

Project Administration Manual

Project Number: 44036
Loan No. XXXX- PRC
October 2012

People's Republic of China: Anhui Chao Lake
Environmental Rehabilitation Project

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Project Administration Manual Purpose and Process

This project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with the government's and the Asian Development Bank (ADB) policies and procedures. It includes references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The Anhui provincial government (APG), as executing agency, is wholly responsible for the implementation of this ADB-financed project, as agreed jointly between ADB and the borrower; and in accordance with the government's and ADB policies and procedures. ADB staff is responsible to support implementation, including compliance by the executing and implementing agencies of their obligations and responsibilities for project implementation in accordance with ADB policies and procedures.

At loan negotiations, ADB and the borrower shall agree to the PAM; and ensure consistency with the loan and project agreements. Such agreements shall be reflected in the minutes of the loan negotiations. In the event of any discrepancy or contradiction between the PAM and the loan and project agreements, the provisions of the loan and project agreements shall prevail.

After ADB Board approval of the project's report and recommendation of the President, changes in implementation arrangements are subject to agreement and approval pursuant to relevant government and ADB administrative procedures (including the project administration instructions), and upon such approval they will be subsequently incorporated in the PAM.

Abbreviations

ADB	=	Asian Development Bank
APG	=	Anhui Provincial Government
CLMA	=	Chao Lake Management Authority
CNY	=	Chinese yuan
DMF	=	design and monitoring framework
EA	=	executing agency
EIA	=	environmental impact assessment
EMP	=	environmental management plan
GAP	=	Gender Action Plan
IA	=	implementing agency
ICB	=	international competitive bidding
LIBOR	=	London interbank offered rate
NCB	=	national competitive bidding
NPS	=	non-point source
PAM	=	project administration manual
PLG	=	Project Leading Group
PMO	=	project management office
PRC	=	People's Republic of China
QCBS	=	quality- and cost-based selection
RP	=	resettlement plan
SAP	=	Social Action Plan
SPS	=	Safeguard Policy Statement
SPRSS	=	summary poverty reduction and social strategy

I. PROJECT DESCRIPTION

A. Basic Project Description

1. The basic project description is as follows:

Project	Anhui Chao Lake Environmental Rehabilitation Project
Project Number	44036
Borrower	People's Republic of China (PRC)
Classification	Sector: Agriculture and natural resources; water supply and other municipal infrastructure and services
	Subsectors: water-based natural resources management, water supply and sanitation
	Themes: Environmental sustainability, economic growth, capacity development
	Subthemes: natural resources conservation, promoting economic efficiency and enabling business environment, organizational development
	Climate Change Impact: No Climate Change Indicator available.
	Gender mainstreaming category: Effective Gender Mainstreaming
	Targeting classification: Millennium Development Goal 7 (target 10)
	Location Impact: Rural (high), urban (high), national (low)
Project Risk Categorization	Complex
Safeguards Categorization	Environment: A Involuntary Resettlement: A Indigenous Peoples: C
ADB Financing	\$250 million
Period of Utilization	30 September 2018
Estimated Project Completion Date	31 March 2018
Executing Agency	Anhui Provincial Government

B. Rationale, Location and Beneficiaries

1. Rationale

2. Chao Lake is the fifth largest freshwater lake in the PRC. Its catchment covers about 10% of the total area of Anhui province. The lake is important to industrial and agricultural water supply, water transport, tourism, and recreation in Anhui province. Since 1990, the water environment of Chao Lake has been deteriorating because of the adverse environmental effects of rapid economic growth and urban development. During 2000–2009, the urban population in the catchment increased by 30% and gross domestic product increased by 500%.

3. In 1996, Chao Lake was identified as one of the top three priority lakes in the PRC for environmental rehabilitation due to its poor water quality. Since then, the provincial and local governments concerned, supported by the national government and ADB, have provided large

investments to control municipal and industrial pollution in the lake catchment.¹ These investments have reduced industrial and municipal wastewater to a certain extent, but they have not addressed all dimensions of the water quality problems in the lake. Chao Lake continues to receive excessive amounts of organic matters, nitrogen, and phosphorous. Particularly during summer, elevated levels of pollutants and high temperatures result in algal blooms, depletion of oxygen, and the emission of offensive odors.

4. The present average water quality in the lake is class IV under the PRC's national environmental water quality standard, and 50% of water monitoring points in the lake are still class V. This represents a slight improvement over the situation in 2005 when overall water quality in the lake was class V+, but is still far from the government's long-term objective for the lake of class III.²

5. As a result of past investments and regulatory efforts, industrial pollution control in the lake catchment has improved. The two main pollution sources yet to be fully controlled are municipal point sources³ and nonpoint source (NPS) emissions.⁴ The Anhui Environmental Protection Department estimates that municipal sources account for about 50% of existing organic emissions into the lake, 57% of emissions of nitrogen, and 54% of phosphorous. Rural nonpoint source emissions are estimated to account for 42% of organic emissions, 38% of nitrogen, and 42% of phosphorous.⁵

6. **Strategic planning and institutional reform.** The APG understands that a comprehensive approach is required to solve water quality problems in Chao Lake. Such an approach requires not only continuous investments to control pollution sources but also the adoption of a strategic planning framework. To support a comprehensive approach, the APG has formulated the Chao Lake Environmental Rehabilitation Master Plan (2008–2020). The master plan suggests the need for about CNY50 billion of investments to develop a wide range of structural and nonstructural measures. These measures include (i) a strengthened institutional mechanism, (ii) expanded and upgraded municipal wastewater treatment plants (WWTPs), (iii) extension of sewerage networks, (iv) a continuous industrial wastewater treatment control program, (v) comprehensive rural nonpoint source pollution control, (vi) control of other nonpoint source pollution sources through in-stream measures, (vii) water conservation, (viii) strengthened regulatory supervision, (ix) applied research, and (x) public education.

7. After the master plan was issued, the APG took the following two important steps to strengthen institutional arrangements in managing the lake basin environment: (i) reorganizing

¹ ADB. 1996. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for Anhui Environmental Improvement Project for Municipal Wastewater Treatment*. Manila; and ADB. 1996. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for Anhui Environmental Improvement Project for Industrial Pollution Abatement*. Manila.

² Class III water is suitable as a supply source for a municipal drinking water treatment plant and for swimming. Class IV water is suitable for use as a general industrial water supply and for recreational use involving no direct human contact with the water. Class V water is suitable only for agricultural water supply and general landscaping use. Class V+ water is unsuitable for any use (PRC Environmental Water Quality Standard GB3838-2002).

³ Municipal point sources are mainly liquid waste emissions from urban areas not yet serviced by sewerage systems, and inadequately treated emissions from existing municipal wastewater treatment plants which were not designed to remove nutrients.

⁴ Nonpoint source emissions are a result of discharges of domestic waste from unsewered rural households, runoff from farmers' fields, waste discharges from animal production enterprises and resuspension of polluted sediments, and erosion of river banks during high flow conditions.

⁵ Industrial point sources account for less than 8% of organic emissions and 6% of nutrient emissions to the lake.

local governments in the lake catchment so that the management responsibilities for the entire surface area, the lake foreshores, and most of the upper catchment area were transferred to a single local government authority—the Hefei municipality; and (ii) creating the CLMA, a new subprovincial agency, to provide unified administration of general affairs relating to the management of Chao Lake. In August 2011, the State Council ordered the establishment of the CLMA to manage all of the lake’s water-related matters, including land use planning, water quality and quantity issues, fisheries, navigation, and tourism. The CLMA could be the first lake or river management agency in the PRC that has a sufficiently comprehensive management purview and the first to deal with all aspects of the water cycle.⁶

8. **Lessons.** Sustainable management of a lake basin is widely recognized as difficult. An international study on 28 lakes across the world, financed by the Global Environmental Facility, identified measures that would lead to effective lake basin management: (i) adequate institutions, (ii) right policy framework, (iii) meaningful stakeholder participation, (iv) relevant technical strategies, (v) adequate monitoring data, and (vi) adequate financing.⁷ ADB’s own analytical work supports a similar conclusion.⁸ Although all of these six measures have been applied in managing the Chao Lake basin, their implementation has not been comprehensive or satisfactory. The assessment is detailed in a knowledge product entitled *Sustainable Lake Management: Implications for Chao Lake Rehabilitation*.⁹

9. The project supports the PRC’s sustainable development agenda for establishing an environmentally friendly, resource-efficient, and harmonious society, as outlined in the PRC’s Twelfth Five-Year Plan, 2011–2015. The project will support the master plan and the PRC’s Twelfth Five-Year Plan for Chao Lake environmental protection, and introduce an integrated approach to overcoming current constraints on restoring the lake environment. The project is aligned with ADB’s country partnership strategy, 2011–2015 for the PRC in supporting environmental sustainability and inclusive growth.¹⁰

2. Location

10. The project is located in the Chao Lake Basin of Anhui Province, specifically in (i) Hanshan County; (ii) Hefei Municipality, comprising of Changfeng, Chaohu, Feidong, Feixi, and Lujiang counties; (iii) Lu’an Municipality; and (iv) Wuwei County, where the project outputs will be implemented.

