

**PROJECT INFORMATION DOCUMENT (PID)  
APPRAISAL STAGE**

Report No.: PIDA8133

<b>Project Name</b>	Zhejiang Rural Water Supply and Sanitation Project (P133018)
<b>Region</b>	EAST ASIA AND PACIFIC
<b>Country</b>	China
<b>Sector(s)</b>	Wastewater Collection and Transportation (50%), Water supply (20%), Wastewater Treatment and Disposal (30%)
<b>Theme(s)</b>	Rural services and infrastructure (100%)
<b>Lending Instrument</b>	Investment Project Financing
<b>Project ID</b>	P133018
<b>Borrower(s)</b>	People's Republic of China
<b>Implementing Agency</b>	Zhejiang Provincial Economic Information Center
<b>Environmental Category</b>	B-Partial Assessment
<b>Date PID Prepared/Updated</b>	22-Aug-2014
<b>Date PID Approved/Disclosed</b>	22-Aug-2014
<b>Estimated Date of Appraisal Completion</b>	15-Jun-2014
<b>Estimated Date of Board Approval</b>	25-Sep-2014
<b>Decision</b>	

## I. Project Context

### Country Context

China has made significant progress in increasing water supply and sanitation (WSS) coverage over recent decades, increasing access to improved water supply from 67 to 92 percent and to improved sanitation from 24 to 65 percent between 1990 and 2012. However, these broad WSS coverage statistics mask significant regional and rural-urban disparities, with many rural people still without access to improved WSS services, the most vulnerable groups being women, children and elderly. As of 2012, over 290 million rural people were without improved sanitation and about 100 million were without improved water supply. Lack of WSS infrastructure in rural areas affects people's health, welfare and living conditions, negatively impacts the rural environment, and is a barrier to rural development and prosperity. Improving equitable and sustainable access to safe and improved WSS in rural areas is therefore an important national development objective.

The National 11th and 12th Five-Year Plans for Social and Economic Development (FYP, 2006-2010/2011-2015) prioritize the need to narrow the gap in basic public services between urban and rural areas. The plans also promote development of infrastructure to address safety, adequacy, and sustainability aspects of drinking water, waste management services, and environmental pollution reduction in rural areas.

As part of the 11th FYP, the government began a program of New Countryside Development (NCD) which has also been extended into the 12th FYP. The NCD program aims to reduce disparities between the countryside and cities by encouraging cities to invest in the development of their surrounding countryside. The program has been designed to take into account regional differences. For less-developed provinces located in the central and western region, the NCD program aims to provide or improve basic infrastructure services such as housing, water supply services, sanitary latrines, paving of village lanes etc. For those economically advanced provinces located in the eastern region such as Beijing, Shanghai, Zhejiang and Guangdong, the NCD programs focus is on the provision of community greening, rehabilitation of streams, channels and ponds, as well as provision of safe and reliable rural water supply, wastewater treatment and solid waste management services.

Among the advanced provinces, Zhejiang is in a prominent position to pilot approaches for the wider NCD program. The program here has been designed to reflect local socio-economic conditions and to improve the natural beauty of the countryside with the aim of capturing the areas potential for eco-tourism and catalyze rural development. Specifically a Beautiful Countryside Development Action Plan (Action Plan) has been devised to improve infrastructure services, including WSS, to enhance the natural environment and people's living conditions, as well as boost the rural economy. The Action Plan seeks to establish a mechanism for the sustainable operation of rural sanitary facilities. It is expected that, with successful implementation of the Action Plan, Zhejiang's experiences may be scaled up to other parts of China. As such, supporting the Action Plan, through provision of improved WSS services in rural areas, is well aligned with national goals and the WBG's twin goals of eliminating extreme poverty and boosting shared prosperity, in a sustainable manner.

### **Sectoral and institutional Context**

Zhejiang is located on the east coast of China covering an area of 105,391 km<sup>2</sup> and has a total population of 54.6 million (2012). With a GDP of RMB 3.46 trillion (US\$ 562 billion) in 2012, it is the fourth largest provincial economy in China. The per capita GDP in Zhejiang is RMB 63,266 (US\$ 10,273). However, economic development is geographically disparate, with the western and southern areas, especially rural areas, lagging behind. Average disposable income in urban areas is RMB 37,851 (2013), more than double the average net income in rural areas of RMB 16,106.

Rural areas in Zhejiang are characterized by small towns that were formed as adjacent villages expanded or merged over time. These small towns offer various services to nearby villages and rural communities. Recently, some small towns have started providing WSS services to surrounding villages by connecting them to their water distribution and sewerage collection systems.

