Project Information Document/ Integrated Safeguards Data Sheet (PID/ISDS)

Concept Stage | Date Prepared/Updated: 24-Oct-2016 | Report No: PIDISDSC19416

BASIC INFORMATION

A. Basic Project Data

Country	Project ID	Parent Project ID (if any)	Project Name
China	P159870		Zhejiang Qiandao Lake and Xin'an River Basin Water Resources and Ecological Environment Protection Project (P159870)
Region	**Estimated Appraisal Date**	**Estimated Board Date**	**Practice Area (Lead)**
EAST ASIA AND PACIFIC	Aug 16, 2017	Feb 27, 2018	Environment & Natural Resources
Lending Instrument	**Borrower(s)**	**Implementing Agency**	
Investment Project Financing	People's Republic of China	Zhejiang Provincial Construction Department	

Proposed Development Objective(s)

To develop integrated landscape watershed management practices aimed at reducing pollution and improving forest ecological environment in priority areas of the Qiandao Lake catchment in Zhejiang Province.

Financing (in USD Million)

Financing Source	Amount
International Bank for Reconstruction and Development	150.00
Local Govts. (Prov., District, City) of Borrowing Country	150.00
Total Project Cost	**300.00**

Environmental Assessment Category	Concept Review Decision
B-Partial Assessment	Track I-The review did authorize the preparation to continue

Other Decision (as needed)

B. Introduction and Context

Country Context

China accounts for 20% of the world's population but has only 7% of the world's freshwater resources, and the water scarcity is becoming a major hurdle for its sustainable development. In China, fresh water availability per capita is around 2,100 m^3/year, less than one third of the global average, and as between 60% and 80% of the total precipitation occurs in the rainy season, water availability varies considerably by year. This situation has been exacerbated by China's rapid economic growth over the past decades which has led to an increase in social and environmental challenges, in particular the increases in water consumption and pollution discharges, and the ecosystem degradation. Considering that access to adequate supplies of good quality water are fundamental to sustainable development and social well-being, the Government of China (GoC) has placed water resources management, environmental protection and ecological conservation at the top of the political agenda.

The approach to developing and managing the nation's water resources, pollution control and forest ecosystem protection is embodied in *The Resolution of China State Council for Acceleration of Ecological Civilization Progress (the Resolution).* This resolution, issued by the State Council of China in April 2015, states that, by 2020, China's ecological environment will be improved by reducing the discharge of main pollutants, and that water quality in over 80% of key water basins and lakes must reach minimum functional standards; the quality of drinking water will be further improved; over 1.4% forest cover will be increased (from 2015) and biodiversity degradation will be controlled. In addition, instruments to protect natural ecological systems, including the ecological services compensation mechanism will be strengthened. Consistent with the Resolution, targets in the 13th sectoral development plans (2016-2020) of government line agencies were set for erosion reduction, waste water treatment in urban and rural areas, pollution reduction from agriculture, improved river management, and water resource safety.

Sectoral and Institutional Context

The 572 km^2 Qiandao Lake came into being in 1959 with the construction of a dam across the Xin'an River in Jiande City of Zhejiang Province. It is the largest fresh water lake in Zhejiang Province, and represents an important aquatic eco-system. Beyond the dam, the Xin'an River continues its course downstream to join the Fuchun River, after which it enters the Qiantang River which flows into the Yangtze River Delta system. Due to their sizes and locations, the Qiandao Lake and the Xin'an River constitute important sources of water for the Yangtze River Delta system. In addition to its ecological importance, the Qiandao Lake also has considerable economic and social importance as a source of hydro-electricity, drinking water and tourism. Rapid economic development, urbanization, intensive agricultural production, improved living conditions and tourism continue to increase pressures on the environment of Qiandao Lake.

Recognizing the risks posed to the lake, the National Development Reform Commission (NDRC) coordinated a multi-sectoral initiative aimed at addressing the issues faced by the lake and its catchment. Institutions participating included the Ministry of Finance, Ministry of Housing and Urban-Rural Construction, Ministry of Water Resources, State Forestry Administration, Ministry of Agriculture, Ministry of Environmental Protection, as well as Zhejiang and Anhui provincial governments. The first step comprised a comprehensive study of the issues being faced, with this being used to develop a blue-print (plan) for the sustainable management of the area. The resulting plan, the "Integrated Plan for Water Resources and Eco-Environmental Protection in the Basin of Qiandao Lake and its Upstream Xin'an River (2013—2020---The Plan)" was approved by the State Council in December 2013.

