



China, People's Republic of: Guangdong Chaonan Water Resources Development and Protection Demonstration Project

Project Name	Guangdong Chaonan Water Resources Development and Protection Demonstration Project
Project Number	46079-002
Country	China, People's Republic of
Project Status	Active
Project Type / Modality of Assistance	Loan
Source of Funding / Amount	Loan 3114-PRC: Guangdong Chaonan Water Resources Development and Protection Demonstration Project Ordinary capital resources US\$ 100.00 million
Strategic Agendas	Environmentally sustainable growth Inclusive economic growth
Drivers of Change	Governance and capacity development
Sector / Subsector	Agriculture, natural resources and rural development - Forestry - Rural solid waste management - Rural water supply services - Water-based natural resources management Water and other urban infrastructure and services - Urban policy, institutional and capacity development - Urban solid waste management - Urban water supply
Gender Equity and Mainstreaming	Effective gender mainstreaming
Description	<p>The expected impact of the project will be sustained economic development in Chaonan District. The outcome of the project will be improved and equitable water supply services inclusive of urban and rural residents in Chaonan District. The project will include four outputs: (i) improved water resources protection, (ii) inclusive urban and rural water supply system, (iii) increased awareness on environment and sanitation, and (iv) strengthened institutional and staff capacity.</p> <p>Improved water resources protection. This output will support (i) reforestation around the three major reservoir areas in the district; (ii) research on pollution prevention and control measures in the reservoir areas; and (iii) pilot programs on solid waste collection and treatment, and nonpoint source pollution control.</p> <p>Inclusive urban and rural water supply system. This output will support (i) the expansion of the capacity of two water supply plants (Quifeng and Jinxi) from 110,000 cubic meters per day to 182,000 cubic meters per day; (ii) the construction of the Longxi water supply plant with a capacity of 100,000 cubic meters per day; (iii) rehabilitation and newly installation of water delivery and distribution pipelines, including an integrated system connecting the three water supply systems; (iv) construction of an operational center for the integrated water supply system; and (v) establishment of about 40 small-scale water supply facilities for rural residents in hilly areas.</p> <p>Increased awareness on environment and sanitation. This output will support the development of education and training materials for schools, training of school teachers, public awareness campaign, training equipment, and media communication.</p> <p>Strengthened institutional and staff capacity. This output will (i) provide training, workshops, and study tours; (ii) establish a water quality monitoring center; (iii) develop a monitoring and regulatory system for dam safety and reservoir operations; and (iv) formulate two plans on water resources development and management, and pollution control; and (v) establish a proper operational model for the water supply company aligned to the new integrated water supply system.</p>

Project Rationale and Linkage to Country/Regional Strategy

The project will help protect water resources and improve water security in Chaonan District, Shantou Municipality, Guangdong Province. The project will improve water supply for the district residents by integrating urban-rural water supply systems and reducing water losses. It will also support watershed management, water quality monitoring, and public awareness building to protect water resources from pollution.

Chaonan District is a county-level administrative division of Shantou Municipality, Guangdong Province. About 30 kilometers away from the Shantou city center, Chaonan District has a population of about 1.33 million spreading over about 600 square kilometers, of which 1.13 million are rural residents. Chaonan District has been experiencing rapid economic growth since its establishment in 2003. However, due to its large rural population and less-developed industry and services, the district's economy and fiscal revenue fall far behind the developed regions in Guangdong Province. Its per capita gross domestic product (GDP) in 2010 was only CNY13,470 (\$2,138), about 28.7% of the provincial average per capita GDP of CNY46,990 (\$7,459); or about 45.0% of the national average per capita GDP of CNY29,940 (\$4,752). The per capita annual income of rural residents in 2010 is CNY4,503 (\$715), lower than the national average of CNY 5,919 (\$940) or only 57% of the provincial average of CNY7,890 (\$1,253). Chaonan District faces a great challenge of ensuring water security for its social and economic development due to (i) lack of adequate water treatment and supply facilities, (ii) weak institutional capacity, and (iii) water pollution in rivers and other water bodies around towns and villages in the district plain area. Current water supply capacity is about 135,000 cubic meters (m³) per day, which is far from meeting both the current and future demands for domestic and industrial uses in the district. The current water supply systems serve about 70% of the district populations (mainly urban residents in towns and rural households close to the towns), but cannot guarantee 24-hour services. Some water supply schemes can only supply water to users about three days a week in dry seasons. Such unreliable and inequitable water supply services have affected economic development and people's living standards in Chaonan District. The Chaonan district government (CDG) has established a water supply service target to cover 95% of its population by 2020.

