1. Key development issues and rationale for Bank involvement

Support by the project to the Borrower’s objectives, policies and strategies in the sector

(a) Sierra Exportadora Program. The incidence of poverty in the rural Sierra\(^1\), a historically neglected area, is about 73% (4.2 million), nearly 25 points above the national average, with extreme poverty reaching 40% (2.3 million) of the population. Deprivation in the Sierra poses a risk to political stability and integration. In 2006, the GOP launched “Sierra Exportadora”, a program aimed at reducing poverty through, *inter alia*, increasing agricultural and livestock production and processing for exports and job creation. In the Sierra, the production of higher value crops for exports usually requires improved irrigation systems and is more labor intensive than traditional agriculture. The proposed project would support “Sierra Exportadora” by promoting investments in irrigation modernization and building irrigators’ capacity for the production of higher-value crops for exports. Close coordination and complementarity between the proposed project and other investments in the Sierra will be ensured by the national Sierra Development Unit (SDU) supported by the World Bank financed Sierra Rural Development Project which, *inter alia*, will prioritize and harmonize government and donors projects and programs and private sector investments across all sectors in the Sierra region.

(b) National Irrigation Policy and Strategy. Irrigated agriculture in the coastal area, with an equipped area of about 1,080,000 ha, accounts for about two-thirds of agricultural output and most agricultural exports. Irrigation performance in the Sierra (350 000 ha) has been lagging behind: it mostly produces low-value crops for farmers’ self-consumption and yields and

\(^1\) The Sierra is a region commonly defined as that part of the Andean mountain range with an altitude of over 2,000 meters. In this project, however, the term Sierra has a broader sense, as it also includes the so-called Ceja de Selva, a transition region which ranges from 2,000 to some 600 meters between the Andean mountains and the Amazon plain.
cropping intensity are low. Overall water use efficiency is also low, mainly due to the wide use of unimproved irrigation technology, deteriorating infrastructure due to poor O&M and inadequate water pricing. Compared to the Coast, farming in the Sierra faces significant constraints such as harsher climate and topography, limited access to markets and very small landholdings, but it also has comparative advantages for the production of crops requiring a period of cold, has better phytosanitary conditions, a strong tradition of community work, and the possibility of drip or sprinkler irrigation with natural pressure. The overall objective of the National Irrigation Policy and Strategy approved in 2003 is to improve the competitiveness of irrigated agriculture by increasing land and water productivity in a sustainable manner. The proposed project would directly support three of its sub-objectives, namely: (i) increase water use efficiency through the rehabilitation and modernization of irrigation infrastructure and improvement of its O&M; (ii) promote equitable and sustainable water use by regularizing water rights taking into account water availability and water use efficiency; and (iii) promote the development of technically and financially self-sufficient Water Users Organizations (WUOs) responsible for the O&M of irrigation infrastructure.

(b) Peru’s National Water Resources Management Strategy. Peru faces increasing water shortages, especially in the coastal region where more than 50% of the population lives and which generates most of the country’s GDP. Irrigation accounts for 80% of water use, but efficiency is low. The Peruvian piedmont and coastline are prone to devastating floods and mudslides mainly due to the high precipitation in degraded upper basins; while the southern part of the country is particularly prone to droughts. Water quality is deteriorating due to the release of untreated effluents from mining, industries, municipalities and agriculture. The legal and institutional framework for WRM does not recognize the multi-sectoral nature of water nor its values as social and economic good. It is characterized by poor policy coordination and overlapping responsibilities. It suffers from overly centralized decision-making and weak accountability and transparency. Although seven autonomous River Basin Authorities have been set up under the MOA, they do not function well. Peru’s National WRM Strategy to be adopted in March 2007 promotes the following principles: (a) integrated water resources management (IWRM); (b) multiple dimensions of the value of water: economic, social and environmental; (c) priority for domestic use; (d) stakeholder and water user participation; (e) legal certainty (water rights) for water users; (f) respect of traditional water management systems; (g) sustainable use; (h) decentralized management; and (i) one entity responsible for WRM at the national level. The proposed project would support this strategy by supporting the formalization of water rights in the Sierra; developing a participatory IWRM plan in 10 prioritized river basins and piloting IWRM in two river basins.

**Rational for Bank Involvement**

The proposed project would support two of the three pillars of the 2007-2011 Country Partnership Strategy (report # 39713-PE), namely Economic growth (accelerating growth and widening its base, making growth environmentally sustainable) and Social Development (strengthening human capital).

The Bank has had a long and successful involvement with Peru’s irrigation sector. Over the past ten years, it has developed a successful approach to improve irrigation performance in the coastal area (PSI I&II) and is in a unique position to help GOP tailor this approach to the Sierra.
its global IWRM and deep level of engagement in the sector dialog in Peru, the Bank can play a unique role supporting IWRM development.