The Plan identified main challenges and issues facing the Qiandao Lake and its catchment. One of the key challenges is the large amount of pollutants releasing to the lake. The discharge of COD, ammonia nitrogen (the main pollution indicators) totaled 24,710 tons and 3,160 tons respectively in 2010, of which, the main sources of pollution were from domestic sources (56.1% and 49.4%) and agriculture (28.9% and 38.1%); the discharge of total nitrogen and total phosphorous totaled 7,170 tons and 760 tons in 2010 respectively, of which majority comes from agriculture production, accounting for 69% and 81% of total pollutant loads respectively. Between 2006 and 2010, the index of permanganate increased from 1.58 mg/l to 2.53 mg/l in Xin'an River, and the concentration of total nitrogen in Qiandao Lake has been permanently high at 0.82 to 1.01 mg/l level, which was close to or exceeded the threshold of Class III water quality (1.0 mg/l). In addition, chlorophyll levels increased from 2.9 (10^{-3} mg/l) to 5.9 (10^{-3} mg/l), and water transparency dropped from 4.36 meters to 4.25 meters during the same period.

To deal with the pollution threats to the lake and its basin, an action plan was developed under the Plan, which sets out a strategy for more sustainable approaches to the development of the area, including an inter-regional, catchment level environmental and ecological protection program. The program covers an area of 11,453 $km^{2,}$, encompassing Qiandao Lake and its catchment-- the entire area of Chun'an County, parts of Jiande City in Zhejiang Province (4,716 km^2), and parts of Shexian, Huangshan, Xiuning, Yixian, Qimen, and Jixi Counties in Anhui Province (6,737 km^2). Environmental protection and systematic planning feature strongly throughout the Plan. Over past years both Anhui and Zhejiang Provincial Governments have made efforts in addressing the challenges. Given that pollution in the Qiandao Lake areas persisted in spite of progress made over the past years on pollution control in Qiandao Lake's catchment, the Zhejiang Provincial Government (ZPG) is concerned that to achieve the set provincial targets on Qiandao Lake and Xin'an protection, the improvement of the PLAN implementation effectiveness is crucial, in particular in improving watershed management efficiency and the performance and sustainable operation of municipal wastewater treatment plants and small rural wastewater treatment stations to reduce the pollution. The ZPG, therefore, is seeking the World Bank support to develop and demonstrate an integrated watershed management approach, combined with effective waste water treatment, to better control pollution, taking the advantage of that the Bank has rich experience in the relevant areas and it will assist the government agencies introducing environmentally friendly and best agriculture and forestry practices, innovative wetland management technologies, developing incentive mechanisms for long-term sustainable natural resources management and pollution reduction, and promoting cross-provincial institutional dialogues and collaboration on the Basin management.

Relationship to CPF

The proposed project aims to promote integrated landscape watershed management to reduce pollution and protect water and forest ecological environment. It is highly consistent with the Bank's Country Partnership Strategy (CPS, 67566-CN) for China (2013-2016), which calls for greener growth with a focus on demonstrating sustainable agriculture practice, sustainable nature resources management and effective pollution control.

C. Proposed Development Objective(s)

To develop integrated landscape watershed management practices aimed at reducing pollution and improving forest ecological environment in priority areas of the Qiandao Lake catchment in Zhejiang Province.

Key Results (From PCN)

The proposed key results would be: (a) effective integrated watershed management practice developed for scaling up to Qiandao Lake and Xin'an River catchment management; (b) reduced pollutant discharges into selected waterways flowing into Qiandao Lake and Xin'an River (nitrogen, phosphorus, COD); (c) reduced chemical fertilizer and pesticide use in farming areas under the project (tons/year); (d) an increase in rural household numbers with access to clean water supplies; and (e) improvements in forest ecology in selected watersheds (decrease in soil erosion and increase in tree species diversity). The proposed project indicators will be refined during the project preparation.

D. Concept Description

The project aims at developing and demonstrating integrated watershed management practices, combined with waste water treatment, in selected areas. It would support the implementation of Chinese Government's "*Integrated Plan for Water Resources and Eco-Environmental Protection in the Basin of Qiandao Lake and its Upstream Xin'an River"* with focus on developing technically sound, cost effective, sustainable landscape watershed management practices, with experience and lessons learned from the project being scaled up to the Lake and River catchment management to improve efficiency and sustainability of the government Basin management plan implementation. The geographical focus of the project would be in selected priority watersheds/catchments of Chun'an County and Jiande City in Zhejiang Province. It is expected that the project costs would total US$ 300 million, US$150 million comprising an IBRD loan and US$150 million from counterpart sources.

To achieve the project objectives, it would comprise four components with activities aimed at addressing the sources of pollution and ecosystem protection.