3. Beneficiaries

11. The project has four categories of benefits: (i) improved water quality of the lake and the rivers flowing into it; (ii) increased economic development; (iii) improved quality of life for the people living around the lake and in the Chao Lake Basin; and (iv) poverty alleviation. It is estimated that about 2.1 million people of the project area will benefit from the construction of

⁶ Q. F. Zhang and M. Bennett. 2011. *Eco-compensation for Watershed Services in the People’s Republic of China*. Manila: ADB.

⁷ International Lake Environment Committee Foundation. 2005. *Managing Lakes and their Basins for Sustainable Use: A Report for Lake Basin Managers and Stakeholders*. Japan.

⁸ Q. F. Zhang et al. 2008. *Reviving Lakes and Wetlands: Lessons Learned from the Peoples’ Republic of China*. Manila: ADB.

⁹ Executive Summary of Knowledge Product: Sustainable Lake Management: Implications for Chao Lake Rehabilitation (supplementary linked document).

¹⁰ ADB. 2012. *Country Partnership Strategy: People’s Republic of China, 2011–2015*. Manila.

wastewater collection and treatment infrastructure, from the river course rehabilitation (dredging and embankments) and from solid waste collection and transfer.

C. Impact and Outcome

12. The project impact will be improved quality of life and a sustainable aquatic ecosystem in Chao Lake. The outcome will be improved water resources and environment in Chao Lake and upstream rivers.

D. Outputs

13. The project comprises four outputs: (i) increased municipal point source pollution control, (ii) enhanced nonpoint source pollution control, (iii) improved institutional capacity of the CLMA, and (iv) strengthened project management capacity.

14. **Increased municipal point source pollution control.** This output includes (i) construction of 584 kilometers of wastewater collection network in developed urban areas that are currently unsewered, and interception of untreated sewer discharges that currently flow directly into the tributaries of Chao Lake; and (ii) design and construction of eight WWTPs in areas where collection systems will be constructed under the project.¹¹ All WWTPs constructed under the project will be of class 1A design which provides for active nutrient removal.

15. **Enhanced nonpoint source pollution control.** This output includes (i) dredging, embankment works, vegetated buffer zones, and enhanced habitat for biota and erosion control in eight upstream rivers; (ii) implementation of a solid-waste collection and management project in Feidong county to control drifting objects in the area; (iii) construction of artificial wetlands and enhanced habitats to reduce nutrient loads into the lake; and (iv) support for a pilot rural nonpoint source pollution control activity focusing on the control of agricultural pollution sources.

16. An eco-compensation program that stimulates nutrient recycling between animal wastes and crop growing through an incentive-based approach will be implemented. It will subsidize the production of organic fertilizer from animal wastes and provide incentives for farmers to replace chemical fertilizers with organic fertilizers. In addition, nutrient trading between point sources and nonpoint sources in Chao Lake will be tested.

17. **Improved institutional capacity of the Chao Lake Management Authority.** This output will comprise an institutional development and capacity building program for the CLMA. The program will include staff training through domestic and international educational programs, procurement of equipment, and a series of studies on (i) spatial land use management of the Chao Lake catchment based on water quality functional zoning, (ii) an early warning system for algal bloom outbreaks, and (iii) mechanisms to apply and promote the demonstration results in controlling nonpoint source pollution. In addition, through a knowledge partnership with the United Nations Educational, Scientific, and Cultural Organization-International Institute for Hydraulic and Environmental Engineering, ADB is engaging its staff to conduct the capacity building for the CLMA, which will help develop the understanding and capacity of CLMA staff to apply principles of integrated water resources management.

18. **Strengthened project management capacity.** This output will provide support through an international consulting company to assist the project management offices (PMOs) on

¹¹ In these areas, there is currently no wastewater treatment plant (WWTP) or the existing WWTP is undersized.

engineering design review, procurement, and project management and supervision. Selected PMO staff will receive training at the early stage of the project, including training on financial management, disbursement, and procurement procedures; safeguard requirements; and reporting. Consulting services will also be provided to ensure the project's sustainability through (i) corporatizing and strengthening wastewater services in the project areas,¹² and (ii) reforming wastewater tariffs to ensure sustainable operations and adoption of a pro-poor approach.

E. Special Features of the Project

19. There are three key special features incorporated in the project design:

- (i) **Integration of project design into the Chao Lake Master Plan.** The master plan covers a 12-year period (2008–2020). It provides for 329 separate capital investment projects and a total project cost of approximately CNY46 billion (which includes substantial provisions for software investments in activities such as applied research). The master plan is designed to eventually return average water quality in the lake from its present quality level of Grade V to Grade III. It provides the framework from which activities to be included in the 12th Five-Year Plan, presently under preparation, will be selected and has also provided a basic menu from which subprojects to be included in the proposed project were selected. Thus, the investment project is fully integrated into, and is consistent with the overall long term strategy and plan for Chao Lake.
- (ii) **Support for the CLMA.** The project provides for training, technical assistance, and procurement of equipment for the CLMA at a critical time in its development. The institution has only just been created and, although it was created by transferring existing units from relevant departments/bureaus such as water resources, environment, and fisheries and thus, has some established technical capacity, much work will be required to help it to develop a vision of what it intends to achieve; develop a strategy on how it intends to get there (including strategies on working with important established institutions such as provincial, municipal, and county level planning, environmental protection, water resources and agriculture departments); how it should internally re-structure itself for optimum effectiveness; and what facilities and equipment it needs to carry out its mission.
- (iii) **NPS pollution control.** NPS pollution control is one of the most complex management problems facing environmental managers throughout the world, including the PRC. The project includes direct investment support for some simple and well understood strategies (sediment dredging, riverbank stabilization) as well as some more complex and challenging investments (construction of engineered wetlands). However, these investments address second order dimensions of the problem, not the underlying causes because proven, effective, and replicable technologies relevant to PRC's situation have not yet been developed. The project includes technical assistance and pilot studies to test some concepts (control of rural household wastes, diffuse surface

¹² This includes strengthening the institutional capacity of the intended wastewater service companies, particularly for financial management, improved accountability, and increased transparency. The design of institutional capacity development will incorporate the best international practices for wastewater service companies.

runoff, emissions from animal production enterprises, eco-compensation) that are expected to be promising for the development of bankable technologies.

II. IMPLEMENTATION PLANS

A. Project Readiness Activities

20. The project readiness activities are as follows:

Indicative Activities	2012												2013		Agency Responsible
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar			
Advance contracting and retroactive financing actions															PMO, IA
Establishment of project implementation arrangements															ADRC, CLMA, APG
ADB Board approval															ADB
Loan signing															ADB, APG, Government
Submission of legal opinion to ADB															APG, Government
Government budget inclusion															APG, CLMA
Loan effectiveness															ADB, APG, Government

ADB = Asian Development Bank, ADRC = Anhui Development and Reform Commission, APG = Anhui Provincial Government, CLMA = Chao Lake Management Authority, IA = implementing agency, PMO = project management office.

Source: Asian Development Bank estimates.