2. Proposed objective(s)
The project PDOs are (a) to improve farmers’ incomes in the Sierra through increasing the production and improving the commercialization of higher-value crops for internal markets and exports and (b) improve overall WRM in the country and in selected river basins.

3. Preliminary description
The proposed lending instrument is a Specific Investment Loan (SIL) of US$30 million over a five-year period. The overall project cost is estimated at US$ 62 million.

Component 1: Increasing irrigation performance in the Sierra (US$ 37.3 million) would be implemented in priority irrigation districts selected based on the following criteria: (a) existing or potential production of cash crops for exports; (b) good road access to markets and (c) WUOs capacity above a certain level. The component would follow a demand-driven and participatory approach in which farmers groups participate in sub-project design, financing, execution and supervision and are fully responsible for O&M. Cost-effectiveness principles would guide the selection of alternative sub-projects design and unit cost ceilings would be established in order to reach a large number of beneficiaries. The project would follow an integrated approach to irrigation improvement including support to modernize irrigation infrastructure, formalize water rights, improve agricultural practices and the commercialization of agricultural produce.

Sub-component A: Modernization and Rehabilitation of Irrigation Systems (US$10 million) would include the feasibility studies, execution and supervision of: (a) works aimed at increasing water availability or improving the timing of water delivery such as canal lining and small water regulation structures. Selection criteria and cost-sharing arrangements between water users, the project and local governments would be defined during project preparation and (b) measuring devices at the head of hydraulic sector defined in relation with water user right formalized under sub-component D.

Sub-component B: On-farm irrigation improvement (US$12.7 million) would finance the feasibility studies, execution and supervision of on-farm irrigation improvements for the production of higher-value crops. Eligibility criteria and cost-sharing arrangements between the project, water users and local governments will be defined during project preparation.

Sub-component C: Institutional strengthening and support to production and marketing (US$8.6 million) would finance (a) capacity building of WUOs, including training in the technical, financial and administrative aspects of irrigation management, and the provision of office equipment; (b) awareness campaigns on the benefits of on-farm irrigation improvements to

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2 Eighteen IDs were tentatively selected in the regions of Piura, Cajamarca, La Libertad, Ancash, Junín, Arequipa, Ayacucho, Apurimac, Pasco, Cuzco and Puno covering an area of about 315,000 ha and including about 210,000 water users.
stimulate farmers demand and local governments support and (c) support to agricultural production and marketing in order to reap the full benefits of irrigation investments through the promotion of interactions between farmers groups benefiting from sub-component B and: (i) various public and private programs providing extension services and technical assistance related to irrigation management and agricultural practices; and (ii) processing and marketing firms. The project would provide extension services and technical assistance in areas where there is no existing program to do so.

Sub-component D. Formalization of Water Rights (US$ 6 million) would finance the formalization of water rights in the valleys where sub-components A and B are being implemented and their integration into the existing national water rights registry (RADA).

Component 2: Water Resources Management Modernization (US$ 20.0 million)

Sub-component E. Improving WRM in selected river basins (US$ 5.7 million) would include (a) the formulation of preliminary IWRM plans in priority river basins; and (b) IWRM pilots in two of the priority river basins supporting (i) the establishment and strengthening of a river basin water organization, and (ii) the implementation of management activities and physical investments defined in the IWRM plan (i.e. river basin hydrometric system improvement, equipment and model to strengthen river basin water quality monitoring and control system, small emergency works).

Sub-component F. Strengthening the national WR information system (US$ 5.7 million) including (a) real-time information system design and implementation and (b) selective rehabilitation and modernization of hydro-climatologic equipment in selected river basins.

Sub-component G. Strengthening Water Quality Monitoring Systems in priority river basins (US$ 2.8 million)

Sub-component H. “Capacity building in IWRM” (US$ 3.4 million) of key staff of institutions involved in WRM including IRH, regional governments and river basin organizations.

Sub-component I. “Cultura de Agua” (US$ 2.4 million) would finance awareness campaigns on the need to better manage water resources.

Component 3: Project implementation support (US$ 6.3 million) would finance the administration, monitoring and evaluation and auditing of the project and “strategic sector studies” such as feasibility studies for follow-up projects or in-depth analysis of key topics.

4. Safeguard policies that might apply

The project would be an environmental category B, requiring a limited environmental assessment. It may trigger the following safeguards policies: Pest Management, Dam Safety, Indigenous People, Cultural Heritage, Protected Areas, and Involuntary Resettlement.

5. Tentative financing

Source: ($m.)

3 Puyango-Tumbes, Chira-Piura, Chancay-Lambayeque, Jequetepeque, Santa, Ica, Chili y Moquegua-Tambo, Tacna-Puno y Rímac-Chillón-Mantaro were selected based on the intensity of water conflicts and their socio-economic importance.

4 Moche, Santa, Moquegua-Tambo and Chili river basins were tentatively selected.
Borrower 27
International Bank for Reconstruction and Development 30
Local Farmer Organizations 5

Total 62

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