unit</td>
<td>Dam safety program in place with unit operational, legal framework established,</td>
</tr>
<tr>
<td>Date</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
guidelines and tools developed.
Implementation of monitoring systems in place for selected dams.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments:</td>
<td>Dam Safety Unit has been established by Resolution of the Head on ANA (Nº 043-2018-ANA, February 5th, 2018) to be attached to the Directorate of Planning and Development of Water Resources in ANA. Three staff have been appointed to date, ANA is working on operationalizing it.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Basin councils /committees with approved IWRM plans and under implementation (Text, Custom)**

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>6.00</td>
<td>--</td>
<td>6.00</td>
</tr>
<tr>
<td>Comments:</td>
<td>Consisting of 9 basin water resources councils and one sub-basin committee. The 6 committees on the Pacific have been established already prior to this project and will update their basin plan as part of this project; 4 committees on the Atlantic side have been recently established under the project. The contract for the two packages to update / develop the basin plans is expected to be signed at the beginning of August.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Groundwater committees established for targeted aquifers with participatory management plans approved under implementation. (Text, Custom)**

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>No committees in place.</td>
<td>--</td>
<td>No committees in place.</td>
</tr>
<tr>
<td>Comments:</td>
<td>As part of the management plans, the project is investing in installing piezometers, the perforations for which is currently underway. Altogether, there will be 2 groundwater committees, one for the Ica aquifers and one for Tacna.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Overall Comments**

Overall progress has been made on the PDO indicators, most advanced the groundwater perforations, awarding the contract for the basin plan, and launching tender process for the information center equipment and technical sub-systems. A dam safety unit has been established, but due to lack of operational funding, is yet to be filled with necessary additional personnel.

**Intermediate Results Indicators by Components**
Component 1: Consolidating IWRM at the National Level

Monitoring systems with O&M arrangements in place (Text, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>No monitoring system in place.</td>
<td>--</td>
<td>No monitoring system in place.</td>
<td>2,825.00</td>
</tr>
</tbody>
</table>

Comments:
Design and procurement for several monitoring stations is underway, including hydromet stations, irrigation measuring gauges, dam safety instrumentation, groundwater measuring stations, water quality measurement, etc. Partly contracts have been signed (dam safety instrumentation), partly procurement is in an advanced stage, partly designs are finalized or adjusted to fit the needs on the ground.

Percentage increase on the number of annual hits for NWRIS web portal (Text, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.00</td>
<td>--</td>
<td>0.00</td>
<td>40% increase in hits to NWRIS web site and web portal demonstrating increased use of databases and, analysis information products</td>
</tr>
</tbody>
</table>

Comments:
Not yet due, is measured annually.

Number of dams with dam safety assessments completed and monitoring instruments installed (Text, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.00</td>
<td>--</td>
<td>0.00</td>
<td>8.00</td>
</tr>
</tbody>
</table>

Comments:
Contract signed for supply and installation of monitoring instruments. Potential Failure Mode Analysis workshop planned for November 2019 to build capacity for dam safety assessments.

Monitoring and inspection of water use rights formalized for irrigation units (bloques) by ALA and water users associations (Text, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>No right formalized for irrigation units.</td>
<td>--</td>
<td>No right formalized for irrigation units.</td>
<td>An increase in the number of formalized water rights in 800 irrigation units based on installation and monitoring of surface water abstraction for irrigation use</td>
</tr>
</tbody>
</table>

Comments:
Procurement for installation of irrigation measuring stations delayed due to problems finding interested bidders during the first bidding process. Further research among industry representatives revealed complications regarding the combination of different types of works (simple civil works vs. installation of...
technical systems), spatial dispersion of the locations along the entire Peruvian coast, and hesitation from contractors regarding interaction with local water juntas around the time necessary to cut water flow during the works period. The task team has discussed this issue with the PIU and proposed a potential solution to repackage this activity.

The PIU also brought to the World Bank team's attention a flaw in the wording of this indicator, which suggests a baseline of no existing water rights; this is not true, certain rights exist already. A decision to restructure this indicator was deferred to Mid-term Review.