Water supply in Zhejiang relies heavily on surface water sources. Average annual precipitation is about 1,600mm, but 50 to 60 percent of rainfall occurs during the short rainy season. As a result, many dams have been built to store water for supplying water in the dry season. The quality of raw water is generally in compliance with national standards. However, due to a lack of water treatment and distribution facilities, many people living in rural areas do not have access to safe drinking water. Non-Revenue-Water (NRW) is generally high in rural areas and small towns, jeopardizing the financial sustainability of water companies and efficient use of scarce water resources.

Coverage of sanitation services in Zhejiang varies greatly, but generally lags behind water supply services. In the lower plains such as Hangzhou, Ningbo, and Huzhou, 10 to 35 percent of rural domestic sewerage is collected and properly treated. In mountainous areas, this rate drops to 1.7 to 5 percent. Septic tanks are widely used in villages, but inappropriate design and construction coupled with inadequate maintenance has led to soil and water contamination in many communities. Improving sanitation services in rural areas will require upgrading existing septic tanks, connecting septic tanks to sewer networks, constructing wastewater treatment plants (WWTPs) and effective operation and maintenance (O&M).

There are some critical challenges to improving rural sanitation in China. First, in many villages the government has invested in end-of-pipe sewerage treatment facilities, but household connection rates are low, especially in the early years of operation. Second, the national effluent discharge standards for domestic wastewater are high and are essentially based on urban wastewater treatment norms. In rural areas, attempts to comply with these standards have proved unsustainable as operating and maintaining such facilities is excessively expensive not to mention unaffordable for rural households. Such sophisticated wastewater treatment facilities are more appropriate for densely populated urban areas.

The provision of rural WSS services in Zhejiang needs to be developed within an adequate institutional framework. High NRW levels and low water tariffs have resulted in excessive use of water. Poor operation of wastewater services in rural areas is also directly related to low tariffs, and has led to fluctuations in service quality and compliance with standards. In summary, Zhejiang will need to address a number of issues in its rural WSS services, including: (i) ensuring drinking water quality and safety, (ii) increasing household connection rates, (iii) reducing NRW and other operational inefficiencies, (iv) establishing adequate tariffs and subsidy rates to cover operation and maintenance costs, while servicing an economically diverse group of users, and (v) enhancing O&M systems for WSS networks and treatment facilities.

This project will support Zhejiang to address key issues in sustainable WSS service delivery in four counties (or county-level cities): Anji County, Fuyang City, Tiantai County and Longquan City (hereafter “Project Counties”). Table 1 provides population and economic data for Zhejiang and the Project Counties. These counties cover different regions of the Province and their topography, lifestyle, incomes, and local customs in relation to rural WSS vary considerably. These Project Counties have been selected because they are considered representative of the realities in different rural areas in Zhejiang and eastern China. Therefore, by focusing on improving WSS services in these Project Counties, this operation will pilot solutions that could be scaled up and replicated in Zhejiang and other provinces in eastern China.

While widespread extreme poverty is no longer an issue in Zhejiang, the Bank team has paid close attention to low income and vulnerable populations, who mostly reside in rural villages. The cost of household sewer connections in villages, including provision and installation of toilets and wash basins, as well as upgrading of septic tanks, will be fully covered by the project and repaid by the counties. The villagers’ ability to afford increased tariffs has been carefully assessed, and counties have been requested to provide subsidies to cover the difference between O&M cost and tariffs collected during operation. A total of 259 villages have been appraised during project preparation, but additional villages might be selected in the future.

This project is aligned with the WBG’s twin goals of eliminating extreme poverty and boosting

shared prosperity, in a sustainable manner. In addition to improving the provision of basic services to rural areas, the project will also have a positive impact on the rural economy by providing the basis for developing eco-tourism and improving conditions for secondary and tertiary industry development which will generate rural employment, increase rural incomes and raise government revenues making further resources available for rural development.

## **II. Proposed Development Objectives**

The proposed Project Development Objective (PDO) is to improve access to sustainable water supply and sanitation services in selected villages and towns in rural areas of Zhejiang Province.

## **III. Project Description**

### **Component Name**

Component 1: Improving Water Supply and Sanitation

### **Comments (optional)**

This component will invest a total of US\$ 356 million, of which US\$ 193.5 million is from the IBRD loan, for the construction and rehabilitation of water supply and wastewater collection and treatment facilities in the Project Counties. A total of 138 administrative villages (259 natural villages) and 9 rural towns have been identified during preparation, but more villages and towns could be added during project implementation. During preparation, the team has appraised US\$ 169 million in subprojects or about 47 percent of the total allocation for this component. Each county has already received a nominal allocation from the total amount of the loan, and the remaining 53 percent of investments under this component will be identified and appraised during project implementation.