B. Overall Project Implementation Plan

21. The overall project implementation plan is shown below:

PROJECT IMPLEMENTATION PLAN

Activities		AC 2012				Year 1 2013				Year 2 2014				Year 3 2015				Year 4 2016				Year 5 2017				1 2	
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4						
A	Increased Municipal Point Source Pollution Control																										
	1	Wastewater Collection																									
		Design and tender documentation																									
		Implement Resettlement Plan																									
		Tender invitation, assessment, and contract award																									
		Civil works																									
		Equipment supply and installation																									
	Testing and commissioning																										
	2	Wastewater Treatment																									
		Design and tender documentation																									
Implement Resettlement Plan																											
Tender invitation, assessment, and contract award																											
Civil works																											
Equipment supply and installation																											
Testing and commissioning																											
B	Enhanced Nonpoint Source Pollution Control																										
	1	Control																									
		Design and tender documentation																									
		Implement Resettlement Plan																									
		Tender invitation, assessment, and contract award																									
		Civil works																									
		Vegetation ecological revetment																									
	2	Wetlands																									
		Design and tender documentation																									
		Implement Resettlement Plan																									
Tender invitation, assessment, and contract award																											
Civil works																											
Planting Vegetation																											
3	Solid Waste Collection and Transfer																										
	Design and tender documentation																										
	Tender invitation, assessment, and contract award																										
	Civil works																										
	Testing and commissioning																										
4	Non-Point Source Pollution Control																										
	Prepare Tender Documents																										
	Tender																										
	Conduct Pilot Test																										
	Evaluate Results																										
	Turn Over Equipment to CLMA																										
C	Improved Institutional Capacity of Chao Lake Management Authority																										
	1	CLMA Institutional Capacity Building																									
		Equipment Specifications																									
		UNESCO-IHE TA (proposed)																									
		Tender invitation, assessment, and contract award																									
		Equipment supply and installation																									
		Testing and commissioning																									
		RFP Preparation for Consultant TA																									
		Tendering for Consultant TA																									
	Special Studies through Consultant TA																										
D	Strengthened Project Management Capacity																										
	1	Consultant selection procedures																									
	2	Environmental Management Plan																									
		(i) Pre-Construction																									
	(ii) During Construction																										
	3	Implement Gender Action Plan, Social Action Plan, Consultation & Participation																									
	4	Reporting																									
		(i) Quarterly Reports																									
(ii) Annual/mid-term review																											
(iii) Project completion report																											

PROJECT COMPLETION DATE

LOAN CLOSING DATE

PROJECT COMPLETION DATE
LOAN CLOSING DATE

AC = advanced contracting, CLMA = Chao Lake Management Authority, TA = technical assistance, RFP = request for proposal.

Source: Asian Development Bank estimates.

III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations – Roles and Responsibilities

22. The project implementation organization, identifying the roles and responsibilities of the participating agencies, is shown below:

Project implementation organizations	Management Roles and Responsibilities
Anhui Provincial Government (APG) (executing agency)	Responsible for coordinating project implementation activities among government agencies such as finance bureau, development and reform commission, environmental protection bureau, water resource bureau, etc.
Anhui Development and Reform Commission	Responsible for overall coordination of project preparation, and comprehensive supervision of project implementation.
Anhui Finance Department	<p>On behalf of APG, responsible for the project's overall financial management, including:</p> <ul style="list-style-type: none"> (i) Submitting loan withdrawal applications to MOF, then to ADB, on behalf of APG; (ii) Monitoring and managing the use of loan funds; (iii) Executing debt repayment commitment letters to MOF; (iv) Monitoring implementation of the onlending agreements under the project; (v) Establishing and managing the project's imprest account, and liquidation and replenishment of advances made thereto; (vi) Coordinating with the implementing agencies of each output, ensuring budget availability for the contracts awarded and to be awarded under the project; (vii) Cooperating with audit department for audit of project accounts; and (viii) Maintaining the project's financial records, making them ready for inspection by ADB missions.
Provincial Project Leading Group (PPLG)	<p>Responsible for overall guidance during project preparation and implementation at the provincial level, including the following:</p> <ul style="list-style-type: none"> (i) Coordinating and overseeing project preparation and implementation; (ii) Providing policy guidance during implementation; and (iii) Facilitating interagency coordination and coordination with other involved parties.
Provincial Project Management Office (PPMO) (part of CLMA)	<p>On behalf of the executing agency, the PPMO will be responsible for all project organization and implementation activities, including the following:</p> <ul style="list-style-type: none"> (i) Ensuring compliance with loan and project agreements; (ii) Communicating and coordinating with concerned offices, including APG, and communicating with and providing information to external contacts; (iii) Taking part in capacity development and training; (iv) Withdrawing and allocating loan funds to various project outputs; (v) Monitoring and supervising the financial records of implementing agencies, ensuring project's smooth implementation; (vi) Collecting annual financial reports for submission to

Project implementation organizations	Management Roles and Responsibilities
	<p>Anhui Finance Department;</p> <ul style="list-style-type: none"> (vii) Preparing the project's work program and monitoring procurement activities to ensure they are in line with the approved procurement plan; (viii) Ensuring project progress reports are prepared and submitted to ADB on time; (ix) Ensuring project accounts and financial reports are prepared and audited on time for submission to ADB; (x) Consolidating project expenditures and preparing applications for withdrawing funds from the loan account; (xi) Formulating the project management and operating procedures, implementation plans, and budgets; (xii) Recruiting the procurement agency, project design, procurement, establishing, and recruiting and managing 3 teams of consultant services; (xiii) Responsible for preparing annual project budgets; (xiv) Monitoring project technical and financial status during project implementation; (xv) Instructing financial management, including budget, accounting and cost control; (xvi) Preparing and monitoring repayment plan of ADB loan and repayment works; (xvii) Organizing project acceptance verification; and (xviii) Assisting the audit department in undertaking audit of the project, and provide inputs required for preparing the audit reports.
Municipal/County Leading Groups	<p>Responsible for overall guidance during project preparation and implementation at the municipal level, including the following:</p> <ul style="list-style-type: none"> (i) Coordinating and overseeing project preparation and implementation; (ii) Providing policy guidance during implementation; and (iii) Facilitating interagency coordination and coordination with other involved parties.
<p>Municipal/country project management offices:</p> <ul style="list-style-type: none"> • Changfeng county • Chaohu county • Feidong county • Feixi county • Hanshan county • Hefei municipality • Lu'an municipality • Lujiang county • Wuwei county 	<p>Responsible for:</p> <ul style="list-style-type: none"> (i) Monitoring of subproject implementation; and (ii) Collating and consolidating subproject physical reports for submission to PPMO.
<p>Finance Bureaus:</p> <ul style="list-style-type: none"> • Changfeng county • Chaohu county • Feidong county • Feixi county • Hanshan county • Hefei municipality 	<p>Responsible for:</p> <ul style="list-style-type: none"> (i) Providing counterpart funds in a timely manner; and (ii) Disbursing funds from loan account, including preparing disbursement projections, requesting budgetary allocations for counterpart funds, collecting and retaining supporting documents, and preparing and sending withdrawal applications to Anhui Finance

Project implementation organizations	Management Roles and Responsibilities
<ul style="list-style-type: none"> • Lu'an municipality • Lujiang county • Wuwei county 	Bureau.
Implementing agencies: <ul style="list-style-type: none"> • Chao Lake Construction Management Bureau (under Hefei City Water Authority) • Chao Lake Management Authority (CLMA) • Chaohu (County) Urban Construction and Investment Co., Ltd. • Feixi County Urban and Rural Construction Investment Co., Ltd. • Hanshan County Urban Development and Investment Co., Ltd. • Hefei Beicheng Construction Investment (Corporation) Co., Ltd. • Hefei Changning Investment Co., Ltd. • Hefei City Binhuxin District Construction Investment Co., Ltd. (Hefei Binhu Construction Headquarters) • Hefei Cuo Cheng Investment Construction Co., Ltd. • Lu'an City Drainage Company • Lujiang County Government • Lujiang County Urban Construction and Investment Co., Ltd. • Wuwei County Urban Development and Investment Co., Ltd. 	Main responsibilities include: <ul style="list-style-type: none"> (i) Administering and contracting contractors and suppliers, in coordination with a procurement agent; (ii) Construction supervision and quality control; (iii) Ensuring compliance with RP, EMP, GAP, etc; (iv) Preparing subproject progress reports and submitting to subproject management office; (v) Preparing annual subproject financial reports and submitting to Municipal Finance Bureau; (vi) Testing and commissioning of completed infrastructure; and (vii) Identifying and proposing O&M arrangements.
ADB	Responsible for the following: <ul style="list-style-type: none"> (i) Providing the executing agency and implementing agencies guidance to ensure smooth project implementation and achieve the desired development impacts at sustainable level; (ii) Conducting regular loan review missions, a mid-term review, and a project completion review; (iii) Reviewing and approving procurement actions; (iv) Processing withdrawal applications; (v) Monitoring the status of compliance with all loan covenants including safeguards; (vi) Reviewing annual audit reports and following up on the audit recommendations; (vii) Regular updating of the project performance review reports with the assistance of executing agency and implementing agencies; and (viii) Regularly updating of the project information documents for public disclosure at ADB web site, including the safeguards documents.