Project components are proposed as follows:

Component 1: Integrated Water Pollution Management

This component would finance rural and urban wastewater treatment and the management of non-point sources of pollution from agriculture and tree crops in critical catchments/areas and urban areas where wastewater disposal is serious. Specific activities would include: (a) the establishment of one wastewater treatment plant (WWTP) and associated sewers to collect and treat the domestic wastewater; (b) the improvement to wastewater collection and treatment facilities in rural areas; (c) non-point source pollution control through improving agriculture practice; (d) strengthening the monitoring and evaluation system for water pollution sources and water quality; and (e) a pilot water management fund.

For Point source pollution reduction, Chun'an and Jiande will upgrade and improve their facilities and management operations to comply with effluent discharge limits; for Non-point source pollution control, key activities would include better soil nutrient management to determine appropriate fertilizer application rates; promoting integrated pest management (IPM) by encouraging the use of biological pesticides and physical control methods to reduce pests as opposed to using chemical agents; and supporting improved farming practice to reduce erosion and agrochemical run-off. The use of pest-resistant crops and green (organic) labelling were also proposed. _The project will include the cooperation with the Nature Conservancy to pilot a water fund to finance long-term sustainable pollution reduction.

Component 2- Forest Eco-System Restoration

The main activities under this component would aim to strengthening the forest functions in water storage, stream flow regulation, and erosion and siltation reduction of the lake through rehabilitating degraded forest land and plant bare, sloping land in critical watersheds and along erosion prone road and river banks. It would also include wetland management to restore wetland ecosystems in the project areas. Enrichment planting of conifer monocultures would be undertaken to convert degraded conifer to mixed stands of broadleaf indigenous species. In particular, it would be undertaken in understocked or degraded forests to create appropriate forest mixed structure. These interventions would serve to improve existing forest quality, reduce runoff, enhance water storage capacity, strengthen pest resistance and reduce fire hazard. In addition, wetland management would be improved and expanded to improve water quality through using wet lands reducing pollution loads. Assistance would also be included to improve forest access, clear forest fire breaks, strengthen forest fire-prevention and suppression.

Component 3: Water Resources Protection and Use

Proposed activities under this component would support river management to reduce flooding, erosion and siltation of streams. Several sections of river embankments would be rehabilitated and a number of river stretches would be dredged to reduce erosion and provide better water holding capacity.

The project would also fund infrastructure to increase the potable water supply network from county districts to rural residents in nearby villages. However, given that supplies of clean water in rural areas are becoming scarce, especially in the dry season, the project would also promote the more efficient use of water. During the project preparation, public consultation will be carried out to make villagers aware of project interventions in rural areas and to express their views on the project design.

Component 4: Institutional Capacity Building, Monitoring and Project Management

Activities under this component include technical assistance, training, research/study, extension, awareness raising, monitoring and evaluation. Detailed activities will be defined during project preparation. The monitoring system would include monitoring of project progress and quality, measuring its outputs, and evaluating the achievement of anticipated impacts; training would be provided to project planners, decision makers, and project management staff at provincial and county levels, and project entities including farmers; and the technical services and quality control will be also part of the project activities.

The technical assistance would be provided to reach out to Anhui province and strengthen dialogue with them for joint action for Xin'an River basin management. Project support will take the form of: (a) training and workshops to introduce effective watershed management practice and to disseminate the lessons learned; (b) carrying out studies to evaluate the lessons learned from the governments' existing cross-provincial ecological compensation pilot, with this being used to assist government develop a longer term aim of expanding the payment for the ecological services into an institutional mechanism; (c) building up a cross-provincial monitoring platform to share relevant data and information; and (d) promoting cross provincial institutional collaboration arrangements, for instance setting up bi-provincial meetings and/or a communication committee.

SAFEGUARDS

A. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

Located in the two project counties, Chun'an and Jiande in Zhejiang Province, Qiandao Lake is the largest freshwater artificial lake in Yangtze River Delta. The Lake came into being with the construction of Xin'anjiang Reservoir, which covers a total water surface of 573 km2 and 1,078 islands. It is the important sources of drinking water, hydro-electricity and tourism for local economy. The lake and river's catchments are located in part areas of Anhui and Zhejiang provinces, mainly consisting of land use for forestry, agriculture and rural and urban settlement. Based on the national government approved "Integrated Plan for Water Resources and Eco-Environmental Protection in the Basin of Qiandao Lake and its Upstream Xin'an River", the project is designed to demonstrate an integrated landscape management practice in the selected small watersheds within two counties of Zhejiang Province. The project area features warm and humid subtropical monsoon climate, sufficient sunshine and rainfall, developed water and farming system; and forest plays an important role to its ecological environment protection such as water retaining and erosion reduction. The project area is proposed in eight selected tributaries among total 30 tributaries flowing to the Qiandao Lake and Xin'an River in two project counties. Majority of the people (80%) who live in the catchment areas are rural dwellers.

