1. Country and Sector Background

China's New Countryside Development (NCD) Strategy

1). Increasing Urban-Rural Disparity. China has a rural population of about 727 million (2007 data) which comprises 55% of its total population. The Chinese rural population is scattered over 20,000 townships and 18,000 ‘xiang’ (township-level village cluster) which, in turn, consist of 720,000 administrative villages or 3.2 million natural villages. Despite the economic development that China has achieved in its rural areas since its economic reform, the Chinese countryside is lagging far behind its urban counterpart. This can be reflected in the following ways: (i) a large difference in rural household incomes compared to urban households (3.33:1 in 2007); (ii) fewer economic opportunities in rural areas leading to rural-urban migration; and (iii) underdeveloped basic infrastructure and poor standards of living.

2). NCD National Strategy. Deeply concerned with the increasing urban-rural disparity, the Chinese government has prioritized NCD as one of the key tasks of the nation’s 11th Five-Year Plan. The NCD strategy aims at reducing the urban-rural disparity, balancing urban and rural development, and promoting human-centered, quality-based, resource-saving and eco-friendly growth in the countryside. In doing so, an emphasis is placed on the responsibility of developed, urban areas, to actively commit resources to the development of the countryside.

Key Issues Faced by Ningbo Municipality in the NCD Program
3). Ningbo Municipality is a major city in the southeastern coastal zone of China, about 300 km south of Shanghai. It comprises Beilun Port, the second largest port in China (close after Shanghai Port), six urban districts, three county-level cities, and two counties. There are 91 towns and 3,187 administrative villages. Ningbo has a population of 5.65 million, with a reported urbanization rate of 57%. Ningbo’s gross domestic product (GDP) has grown rapidly, at an annual rate of 14% per year in the last five years, in 2006 reaching RMB 286 billion (US$42 billion), with a GDP per capita of RMB 51,300 (US$7,540).

4). Despite rapid economic growth since the late 1970s, Ningbo’s rural economy has been lagging. The per capita annual disposable income of rural residents was RMB 8,847 (US$1,301), about 45% of per capita annual disposable income of urban residents in 2006. Other challenges include fewer economic opportunities, inadequate basic infrastructure, shortage and low quality of drinking water supply, and insufficient sanitation services having an impact on the quality of local surface water resources. The Ningbo Municipal Government (NMG) is committed to implement the NCD Program to address the disparities in development and infrastructure services between Ningbo’s urban and rural areas. NMG has issued a series of official documents, guidelines, and plans (e.g., the city’s 11th Five-Year Plan which contains a full chapter on NCD) to guide the implementation of the NCD program.

5). **Rural Wastewater Threatening Drinking Water and Local Health.** China’s vast rural areas, including most of its relatively wealthy villages in coastal areas, are still characterized by a lack of wastewater collection and treatment, and poor sanitation. In Ningbo Municipality, given the threat posed to drinking water resources, the application of effective, appropriate and sustainable technology and institutional options for rural wastewater management is an urgent priority. Villages in the project area vary widely in terms of their topography, average income level, distance from population centers, and proximity to drinking water resources. Villages within drinking water protection areas are often poor and in remote, undeveloped, and mountainous areas. However, the per-household capital cost of implementing rural wastewater management is highest in these villages due to higher applicable discharge standards and mountainous topography. Due to low average incomes, these villages have little ability to contribute to investments in wastewater management.

6). **Inadequate Basic Infrastructure in Rural Areas.** Local governments in small towns have very limited financial resources and low capacity to borrow or service debt to improve the rural basic infrastructure. A system that includes sound planning and institutional reforms on provision of basic infrastructure for small town development is required. The system design must reflect the fact that rural population cannot pay the full cost of services, while capital and recurrent funding support is needed until the economic development is sufficiently robust to sustain their growth, as envisaged in the NCD strategy.

7). **Limited Institutional Capacity for NCD in Local Governments.** The NCD program is still relatively new, and sometimes misunderstood by lower-level governments as mainly consisting of the construction of basic modern housing. There is as yet insufficient capacity at the lower levels to tackle the more abstract issues, such as development planning, institutional reforms, and sustainable utilization of local natural and geographical resources.
2. Objectives

8). The project development objective is to improve rural wastewater management in selected villages and enhance infrastructure and township management in a small town, in support of the New Countryside Development (NCD) Program in Ningbo Municipality.