ADB = Asian Development Bank, APG = Anhui Provincial Government, CLMA = Chao Lake Management Authority, EMP = environmental management plan, GAP = gender action plan, MOF = Ministry of Finance, O&M = operation and maintenance, PMO = project management office, RP = resettlement plan.

Source: Asian Development Bank estimates.

B. Key Persons Involved in Implementation

The key persons involved in implementation are listed below:

Executing Agency	Anhui Provincial Government (APG)
Staff Name:	Fei Qinsong
Position:	Deputy Director General
Address:	Room 809 of Chuangyuan Building, No.124 of Lujiang Road, Luyang District, Hefei City
Telephone No.:	0565-2312828
Email Address:	13865238999 chhao7456@163.com
Implementing Agencies	
1. Chao Lake Construction Management Bureau (under Hefei City Water Authority)	
Staff Name:	Shi Daosheng
Position:	General Engineer
Address:	Yicheng Town, Baohe District, Hefei City
Telephone No.:	0551- 3353075, 13500506755
Email Address:	Shidaoshengyx2006@126.com
2. Chao Lake Management Authority (CLMA)	
Staff Name:	Jiang Sheng
Position:	Team Leader
Address:	Financial Building, Bantang Road, Chaohu City
Telephone No.:	0565-2336081
Email Address:	gtqh2011@163.com
3. Chaohu (County) Urban Construction and Investment Co., Ltd.	
Staff Name:	Hu Qianggan
Position:	Director
Address:	6/F., City Management Building, East Jiankang Road, Chaohu City
Telephone No.:	0565-2337366
Email Address:	chzmly@163.com
4. Feixi County Urban and Rural Construction Investment Co., Ltd.	
Staff Name:	Tang Jingzhou
Position:	Manager
Address:	
Telephone No.:	13966676579
Email Address:	tang6579@sina.com
5. Hanshan County Urban Development and Investment Co, Ltd.	
Staff Name:	Chen Xugang
Position:	Manager
Address:	Huanfeng Town, Hanshan County
Telephone No.:	0555-4335259;13865289059
Email Address:	782566501@qq.com
6. Hefei Beicheng Construction Investment (Corporation) Co., Ltd.	
Staff Name:	Yang Xiangsheng
Position:	Director

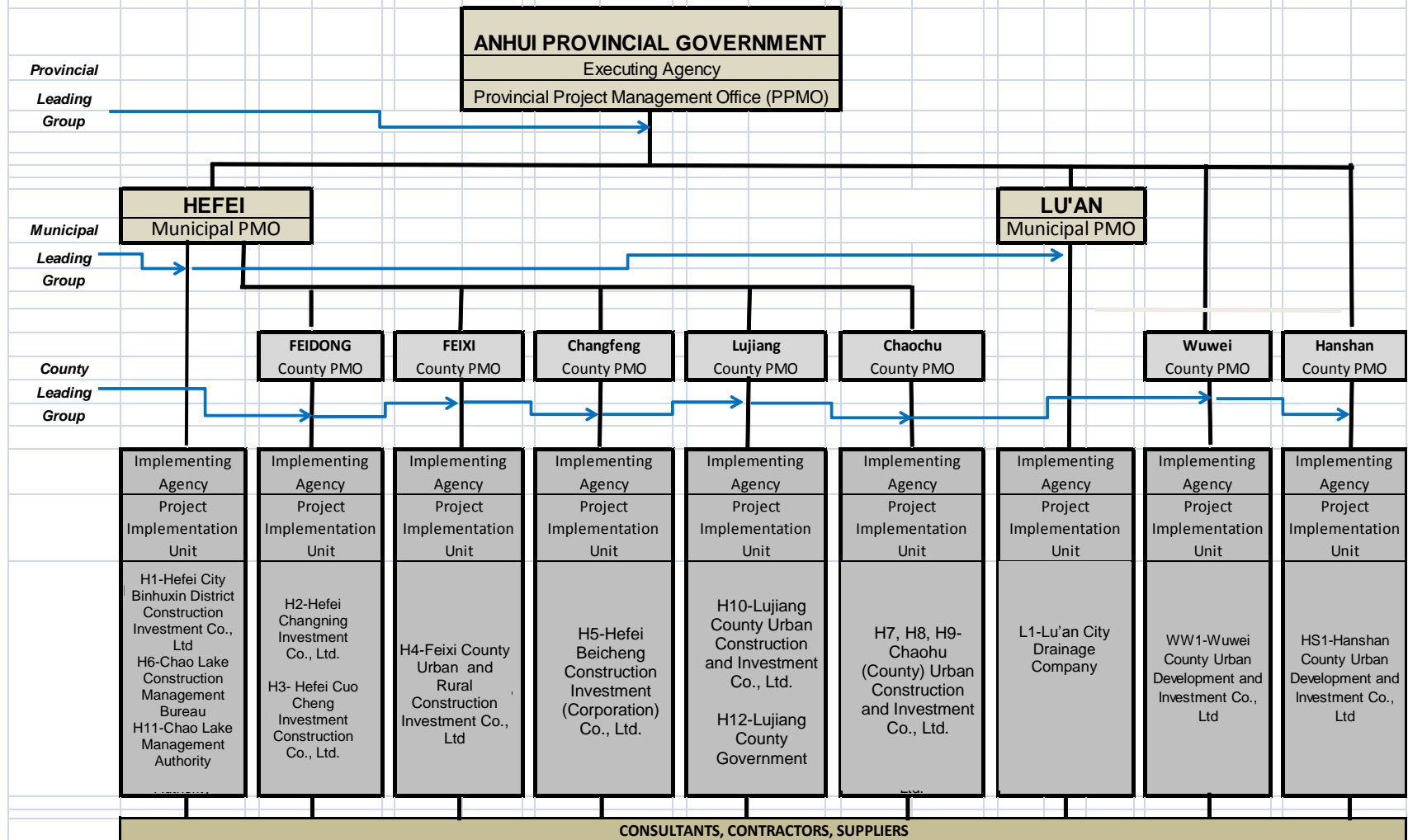
Address:	New District Construction Office, North Mengcheng Road, Hefei City
Telephone No.:	0551-6398315
Mobile Phone:	13965095390
Email Address:	rhf126@yahoo.com.cn
7. Hefei Changning Investment Co., Ltd.	
Staff Name:	Ding Hongjun
Position:	Manager
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Telephone No.:	13965072410
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8. Hefei City Binhuxin District Construction Investment Co., Ltd. (Hefei Binhu Construction Headquarters)	
Staff Name:	Gen Jun
Position:	Deputy Director of Development
Address:	
Telephone No.:	1351514852
Email Address:	117932941@qq.com
9. Hefei Cuo Cheng Investment Construction Co., Ltd.	
Staff Name:	Ang Yongchun
Position:	Director
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Telephone No.:	13605605093
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10. Lu'an City Drainage Company	
Staff Name:	Zhu Hong
Position:	Manager
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11. Lujiang County Urban Construction and Investment Co., Ltd.	
Staff Name:	Shi Jiakuan
Position:	Manager
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Telephone No.:	0565-7388200; 13605650603
Email Address:	ljectgs@126.com
12. Wuwei County Urban Development and Investment Co., Ltd.	
Staff Name:	Zhao Qiancheng
Position:	Manager
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13. Lujiang County Government	
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C. Project Organization Structure