B. Borrower's Institutional Capacity for Safeguard Policies

The arrangements for project preparation and implementation have been made at both provincial and local levels. The Provincial Project Management Office (PPMO) has been established within Zhejiang Provincial Construction Department through strengthening the existing PPMO of Bank financed Qiantang River Basin Small Town Environment Project, which has demonstrated strong capacity and good track records in the management of several Bank-financed projects over past two decades. The PMO's capacity of ensuring safeguards compliance during project preparation and implementation is justified as adequate.

At local level, the PMOs have been established in Chun'an County and Jiande City within the relevant Development and Reform Commissions respectively, to be responsible for the project preparation and implementation. Capacity building for the city/county level PMOs will be part of the project training and technical assistant programs.

C. Environmental and Social Safeguards Specialists on the Team

Zhefu Liu, Yiren Feng, Xiaodan Huang

D. Policies that might apply

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	The project triggers OP 4.01 Environmental Assessment to ensure that it is environmental sound. By demonstrating the integrated landscape management approach in the watershed, the project is designed as environmental friendly investments in Chun'an County and Jiande City in Zhejiang Province and aims at reducing pollutants entering Qiandao Lake

and Xin'an River, and improving local ecological environment. The following activities are proposed under the project, which include: one small size wastewater treatment plant (WWTP) and associated sewers (5000t/d), small scale drinking water facilities in rural areas, the improvement to wastewater collection and treatment facilities in rural areas, non-point source pollution control through improving agricultural practice, forest restoration and rehabilitation, river embankment reinforcement mainly around and nearby villages and town and farmland, small-scale wetland rehabilitation around the lake/along the rivers, and the strengthening of local monitoring and evaluation system for water pollution sources and water quality. All the investments have been proposed to address the existing environmental problems in the basin based on the national government issued "Integrated Plan for Water Resources and Eco-Environmental Protection in the Basin of Qiandao Lake and its Upstream Xin'an River (2013-2020)".

The anticipated adverse impacts resulting from proposed project will be limited to: (a) small size construction impacts, (b) potential dredging in numbers of secondary or even smaller tributaries of Qiandao Lake/Xin'an River, (c) operation of small-scale sewage treatment facilities (including wetland rehabilitation), and (d) the use of pesticides. Considering the type, location, sensitivity, and scale of the proposed project activities mentioned above, and the nature and magnitude of their potential environmental impacts, these anticipated adverse impacts are not deemed significant or irreversible. Therefore, the project is assigned as a Category B project.

The impact assessment will cover the analysis of the project impacts on rivers, wetlands, forests (degraded and monocultures), forest communities, physical cultural resources (PCRs), etc. Key findings of a separate Social Assessment on potential social impacts of the Project will also be integrated into the EIA. EIA instrument will include:

		(a) An Environmental Impact Assessment (EIA) will be prepared for the whole project, which will cover assessment or due diligence of ancillary facilities (e.g., disposal site for the dredged materials) and potentially linked activities ; (b) An Environmental and Social Management Plan (ESMP), which will consist of mitigation measures, monitoring, training, institutional arrangements and cost estimates to eliminate, offset or minimize the adverse environmental and social impacts identified during the Environmental Assessment. It will include other environmental management instruments specifically developed for the project, such as the Pest Management Plan (PMP), the Environmental Code of Practices (ECOPs) for civil work contractors, and the Environmental Protection Guidelines for Plantations. It will also include site-specific measures for sensitive receptors. Extensive public consultation and information disclosure will be conducted in the selected watersheds as part of EIA and ESMP following OP4.01. Stakeholders to be consulted will include local communities and villagers, potentially affected people, relevant agencies and other stakeholders.
Natural Habitats OP/BP 4.04	Yes	Under the project, Bank-financed investments will support the ecological protection and conservation of selected rivers, wetlands and forests in the basin, the project activities will have potential negative and positive impacts to those areas, thus the policy is triggered. As per the requirements of OP4.04, the project must be developed in an environmentally sustainable way considering the protection of local species and biodiversity. The project design will therefore include an environmental analysis of any natural habitat issue, including identification of natural habitat sites, their ecological functions, potential project impacts on the sites and mitigation measures to avoid or minimize anticipated impacts when necessary.
Forests OP/BP 4.36	Yes	This policy is triggered. The rehabilitation of degraded forests and enrichment planting of conifer forests will have significant positive impacts to the health and