3. Rationale for Bank Involvement

9). The World Bank has worked successfully with Ningbo Municipality on a number of projects, including the Zhejiang Urban Environment Project (Loan No. 4724-CHA), the Ningbo Water and Environment Project (Loan No. 4770-CHA), and the Global Environment Facility - Ningbo Water and Environment Project (Trust Fund No. 56692-CHA). The proposed project would build on the strong relationship established with the municipality to provide support for its agenda on NCD. The proposed project provides the Bank with a unique opportunity to partner with Ningbo Municipality to work on the new initiatives in urban-rural integration to reduce disparities in growth and living standards. Even though the project investment is a small part of the larger ongoing NCD program, through this project the Bank would be able to draw on its extensive global experience to demonstrate ways to improve the efficiency, cost-effectiveness and sustainability for rural sanitation, basic urban infrastructure and small town management that could be replicated in the NCD program in Ningbo Municipality and other developed areas in China with similar economic characteristics.

10). The Bank will apply both international and local best practice to the proposed project specifically in: (i) Rural Sanitation Improvement: implement appropriate and sustainable technology and institutional options for rural wastewater management in Ningbo, using participatory approaches, to expand coverage of rural sanitation, encourage cost sharing by beneficiaries, and transfer assets and operations and maintenance (O&M) responsibility to communities; and (ii) Basic Infrastructure Development and Management for Small Towns: support small town development through sound planning, institutional reforms and basic infrastructure improvement with phased service cost recovery consistent with affordability and economic growth.

4. Description

11). The project has the following three components:

**Component 1: Rural Wastewater Management:**
Implementation of rural wastewater management in about 150 selected villages in six Counties/Cities/Districts in Ningbo Municipality using appropriate and sustainable technology and a program-based approach participated by village communities.

**Component 2: Chunhu Town Infrastructure Development:**
- **Chunhu-Fenghua Access Road:** Construction of a four-lane Class 1 road connecting Fenghua City with Chunhu Town
- **Fenghua Coastal Water Supply:** Construction of transmission mains from Fenghua City to Chunhu Town, including rehabilitation and expansion of the Chunhu Town water
distribution network
- **Chunhu Town Wastewater Management**: Construction of trunk and collection sewers, and a wastewater treatment plant to service Chunhu Town

**Component 3: Capacity Building and Implementation Support**:
- Capacity Building and Implementation Support for Rural Wastewater Management
- Chunhu Town Capacity Building and Energy-Efficiency Demonstration
- Support for preparation of the 12th Five-Year-Plan on NCD in Fenghua City
- Capacity Building and Implementation Support to Fenghua City Investment Corporation (FCIC)

5. **Financing**

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<th>Source</th>
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<td>Borrower</td>
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<td><strong>Total</strong></td>
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</table>

6. **Implementation**

12). **Detailed Design Preparation and Design Reviews**. PIUs will engage experienced design institutes (DIs) to prepare detailed designs and the bidding document (technical part including technical specifications and bill of quantities). NMPMO engaged design review and advisory services to provide advice and guidance, review feasibility study preparation, and prepare various standard documents that will be used during implementation.

13). **Rural Wastewater Implementation Manual**. Implementation of rural wastewater subprojects will be carried out in accordance with the Implementation Manual, which includes:
(a) the Framework for Implementation of Rural Wastewater Management (for policy, strategy and village selection criteria);
(b) the Operations Manual (for technical requirements for design and construction, best practice guidelines and recommendations);
and (c) Community Participation Guidelines (for measures to mobilize communities to participate in decision-making, assume ownership of completed assets, and take responsibility of O&M).

14). **Construction Supervision and Safeguard Monitoring**. PIUs will employ experienced domestic supervision companies for construction supervision of project components. NMPMO will engage a consultant to carry out independent external monitoring of safeguard implementation and provide semi-annual reports.

15). **Project Management, Implementation, and Capacity Building Support**. International and national consultants and facilitators will be retained to provide capacity building, project management and implementation support to NMPMO, FCIC, the RAO, Village Committees, and Chunhu Town, as well as conduct training and guide study tours for project staff.