### Number of water quality points monitored on a periodic basis (Text, Custom)

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>No water quality point monitored.</td>
<td>--</td>
<td>No water quality point monitored.</td>
<td>33 permanent monitoring stations providing real-time data and 30 mobile monitoring campaigns carried out on an annual or bi-annual basis</td>
</tr>
</tbody>
</table>

**Date**


**Comments:** Plan in place for periodic monitoring in selected basins, coordinated with AAAs and ALAs.

### An increase in collection fees (retribución economica) for use of surface, groundwater and discharge of wastewater (Text, Custom)

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>No increase in collection fees.</td>
<td>--</td>
<td>No increase in collection fees.</td>
<td>20% increase in collection of water use and discharge fees</td>
</tr>
</tbody>
</table>

**Date**


**Comments:** Not yet initiated, depends on results from monitoring system that is being installed. Perforations in the three GW locations have begun.

### Number of water resources related conflicts adequately addressed by ANA (Text, Custom)

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 (registered by Defensoría del Pueblo)</td>
<td>--</td>
<td>40 (registered by Defensoría del Pueblo)</td>
<td>20 conflicts satisfactorily addressed with analysis and expert knowledge</td>
</tr>
</tbody>
</table>

**Date**


**Comments:** Not yet progressed.

### Component 2: Improving WRM in Selected Pilot River Basins

#### Number of basins in the Pacific Watershed with IWRM plans updated with financing and under implementation (Text, Custom)

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 (with average 30% of plans implemented)</td>
<td>--</td>
<td>6 (with average 30% of plans implemented)</td>
<td>6 plans with financing secured and under implementation</td>
</tr>
</tbody>
</table>
Cultura del Agua program tailored to Atlantic Watershed context to build capacity and improve knowledge and practices of the general public in IWRM at the river basin level (Text, Custom)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments:</td>
<td>Bidding process for updating the IWRM plans underway.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Value</th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultura de Agua program rolled out in 6 basins in Pacific Watershed</td>
<td>--</td>
<td>--</td>
<td>Cultura del Agua program rolled out in 6 basins in Pacific Watershed.</td>
<td></td>
</tr>
<tr>
<td>Outline for Cultura de Agua program developed for the Atlantic Watersheds. ANA will finance these as complementary actions through the RDR2 budget with a total amount of around S./ 2.35 million.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Integrated forecasting and early warning plans implemented in targeted basins and provide real-time information to general public (Text, Custom)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments:</td>
<td>Not yet initiated, depends on data collection and analysis, which is ongoing.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Value</th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>2 integrated forecasting and early warning plans implemented in targeted basins and providing information to general public</td>
<td></td>
</tr>
</tbody>
</table>

Data on Financial Performance

Disbursements (by loan)

<table>
<thead>
<tr>
<th>Project</th>
<th>Loan/Credit/TF</th>
<th>Status</th>
<th>Currency</th>
<th>Original</th>
<th>Revised</th>
<th>Cancelled</th>
<th>Disbursed</th>
<th>Undisbursed</th>
<th>% Disbursed</th>
</tr>
</thead>
<tbody>
<tr>
<td>P151851</td>
<td>IBRD-87400</td>
<td>Effective</td>
<td>USD</td>
<td>40.00</td>
<td>40.00</td>
<td>0.00</td>
<td>2.36</td>
<td>37.64</td>
<td>5.9%</td>
</tr>
</tbody>
</table>

Key Dates (by loan)

<table>
<thead>
<tr>
<th>Project</th>
<th>Loan/Credit/TF</th>
<th>Status</th>
<th>Approval Date</th>
<th>Signing Date</th>
<th>Effectiveness Date</th>
<th>Orig. Closing Date</th>
<th>Rev. Closing Date</th>
</tr>
</thead>
</table>
Cumulative Disbursements

Restructuring History

There has been no restructuring to date.

Related Project(s)

There are no related projects.