### **Component Name**

Component 2: Training and Capacity Building

### **Comments (optional)**

This component will be fully financed by the IBRD loan. It will provide specific training and assistance to local water companies to improve their technical, financial, and overall managerial performance. The identified technical assistance support include: (a) training for staff of Project Management Offices (PMO), Project Implementing Unit (PIU) and institutions involved in project implementation; (b) training for staff and operators of water companies participating in the Project; (c) institutional strengthening and capacity building for water companies participating in the Project; and (d) implementation of a program to monitor and evaluate the performance of wastewater treatment stations in the participating villages.

### **Component Name**

Component 3: Project Management and Supervision

### **Comments (optional)**

This component is closely linked to the infrastructure investment under Component 1 and will be fully financed by the IBRD loan. It will provide project management assistance to all relevant agencies at both provincial and county level. The identified and agreed areas of technical assistance to be financed by this component include: (a) technical support for the implementation of a framework approach, including reviewing technical reports for subprojects which are eligible for project financing; and (b) support for project management and supervision.

## **IV. Financing (in USD Million)**

Total Project Cost:	400.00	Total Bank Financing:	200.00
Financing Gap:	0.00		
<b>For Loans/Credits/Others</b>			<b>Amount</b>
Borrower			200.00
International Bank for Reconstruction and Development			200.00
Total			400.00

## V. Implementation

Provincial Level. The Zhejiang Provincial Foreign Fund Utilization Leading Group (PLG) was established in May 2013 and is chaired by the Provincial Vice-Governor responsible for the Provincial Development and Reform Commission (PDRC) and includes representatives of PDRC, Zhejiang Provincial Finance Bureau (ZPFB), Water Resource Department, Environment Protection Department (EPD), Land Resource Department, and other agencies and relevant institutions. The major responsibilities of the PLG are to provide coordination, policy-level support, guidance on strategic issues and oversee the timely implementation of the project.

The Zhejiang Provincial Project Management Office (ZPMO) is housed at the Provincial Economic Information Center, an institution affiliated to the PDRC. The ZPMO is responsible for the financial management (FM) of the project under the support and guidance of the ZPFB. ZPFB is responsible for managing the project's Designated Account (DA). Together with PDRC, ZPFB will provide support and advice to ZPMO and project counties on financial matters. ZPMO, with support from consultants, will be responsible for overall supervision of the project, focusing on technical and project management aspects, advisory services to the Project Counties and PIUs, quality assurance and control, and consolidation of monitoring, reporting and due diligence requirements. ZPMO will also manage the project and be responsible for immediately flagging any issues which may affect the timely implementation on the project according to the policies and procedures agreed. Furthermore, ZPMO has selected a procurement agent to assist with the preparation of bidding documents and managing the overall bidding process. ZPMO will prepare semi-annual progress reports and coordinate the monitoring and evaluation of the project. A project management and supervision team of consultants will support ZPMO in carrying out these functions and provide advice to the cities and local PIUs on contract and safeguard supervision.

Local Level. The project will be implemented by the associated water companies in each of the Project Counties which will be serving as the PIUs. These PIUs are financially and legally autonomous and will be responsible for overall construction management and O&M of the investments, supported by experienced design institutes, tendering companies, and a construction supervision company per county.

Also at the local level, a county project management office (CPMO) has been established in each of the Project Counties, chaired by the officials of each county Development and Reform Commission or Agricultural Committee. CPMOs will report directly to ZPMO and will be responsible for supervising the project, focusing on technical and project management aspects, assisting PIUs in complying with the Bank's safeguards policies, and providing general advisory services to the County and the corresponding PIU.

Village Committees, under the support and supervision of the relevant CPMO, will act as PIUs

responsible for assisting village sewer network construction and implementing household connections to the sewer networks.

## VI. Safeguard Policies (including public consultation)

<b>Safeguard Policies Triggered by the Project</b>	<b>Yes</b>	<b>No</b>
Environmental Assessment OP/BP 4.01	x	
Natural Habitats OP/BP 4.04		x
Forests OP/BP 4.36		x
Pest Management OP 4.09		x
Physical Cultural Resources OP/BP 4.11	x	
Indigenous Peoples OP/BP 4.10		x
Involuntary Resettlement OP/BP 4.12	x	
Safety of Dams OP/BP 4.37	x	
Projects on International Waterways OP/BP 7.50		x
Projects in Disputed Areas OP/BP 7.60		x

**Comments (optional)**

## VII. Contact point

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