7. **Sustainability**
16). For rural wastewater management component, as most villages selected for the project are in the reservoir protection zones, a high subsidy for capital cost has been allocated to villages with the broader objective of assuring a safe drinking water supply to cities and towns. The subsidy has been channeled from urban water tariffs to villages. Ningbo Municipality has levied RMB 0.10 /m³ on water tariffs for rural wastewater schemes. The rural wastewater schemes will enhance the sustainability of the ecological systems in the reservoir zones. It is foreseen that more developed villages outside of the reservoir protection zones will be required to make cash contributions to capital costs, depending on the outcomes of the monitoring and evaluation program.

17). The project has adopted an approach to rural wastewater management through lower cost and affordable and simple technologies that can be constructed and maintained by communities. The efficiency of the technology, improved health and hygiene benefits, and community participation and cost-sharing in the selection, ownership and operation and maintenance of the assets, will assure sustainability in the long term. In time, the model can be replicated with lower government subsidies, along with a gradual increase in the level of cost sharing by communities.

18). Sustainability of Chunhu Town Infrastructure is viewed as a long-term goal, in conformity with the development strategy prescribed to reduce rural-urban disparities in economic growth, incomes and living standards. Provision of basic infrastructure is part of the NCD strategy to support growing small towns to create the opportunity to accelerate development and attract new investments. Sustainability of small town infrastructure will be assured through government commitment to make up recurrent fund shortfalls and provide manpower resources to operation and maintain assets, so as to meet drinking water and wastewater discharge standards. Fenghua City will assure sustainability of Chunhu Town infrastructure through O&M responsibility assumption, tariff setting and collection, and provision of budgetary funds, as necessary.

8. Lessons Learned from Past Operations in the Country/Sector

19). Community Participation and Ownership. Experience in rural infrastructure projects in China and worldwide indicates that beneficiary participation during planning and implementation is essential to ensure sustainability of community-level infrastructure. Opportunities will be provided for consultations during the planning process to assess the needs and priorities of communities. Ownership of rural community infrastructure that can be managed with community efforts will be transferred to communities, along with technical assistance to help them organize management and maintenance of the assets. The design and technology options adopted in small towns need to be simple to operate and maintain, with trained local operators. Where communities lack the capacity to manage, locally-based professional service providers will be nurtured to provide such services to communities on an ‘as needed basis’. Successful examples of participatory development in South and East Asia and Africa have been incorporated in the project design. Implementation guidelines, including community participation guidelines, have been developed for the rural wastewater management component, and lessons learned from implementing the first batch of villages, with respect to community commitment, participation and ownership, will be evaluated to make necessary adjustments to the implementation methodology.
20). **Appropriate Technologies for Rural Wastewater Management.** Conventional wastewater management systems first considered in the project were not suitable for rural situations due to the following: small population; high unit costs; unavailability of adequate technical capacity to operate such systems; limited affordability of rural residents to pay user charges; difficulty to achieve economies of scale; and inability of government to maintain adequate service levels in a large number of small and scattered systems due to cost and logistics issues. Appropriate lower-cost technology options for wastewater management suitable for individual and small communities are functioning successfully in East and South Asia, Africa and South America. In the proposed project, additional requirements are to provide wastewater management for groups of households, comprising about 200 to 300 houses, and to protect drinking water sources.

21). **Excess Capacity Creation.** Based on past experience, project design has paid attention to avoid creating excess capacity in facilities constructed based on unrealistic projections of population growth, traffic densities, water demand, and wastewater generation. The coastal water supply scheme was phased in and limited to the largest of the three towns (Chunhu) and the development zone (Hongsheng Haitang) where medium-term demand has been confirmed. The shorter transmission mains are sized to enable extension to the other two towns and a shipyard at a future date. Similarly, the wastewater treatment capacity was limited to the medium-term requirements with the consideration of some basic structures designed for long-term needs. Expected traffic growth and demand are consistent with the road design adopted.

9. **Safeguard Policies (including public consultation)**

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10. **List of Factual Technical Documents**

N.A.

11. **Contact point**
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*By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*
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