23. The project organization chart is shown below:

ANHUI CHAO LAKE ENVIRONMENTAL PROTECTION PROJECT



D. Subproject Implementing Agencies

24. Below is a list of implementing agencies and the subprojects under their responsibilities:

	Implementing Agency	Subproject	
		No.	Name
1.	Hefei City Binhuxin District Construction Investment Co., Ltd. (Hefei Binhu Construction Headquarters)	H1	Hefei City Binhuxin District Beilaowei Environment Improvement (1)
2.	Hefei Changning Investment Co., Ltd.	H2	Feidong County Chao Lake Basin (Chaolin River Region) Water Environment Integrated Improvement(2)
3.	Hefei Cuo Cheng Investment Construction Co., Ltd.	H3	Feidong County Chao Lake Basin (Cuo Town Region) Water Environment Integrated Improvement (3)
4.	Feixi County Urban and Rural Construction Investment Co., Ltd.	H4	Feixi County Environment Integrated Improvement for Rivers Flowing into Chao Lake (4)
5.	Hefei Beicheng Construction Investment (Corporation) Co., Ltd.	H5	Banqiao River Upstream Water Environment Integrated Improvement (5)
6.	Chao Lake Construction Management Bureau (under Hefei City Water Authority)	H6	Hefei City Chao Lake Bank Water Environment Improvement and Ecological Rehabilitation (6)
7.	Chaohu (County) Urban Construction and Investment Co. Ltd.	H7	Estuary Wetland Ecological System Rehabilitation of Rivers Flowing Into Chao Lake in Rural Area (Zhegao River and Tongyang River) (7)
		H8	Water Environment Rehabilitation of Zhegao River and Tongyang River (8)
		H9	Huatang River Estuary Ecological Wetland (9)
8.	Luijiang County Urban Construction and Investment Co., Ltd.	H10	Rehabilitation of Xian River and Its Tributaries in Luijiang County (10)
9.	Chao Lake Management Authority	H11	Chao Lake Management Authority Institutional Capacity Building (11)
10.	Luijiang County Government	H12	Pilot project for Chao Lake Agricultural Non-Point Source Pollution Control (12)
11.	Lu'an City Drainage Company	L1	Chao Lake Basin Lu'an Eastern New Town District Water Environment Improvement (13)
12.	Hanshan County Urban Development and Investment Co., Ltd.	HS1	Hanshan County Qingxi River Water Environment Integrated Improvement (14)
13.	Wuwei County Urban Development and Investment Co., Ltd.	WW1	Wucheng Water Environment Rehabilitation in Wuwei County (15)

Source: Asian Development Bank estimates.

IV. COSTS AND FINANCING

A. Investment Plan

25. The project is estimated to cost \$432.11 million, including contingencies of \$49.57 million, financing charges of \$13.99 million, and taxes and duties of \$21.50 million. ADB will finance taxes and duties on items financed by ADB loan. The investment cost is summarized below:

Table 1: Project Investment Plan
(\$ million)

Item	Amount ^a
A. Base Cost^b	
1. Increased municipal point source pollution control	166.98
2. Enhanced non-point source pollution control	194.53
3. Improved institutional capacity of Chao Lake Management Authority	4.69
4. Strengthened project management capacity	2.35
Subtotal (A)	368.55
B. Contingencies^c	49.57
C. Financing Charges During Implementation^d	13.99
Total (A+B+C)	432.11

^a Includes taxes and duties of \$21.50 million to be financed from the Asian Development Bank (ADB) loan and the government's own resources.

^b In end-2011 prices.

^c Physical contingencies were computed at 8% for civil works, goods, and project management, and 10% for land acquisition and resettlement. Price contingencies were computed at 0.5% on foreign exchange costs and 3.8% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

^d Includes interest and commitment charges. Interest during construction for ADB loan(s) has been computed at the 5-year forward London interbank offered rate plus a spread of 0.4%. Commitment charges were computed at 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

26. The government has requested a loan of \$250 million, or 57.86% of the total project cost, from ADB's ordinary capital resources to help finance the project. The loan will have a 25-year term, including a grace period of 5 years, an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility,¹³ a commitment charge of 0.15% per year (the interest and other charges during construction to be capitalized in the loan), and such other terms and conditions set forth in the draft loan and project agreements. The government has provided ADB with (i) the reasons for its decision to borrow under ADB's LIBOR-based lending facility based on these terms and conditions, and (ii) an undertaking that these choices were its own independent decision and not made in reliance on any communication or advice from ADB.

27. APG has agreed that the repayment will follow the annuity-style disbursement-linked repayment option with annual discount rate of 10% and that the repayment dates will be 15 April and 15 October. The repayment schedule, as set forth in the schedule 2 of the Loan Agreement is shown in Table 2 below.

¹³ Interest includes a maturity premium of 0.2%, which is based on the above loan terms and the government's choice of repayment option and dates.

Table 2: Repayment Schedule

Loan Amount:	\$250,000,000.00					
Terms:	25 years					
Grace Period:	5 years					
Repayment Period:	20 years					
Frequency of Principal Payment:	Semi-annual					
Loan Approval Date:	31-Oct-12					
Average Loan Maturity and Maturity Premium						
	Seq. No.				Annuity at 10% disc. rate	
					Repayment	Weighted
		Due Date	%		Amount	Repayment
						Amount
0-5	Grace Period					
5.5	1	15-Apr-18	0.827816		2,069,540.00	11,382,470.00
6.0	2	15-Oct-18	0.869207		2,173,017.50	13,038,105.00
6.5	3	15-Apr-19	0.912667		2,281,667.50	14,830,838.75
7.0	4	15-Oct-19	0.958301		2,395,752.50	16,770,267.50
7.5	5	15-Apr-20	1.006216		2,515,540.00	18,866,550.00
8.0	6	15-Oct-20	1.056526		2,641,315.00	21,130,520.00
8.5	7	15-Apr-21	1.109353		2,773,382.50	23,573,751.25
9.0	8	15-Oct-21	1.164820		2,912,050.00	26,208,450.00
9.5	9	15-Apr-22	1.223061		3,057,652.50	29,047,698.75
10.0	10	15-Oct-22	1.284214		3,210,535.00	32,105,350.00
10.5	11	15-Apr-23	1.348425		3,371,062.50	35,396,156.25
11.0	12	15-Oct-23	1.415846		3,539,615.00	38,935,765.00
11.5	13	15-Apr-24	1.486639		3,716,597.50	42,740,871.25
12.0	14	15-Oct-24	1.560971		3,902,427.50	46,829,130.00
12.5	15	15-Apr-25	1.639019		4,097,547.50	51,219,343.75
13.0	16	15-Oct-25	1.720970		4,302,425.00	55,931,525.00
13.5	17	15-Apr-26	1.807019		4,517,547.50	60,986,891.25
14.0	18	15-Oct-26	1.897369		4,743,425.00	66,407,950.00
14.5	19	15-Apr-27	1.992238		4,980,595.00	72,218,627.50
15.0	20	15-Oct-27	2.091850		5,229,625.00	78,444,375.00
15.5	21	15-Apr-28	2.196442		5,491,107.50	85,112,166.25
16.0	22	15-Oct-28	2.306264		5,765,662.50	92,250,600.00
16.5	23	15-Apr-29	2.421578		6,053,945.00	99,890,092.50
17.0	24	15-Oct-29	2.542657		6,356,642.50	108,062,922.50
17.5	25	15-Apr-30	2.669789		6,674,475.00	116,803,312.50
18.0	26	15-Oct-30	2.803279		7,008,197.50	126,147,555.00
18.5	27	15-Apr-31	2.943443		7,358,607.50	136,134,238.75
19.0	28	15-Oct-31	3.090615		7,726,537.50	146,804,212.50
19.5	29	15-Apr-32	3.245146		8,112,865.00	158,200,867.50
20.0	30	15-Oct-32	3.407403		8,518,507.50	170,370,150.00
20.5	31	15-Apr-33	3.577773		8,944,435.00	183,360,917.50
21.0	32	15-Oct-33	3.756662		9,391,655.00	197,224,755.00
21.5	33	15-Apr-34	3.944495		9,861,237.50	212,016,606.25
22.0	34	15-Oct-34	4.141720		10,354,300.00	227,794,600.00
22.5	35	15-Apr-35	4.348806		10,872,015.00	244,620,337.50
23.0	36	15-Oct-35	4.566246		11,415,615.00	262,559,145.00
23.5	37	15-Apr-36	4.794558		11,986,397.50	281,680,341.25
24.0	38	15-Oct-36	5.034286		12,585,717.50	302,057,220.00
24.5	39	15-Apr-37	5.286000		13,215,002.50	323,767,561.25
25.0	40	15-Oct-37	5.550311		13,875,757.50	346,893,937.50
TOTAL			100		250,000,000.00	4,577,816,175.00
Average Loan Maturity (ALM)						18.31 Years
Maturity Premium*						20 basis points

Note: *Applicable only to loans with negotiation completed on or after 1 April 2012.