There are three major district water supply systems, which source water mainly from nine small- and medium-sized reservoirs with a total design storage capacity of about 180 million m³. The water quality in these reservoirs is generally good (Class II), but soil erosion has been found in some catchment areas and eutrophication risk is increasing due to nonpoint source pollution in some reservoirs. The three water supply systems are not connected to each other and cannot supplement each other if one system is facing water shortage. An integrated water supply system to connect the three independent systems is urgently needed. Due to low technical standards and aging of the pipes, non-revenue water losses are as high as 50%, resulting in high water tariffs in some areas and reduced service coverage. Another problem is that rural residents in hilly areas, who are not connected to the water supply networks, suffer from low quality of drinking water because rural water treatment facilities apply simple sedimentation and filtration process without chlorination. It is estimated that about 293,000 rural residents in the district do not have adequate access to drinking water.

Weak institutional capacity for water resources management and service delivery is also a concern. The district currently lacks a water supply master plan, or a regulatory system for integrated water resources management. The CDG has recently established the Chaonan Water Supply Company, which will manage the integrated water supply system to be developed under the project. The company needs to be staffed with qualified professionals, and strengthen its capacity to provide better services to its clients. There is also a need to increase public awareness on water resources protection and environmental improvement to ensure the sustainability of the water supply and thus, economic development of Chaonan District.

The project design will incorporate lessons learned from the Asian Development Bank (ADB), the World Bank, and other donors' programs relating to water resources management, water supply and wastewater treatment, and urban-rural infrastructure development in the People's Republic of China (PRC). The project will also seek opportunities for private-public partnership. The project is expected to demonstrate the following aspects which can be replicated in other regions of Guangdong Province and the PRC: (i) inclusive and equitable water supply services for both urban and rural residents; (ii) integrated water resources protection and management at local level; and (iii) stronger water utility performance by reducing non-revenue water.

The project is consistent with the government's 12th Five-Year Plan (2011-2015), which aims to promote equitable urbanization, balanced regional growth, and coordinated urban-rural development. The project is in line with ADB's strategic priorities which support urban and rural infrastructure and environmental improvement. It supports ADB's Water Operational Plan, 2011-2020 for increasing coverage and improved services for water supply and sanitation, and promoting integrated water resources management. The project is also in line with ADB's country partnership strategy, 2012-2015 for the PRC which supports the government's goal of building a harmonious society by (i) addressing the rising income inequality and the widening regional disparities, and (ii) promoting environmentally sustainable development.

Impact	Better health and quality of life in Chaonan District
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Project Outcome

Description of Outcome	Improved and equitable water supply services to urban and rural residents in Chaonan District
Progress Toward Outcome	The outcome will be assessed at project completion.

Implementation Progress

Description of Project Outputs	<ol style="list-style-type: none"> 1. Improved water resources protection 2. Improved water supply infrastructure 3. Strengthened institutional and staff capacity
Status of Implementation Progress (Outputs, Activities, and Issues)	The project has 26 contract packages financed by ADB loan in total, including 13 civil works contract packages, 9 goods contract packages and four consulting service contract packages. By the end of February 2017, 6 contract packages have been procured and awarded (civil works packages for C3 and C4, equipment contract packages for G2 and G3 and consulting service contracts T1 and T2). Contract for C2 has been awarded. There are two other goods packages G7 and G8 are under bid evaluation. Construction of the procured civil works have commenced. And consultants have been mobilized and provided services.
Geographical Location	