		quality of the forests. The proposed activities will be undertaken in ecological protection forest sites and the proposed project activities will not affect the rights and welfare of local communities and their level of dependence upon forests. The impacts of the forest restoration and rehabilitation will be further assessed during the EIA preparation and the results will be included in the EIA. A separate Environmental Protection Guidelines for Plantation (EPGP) are recommended as part of the project EMP in order to further enhance the ecological and environmental benefits of the project, as well as to avoid any potential negative impacts.
Pest Management OP 4.09	Yes	The proposed agricultural non-point source pollution control and forest restoration and rehabilitation activities involves the use of pesticides, therefore, the OP 4.09 is triggered. As part of the EIA document, a separate PMP will be prepared in accordance with the Bank's safeguard policy on how to promote a safe, effective and environmentally sound pest management approach. Special attention will be paid to different features of the proposed agricultural and afforestation practice during the PMP preparation in order to make it fitting well with the project activities.
Physical Cultural Resources OP/BP 4.11	TBD	Preliminary screening during project activity identification shows this policy is not triggered. However, the EA team will conduct further screening and survey to determine the applicability of OP 4.11 once all the project locations are determined during the project preparation. For the 1400 years old year city inundated under the lake, which is an historical relic under the protection of the Zhejiang Province, the EA will include it in the assessment mainly for clarification purpose as the proposed project activities will not have any impacts on the relic site inundated under the lake according to the information available now.
Indigenous Peoples OP/BP 4.10	No	There are about 450,000 populations in Chun'an County, including 407 (around 0.1%) populations of Chinese Miao, Hui, Man and other ethnic minorities living scattered in the city downtown area. In Jiande City, there are about 510,000 populations, including 3,500 population of (around 0.68 %) Chinese She ethnic minority living in five villages. A preliminary ethnic minority screening has been conducted

		including interviews to the departments in charge of ethnic minority affairs and villagers in the proposed project arears. It is concluded that the project areas are predominantly Han Chinese and there is no ethnic minority groups identified in the proposed project areas. Therefore, the Bank Indigenous Peoples Policy OP 4.10 is not triggered.
		The proposed a waste treatment plant in Chun'an County would require the acquisition of about 5 hectares of village land and some village land might be used temporarily by pipeline laying, which will be used for wastewater collection in rural areas in Jiande City. The Bank's Involuntary Resettlement Policy OP 4.12 is therefore triggered, and a resettlement action plan (RAP) will be prepared to identify the relevant issues and develop action plan to mitigate the negative impacts. In addition, project preparation will assess potential involuntary resettlement needs for the natural resources and watershed management activities. As part of the RAP, a RPF is proposed to be prepared for guiding any potential project activities adjustments during project preperation and implementation.
Involuntary Resettlement OP/BP 4.12	Yes	A social assessment (SA) will be conducted to assess project social risks, local people's concerns and opinions on the project, and it aims to address the identified social risks. More specificaly, social impacts will cover potential impacts covered under OP 4.12 as well as potential social impacts covered under OP 4.01, such as: restrictions to accessing natural resources from all project activities, including forest and watershed management activities; potential risks to payment of environmental services (e.g. exclusion of vulnerable groups, inadequate valuation of current benefits of resources); gender related impacts; impacts on vulnerable population groups; and potential impacts and risks related to future payments for water, and etc. The SA will also identify current land and resource use by various local communities in the project area.
Safety of Dams OP/BP 4.37	Yes	The proposed project areas in Jiande are largely located in the downstream of existing Xin'an Dam. The project triggers Safety of Dams policy because the

		insufficient dam management and maintenance might threaten the Bank investment activities. According to this policy, due diligence on the safety status, performance history, operation and maintenance of Xin'an Dam need to be conducted to avoid any potential negative impacts from the Dam management.
Projects on International Waterways OP/BP 7.50	No	This policy is not triggered as the project does not involve trans-boundary rivers.
Projects in Disputed Areas OP/BP 7.60	No	This policy is not triggered as the project does not involve any disputed areas.

E. Safeguard Preparation Plan

Tentative target date for preparing the Appraisal Stage PID/ISDS

Apr 30, 2017

Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing should be specified in the Appraisal Stage PID/ISDS

The preparation of Safeguard-related studies would be initiated in September, 2016. It is expected that the first set of safeguards documents will be drafted by February 2017 for the project preparation mission review and all documentation related to safeguard policies would be available for pre-appraisal mission around May 2017.

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APPROVAL

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