Source: Asian Development Bank estimates.

B. Financing Plan

28. ADB will finance 57.86% of the total project costs, including an average of 68.8% of the costs of eligible civil works;¹⁴ 100% of the cost of eligible equipment and materials; 100% of the cost of eligible capacity building and project management support, excluding taxes and duties imposed within the territory of the borrower; and 100% of interest during implementation and commitment charges on the ADB loan. Counterpart funds will come from the municipalities and counties within whose jurisdiction the individual subprojects are located. The financing plan is shown below:

Table 3: Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank	250.00	57.86
Municipal/County Governments	182.11	42.14
	432.11	100.00

Source: Asian Development Bank estimates.

C. Allocation of Loan Proceeds by Participating Municipalities and Counties

29. The government will make the loan proceeds available to APG, and APG will make the loan proceeds available to the concerned municipal and county governments, upon terms and conditions specified in the loan and project agreements. APG will assume the foreign exchange and interest rate variation risks for the loan.

Table 4: Allocation of Loan Proceeds by Participating Municipalities and Counties

Municipal/County	Amount	% of Total
Chao Lake Management Authority ^a	10,500,000.00	4
Changfeng county ^b	6,000,000.00	2
Chaochu county ^b	53,000,000.00	21
Feidong county ^b	22,000,000.00	9
Feixi county ^b	34,000,000.00	14
Hanshan municipality	6,200,000.00	32
Hefei municipality	68,000,000.00	27
Lu'an municipality	20,000,000.00	8
Luijiang county ^b	20,300,000.00	8
Wuwei county	10,000,000.00	4
Total loan amount	250,000,000.00	100

^a Falls under Hefei Municipality but receives its fund allocation under the loan. It includes the pilot project for Chao Lake agricultural non-point pollution control (\$3.00 million), capacity building (\$5.00 million) and project management (\$2.5 million).

^b Falls under Hefei Municipality but have their respective subprojects to implement and thus, receive their fund allocation under the loan.

Source: Asian Development Bank estimates.

¹⁴ Financing percentages vary between specific municipalities and counties as detailed in the allocation and withdrawal of loan proceeds in section F below.

D. Detailed Cost Estimates by Financier and Expenditure Category (\$ million)

30. The detailed cost estimates by financier and expenditure category are shown below:

Item	Categ	ADB		Changfeng County		Chaohu County		Feidong County		Feixi County		Hanshan County		Hefei Municipality		Lu'an Municipality		Luijiang County		Wuwei County		% of Total	
		Amt	% ^a	Amt	% ^a	Amt	% ^a	Amt	% ^a	Amt	% ^a	Amt	% ^a	Amt	% ^a	Amt	% ^a	Amt	% ^a	Amt	% ^a	Total	Base Cost
I. Investment Costs																							
A. Civil works																							
(i) Changfeng County		5.9	68.7	2.7	31.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	2.3
(ii) Chaohu County		46.2	75.6	0.0	0.0	14.9	24.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	61.1	16.6
(iii) Feidong County		19.9	75.4	0.0	0.0	0.0	0.0	6.5	24.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.4	7.2
(iv) Feixi County		14.6	54.7	0.0	0.0	0.0	0.0	0.0	0.0	12.1	45.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.7	7.2
(v) Hanshan County		4.1	62.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	38.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	1.8
(vi) Hefei Municipality		56.4	68.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.2	31.7	0.0	0.0	0.0	0.0	0.0	0.0	82.6	22.4
(vii) Lu'an Municipality		13.3	64.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	35.3	0.0	0.0	0.0	0.0	20.6	5.6
(viii) Luijiang County		19.9	78.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	21.1	0.0	0.0	25.2	6.8
(ix) Wuwei County		6.0	60.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	39.6	9.9	2.7
Subtotal, Civil Works		186.3	69.6	2.7	1.0	14.9	5.6	6.5	2.4	12.1	4.5	2.5	0.9	26.2	9.8	7.3	2.7	5.3	2.0	3.9	1.5	267.7	72.6
B. Equipment and materials		42.9	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.9	11.6
C. Survey, design, and supervision		0.0	0.0	0.8	0.0	8.6	23.9	3.1	8.6	4.5	12.5	0.9	2.5	9.3	26.0	4.2	0.0	2.9	8.0	1.6	4.5	35.7	9.7
D. Land acquisition and resettlement		0.0	0.0	0.0	0.0	6.8	49.0	1.5	10.5	1.1	7.6	0.0	0.0	0.5	3.6	0.9	6.7	2.4	17.1	0.8	5.7	14.0	3.8
E. Environment monitoring cost		0.0	0.0	0.1	0.0	0.3	22.0	0.3	18.7	0.2	10.7	0.2	10.0	0.2	12.0	0.1	7.3	0.1	8.0	0.1	5.3	1.5	0.4
F. Consulting services		6.8	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8	1.9
Total Base Cost		236.0	64.0	3.6	1.0	30.6	8.3	11.3	3.1	17.8	4.8	3.5	1.0	36.1	9.8	12.5	3.4	10.7	2.9	6.4	1.7	368.5	100.0
II. Contingencies																							
A. Physical contingencies		0.0	0.0	0.8	2.7	6.9	23.1	2.5	8.5	4.0	13.4	0.8	2.7	8.1	27.3	2.8	9.4	2.4	8.1	1.4	4.8	29.8	100.0
B. Price contingencies		0.0	0.0	0.5	2.7	4.6	23.1	1.7	8.5	2.7	13.4	0.5	2.7	5.4	27.3	1.9	9.4	1.6	8.1	1.0	4.8	19.8	100.0
Subtotal		0.0	0.0	1.3	2.7	11.4	23.1	4.2	8.5	6.6	13.4	1.3	2.7	13.5	27.3	4.7	9.4	4.0	8.1	2.4	4.8	49.6	100.0
III. Financing Charges During Implementation																							
A. Interest during implementation		13.1	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.1	3.6
B. Commitment charges		0.9	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.2
Subtotal		14.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	3.8
Total Project Cost		250.0	57.9	4.9	1.1	42.0	9.7	15.5	3.6	24.4	5.7	4.9	1.1	49.7	11.5	17.2	4.0	14.7	3.4	8.8	2.0	432.1	117.2

Note: Please refer to footnotes of Table 1. Project Investment Plan.

E. Detailed Cost Estimates by Outputs (\$ million)

31. The detailed cost estimates by outputs are as follows:

Item	Total	Increased Municipal Point Source Pollution Control	Enhanced Non-point Source Pollution Control	Improved Institutional Capacity of Chao Lake Management	Strengthened Project Management Capacity
I. Investment Costs					
A. Civil works	267.7	102.5	165.2	0.0	0.0
B. Equipment and materials	42.9	38.8	1.6	2.5	0.0
C. Survey, design, and supervision	35.7	16.3	19.5	0.0	0.0
D. Land acquisition and resettlement	14.0	5.4	8.6	0.0	0.0
E. Environment monitoring cost	1.5	0.8	0.7	0.0	0.0
F. Consulting services	6.8		2.6	1.9	2.3
Total Base Cost	368.5	163.8	198.1	4.4	2.3
II. Contingencies					
A. Physical contingencies	29.8	13.5	15.7	0.4	0.2
B. Price contingencies	19.8	8.2	11.4	0.1	0.1
Subtotal	49.6	21.6	27.2	0.5	0.3
Financing Charges During Implementation					
A. Interest during implementation	13.1	5.9	6.9	0.2	0.1
B. Commitment charges	0.9	0.4	0.5	0.0	0.0
Subtotal	14.0	6.3	7.4	0.2	0.1
Total Project Cost	432.1	191.73	232.67	5.05	2.65

Note: Refer to footnotes of Table 1. Project Investment Plan.
Source: Asian Development Bank estimates.