Safeguard Categories

Environment	B
Involuntary Resettlement	B
Indigenous Peoples	C

Summary of Environmental and Social Aspects

Environmental Aspects	<p>The project is classified as category B for environment. An initial environmental examination and an environmental management plan (EMP) were prepared, and are consistent with the requirements set out in ADB's Safeguard Policy Statement (2009). The initial environmental examination incorporates the results of the domestic environmental assessment report approved by the Shantou Municipality Environmental Protection Bureau. Consultations to raise public awareness of the project and receive stakeholders' inputs were conducted with communities and local government agencies. The conclusions and recommendations of assessments and consultations were integrated in the project design. The initial environmental examination and EMP were disclosed on ADB website on 25 October 2013. CDG will be responsible for EMP implementation, including monitoring, mitigation, reporting, and corrective actions or measures. The project management office will have final responsibility for handling any disputes in the grievance redress mechanism. The institutional capacity of the implementing agencies to enforce the EMP is weak, and the project will include a capacity development program to ensure compliance with ADB's Safeguard Policy Statement. Implementation of the EMP, including capacity development programs, is expected to prevent or minimize potential impacts.</p> <p>The project is expected to achieve environmental benefits, including water quality improvement, better water supply services to a large majority of residents in Chaonan District, climate change adaptation, reduced water and energy losses, and better health by alleviating drinking water endemics. No major adverse impacts were identified. Potential construction impacts include air, noise, and water pollution; fugitive dust; soil erosion and contamination; solid waste disposal; interference with traffic and municipal facilities; land acquisition and resettlement; and occupational and community health and safety. Potential operational impacts include noise and energy use of the WSP pumps, occupational health and safety during WSP operation, and the need to maintain protection efforts at the three reservoirs to minimize nonpoint source pollution from agriculture and rubbish dumping by local communities. A water balance assessment was conducted, and potential environment-related livelihood impacts were assessed. No irrigated land will be reduced, and water allocated for environment will remain the same as the current level. No environment-related livelihood impacts are anticipated.</p>
Involuntary Resettlement	<p>The project is classified as category B for involuntary resettlement. The project will require permanent land acquisition of 5.3 ha of village collective land for the construction of the three WSPs, including farmland, orchard land, construction land, wasteland, and water ponds. In all, 15 persons from two households renting 3.0 ha of collective land are affected directly by the permanent land acquisition. Use of the remaining 2.3 ha of affected collective village land will have only indirect impacts. In addition, total temporary land occupation for laying the pipelines, access road, storing construction materials, and other requirements will be about 151.4 ha, including 53.5 ha of state-owned land and 97.9 ha of collective land. The project will not trigger any house or building demolition. A resettlement plan was prepared, which is consistent with the requirements set out in ADB's Safeguard Policy Statement. The budget for land acquisition is included in the project. When final design becomes available, the resettlement plan will be updated in consultation with the affected villages and submitted to ADB for approval. No land acquisition will be undertaken before ADB's approval of the final resettlement plan. The resettlement plan was disclosed on ADB website on 25 October 2013.</p>
Indigenous Peoples	The project is classified as category C for indigenous peoples.

Stakeholder Communication, Participation, and Consultation

During Project Design	Initial stakeholders, beside ADB, will be the district government and its concerned departments, such as finance and water, the provincial finance department and the development and reform commission; and other local government units. Other initial stakeholders will be the water supply utilities and beneficiary communities. Workshops, consultation meetings, and focused group discussions with beneficiaries, and household surveys will be conducted to ensure proper service delivery and proper tariff structures. It is suggested to prepare design features that include participation of user groups into decision making and operation processes. Information sharing, consultation, and collaborative decision making are the levels of participation envisaged for project design. A C&P plan will be prepared to (i) ensure participation and consultation during project design and tariff setting, and (ii) pilot participation of user groups in the operation and maintenance of the project facilities.
During Project Implementation	Continued dialogue with all stakeholders will be conducted during project implementation, in particular with project beneficiaries for water tariff reforms.

Business Opportunities

Consulting Services	It is estimated that about 18 person-months of staff time will be required to prepare the project. A PPTA is requested to help prepare the proposed project that would be compliant with ADB's and the government's requirements. It is expected that 12 person-months of international and 32 person-months of national consultants are required. The consultants will support the executing and implementing agencies in completing the project feasibility studies and safeguard documents to a standard consistent with the requirements of ADB and the government. The consultants will also provide start-up project implementation support to the executing and implementing agencies. ADB's Guidelines on the Use of Consultants (2010, as amended from time to time) will be applied in recruiting consultants.
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Responsible Staff

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Responsible ADB Division	PRC Resident Mission
Executing Agencies	<i>Chaonan District Government HHMHDX@126.COM 1 Chaoyang Road, Xiashan Street, Chaonan District, Shantou Municipality, Guangdong Province, People's Republic of China, 515144 Guangdong Provincial Finance Department/International Debt Management Office LIXU@GDWBO.GOV.CN No 376, Beijing Road, Yuexiu District Guangzhou, Guangdong Province, People's Republic of China</i>

Timetable

Concept Clearance	10 Jul 2012
Fact Finding	10 Sep 2013 to 17 Sep 2013
MRM	28 Oct 2013
Approval	28 Feb 2014
Last Review Mission	-
Last PDS Update	16 Mar 2017

Loan 3114-PRC

Milestones					
Approval	Signing Date	Effectivity Date	Closing		
			Original	Revised	Actual
28 Feb 2014	30 May 2014	12 Aug 2014	31 Mar 2020	-	-

Financing Plan		Loan Utilization			
	Total (Amount in US\$ million)	Date	ADB	Others	Net Percentage
Project Cost	230.75	Cumulative Contract Awards			
ADB	100.00	28 Feb 2014	32.45	0.00	32%
Counterpart	130.75	Cumulative Disbursements			

Cofinancing	0.00	28 Feb 2014	14.10	0.00	14%
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Project Page <https://www.adb.org/projects/46079-002/main>

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