F. Detailed Cost Estimates by Year (\$ million)

32. The detailed cost estimates by year are shown below:

Item	Total	Year 1	Year 2	Year 3	Year 4	Year 5
I. Investment Costs						
A. Civil works	267.7	38.8	95.2	95.2	38.4	0.0
B. Equipment and materials	42.9	5.4	16.6	15.9	5.0	0.0
C. Survey, design, and supervision	35.7	10.7	10.7	10.7	3.6	0.0
D. Land acquisition and resettlement	14.0	14.0	0.0	0.0	0.0	0.0
E. Environment monitoring cost	1.5	0.4	0.4	0.4	0.4	0.0
F. Capacity development and project management	6.8	1.7	2.7	1.4	0.7	0.2
Total Base Cost	368.5	71.0	125.7	123.6	48.0	0.2
II. Contingencies						
A. Physical contingencies	29.8	6.0	10.1	9.9	3.8	0.0
B. Price contingencies	19.8	1.1	5.2	8.7	4.8	0.0
Subtotal	49.6	7.1	15.3	18.6	8.6	0.0
III. Financing Charges During Implementation						
A. Interest during implementation	13.1	0.2	1.1	2.8	4.2	4.8
B. Commitment charges	0.9	0.4	0.3	0.2	0.1	0.0
Subtotal	14.0	0.5	1.4	3.0	4.3	4.8
Total Project Cost	432.1	78.6	142.3	145.1	60.9	5.1

Source: Asian Development Bank estimates.

33. The allocation of loan proceeds is shown below:

ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS (Anhui Chao Lake Environmental Rehabilitation Project)				
		Category		ADB Financing
Number	Item	Amount Allocated (\$)		Percentage and Basis for Withdrawal from the Loan Account*
		Category	Subcategory	
1	Civil Works	186,300,000		
1A	Changfeng county		5,900,000	69% of total expenditure claimed
1B	Chaohu county		46,200,000	76% of total expenditure claimed
1C	Feidong county		19,900,000	75% of total expenditure claimed
1D	Feixi county		14,600,000	55% of total expenditure claimed
1E	Hanshan county		4,100,000	62% of total expenditure claimed
1F	Hefei municipality		56,400,000	68% of total expenditure claimed
1G	Lu'an municipality		13,300,000	65% of total expenditure claimed
1H	Lujiang county		19,900,000	79% of total expenditure claimed
1I	Wuwei county		6,000,000	61% of total expenditure claimed
2	Equipment and Materials**	42,860,000		100% of total expenditure claimed
3	Capacity Development	6,840,000		100% of total expenditure claimed
4	Interest and Commitment Charges	14,000,000		100% of amounts due.
Total		250,000,000		

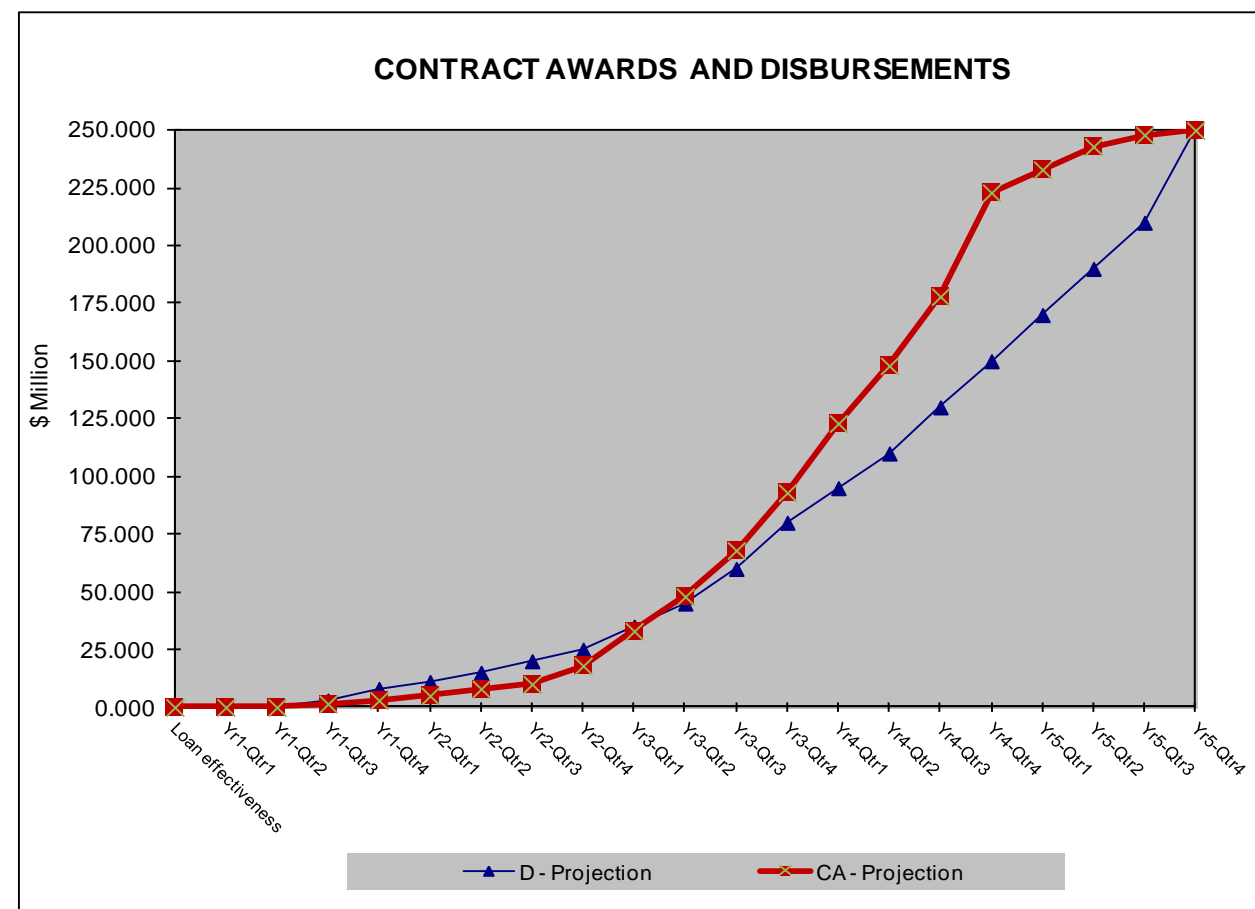
Source: Asian Development Bank estimates.

* Including taxes and duties

** Including insurance and transportation costs

G. Contract and Disbursement S-Curves

34. The projected contract awards and disbursements under the loan are show below.

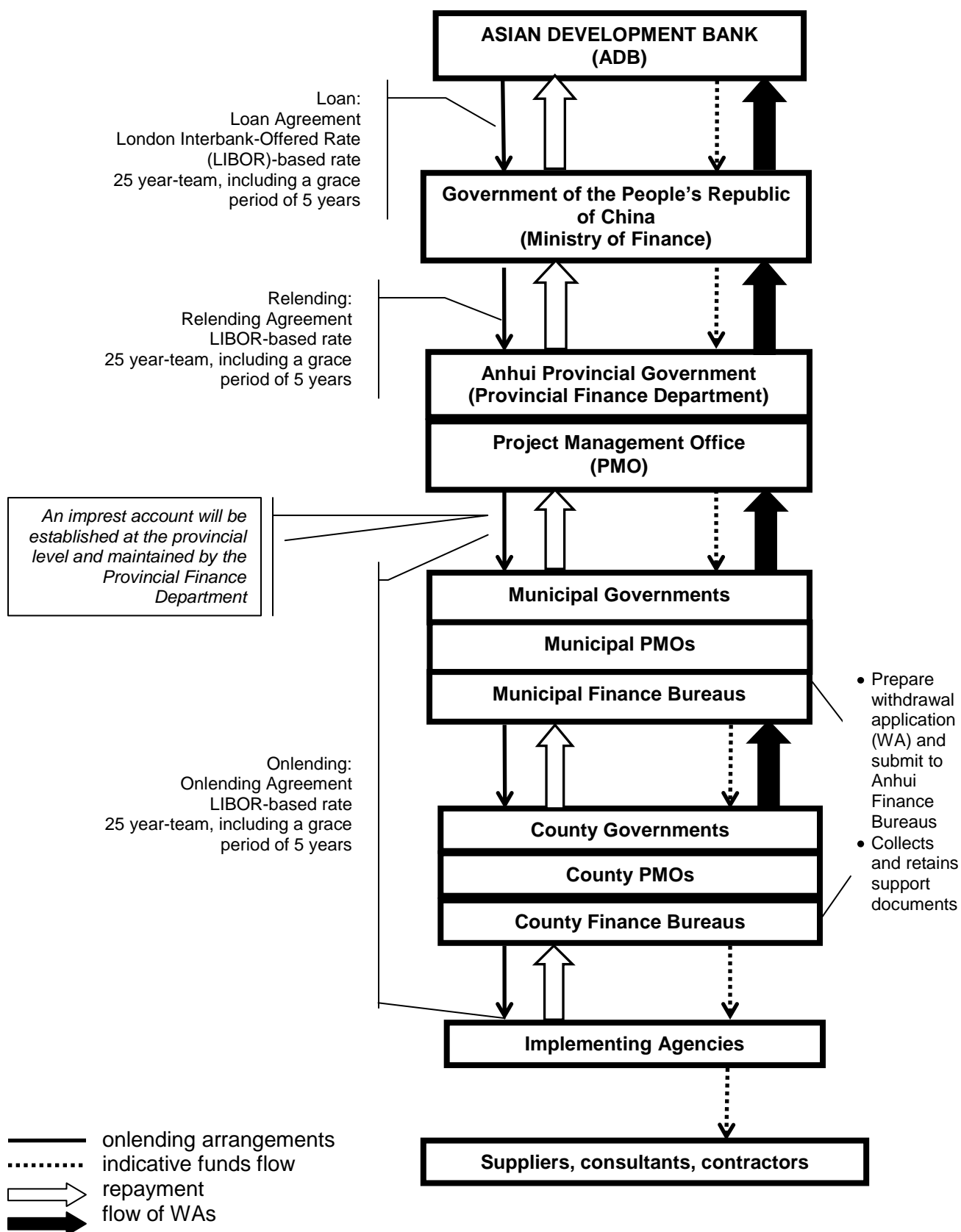


Item	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Contract Awards						
Quarter 1	0.000	2.000	15.000	30.000	10.000	57.000
Quarter 2	0.000	3.000	15.000	25.000	10.000	53.000
Quarter 3	1.500	2.000	20.000	30.000	5.000	58.500
Quarter 4	1.500	8.000	25.000	45.000	2.000	81.500
Total	3.000	15.000	75.000	130.000	27.000	250.000
Disbursements						
Quarter 1	0.000	3.000	10.000	15.000	20.000	48.000
Quarter 2	0.000	4.000	10.000	15.000	20.000	49.000
Quarter 3	3.000	5.000	15.000	20.000	20.000	63.000
Quarter 4	5.000	5.000	20.000	20.000	40.000	90.000
Total	8.000	17.000	55.000	70.000	100.000	250.000

Source: Asian Development Bank estimates.

H. Onlending Arrangements and Indicative Funds Flow

35. The borrower will be the Government of the PRC. The government will make the loan proceeds available to APG, and APG will make the loan proceeds available to the participating municipal and county governments, which in turn will make the loan proceeds available to the implementing agencies. The onlending arrangements and indicative funds flow diagram is shown below. Each onlending will be undertaken based on terms and conditions specified in the loan and project agreements.



Source: Asian Development Bank estimates.

V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

36. Financial management assessment of implementing agencies has been conducted for the project in accordance with ADB's Guidelines for the Financial Management and Analysis of Projects¹⁵ and the publication Financial Due Diligence –A Methodology Note.¹⁶ The assessment includes the review of the accounting and reporting system, internal and external auditing arrangements, fund disbursement procedures, and information systems. The instrument used for the assessment was ADB's financial management assessment questionnaire (FMAQ).

37. The assessment concluded that the financial management capacity of implementing agencies is adequate for the implementation of the project, and training in ADB procedures will be required in procurement, disbursement, project management, and accounting systems. Issues or risks/deficiencies associated with the implementing agencies' financial management systems are identified where necessary capacity development measures are recommended to ensure that the implementing agency is able to meet the subproject's accounting and reporting requirements.

38. A financial management internal control and risk management assessment were conducted.¹⁷ The risk-assessment approach is based largely on *International Standard on Auditing 400: Risk Assessment and Internal Control*. Inherent risk was assessed as moderate in large part due to country-level risks and past ADB experience.¹⁸ Control risk was also rated as moderate, due to no financial reporting problems in previous projects in Anhui and audit is conducted based on national standards on auditing issued by the national government.¹⁹ Particular weaknesses concerned understanding of and adherence to financial management policies and procedures of ADB.

39. Implementing agencies include: (i) clear definition and description of the responsibilities of all implementing agencies' staff, and (ii) recruitment of additional financial staff. The actions proposed to be undertaken during the implementation of the project include: (i) close liaison among the executing agency, implementing agencies, and ADB to ensure that ADB guidelines are followed; (ii) regular interagency coordination at all levels to discuss the project implementation progress and performance; (iii) regular training on ADB's disbursement policies; (iv) maintaining of separate accounts for all subprojects financed by ADB and the Government, and to be duly audited; (v) preparation of semi-annual and annual progress reports on project implementation and operation prepared; and (vi) close monitoring of loan covenants compliance status, including submission of audited project accounts.

40. Implementing agencies will be responsible for implementation of the subprojects in the project cities and counties. The implementing agencies will be required to adhere to sound financial management requirements during the implementation of the project. Each implementing agency, supported by an accountant and a finance clerk, will be required to maintain separate project records and accounts adequate to identify the: (i) goods and services financed from loan

¹⁵ ADB. 2005. *Financial Management and Analysis of Projects*. Manila.

¹⁶ ADB. 2009. *Financial Due Diligence: A Methodology Note*. Manila.

¹⁷ Refer to page 24 of the *Financial Management and Analysis of Projects*.

¹⁸ Inherent risk is the susceptibility of the financial management system to factors arising from the environment in which it operates, such as country rules and regulations and entity working environment (assuming absence of any counter checks or internal controls).

¹⁹ Control risk is the risk that the accounting and internal control framework is inadequate to ensure funds are used economically and efficiently and for the purpose intended, and that the use of funds is properly reported.

proceeds; (ii) financing resources received; (iii) expenditures incurred on each subproject; and (iv) counterpart funds received and expended.

41. The assessment identifies that technical assistance could be provided in the following areas: (i) budget preparation and oversight; (ii) ensuring the fixed asset module of all accounting software is functioning; (iii) strengthening the internal audit function; and (iv) development of financial policies and procedures manual to guide financial management, reporting, and related administrative activities.

B. Disbursement

42. The loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2012, as amended from time to time),²⁰ and detailed arrangements agreed upon between ADB and the government.

43. Pursuant to ADB's Safeguard Policy Statement (2009) or SPS,²¹ ADB funds may not be applied to the activities described in the ADB Prohibited Investment Activities List set forth at Appendix 5 of the SPS. All financial institutions will ensure that their investments are in compliance with applicable national laws and regulations and will apply the prohibited investment activities list to subprojects financed by ADB.

44. To facilitate project implementation through timely release of loan proceeds, an imprest account will be established promptly after loan effectiveness at a commercial bank acceptable to ADB.²² The Anhui Province Finance Department will operate the imprest account. The maximum ceiling of the imprest account will not at any time exceed the estimated ADB financed expenditures to be paid from the imprest account for the next 6 months, or 10% of the respective loan amount, whichever will be lower. An Estimate of Expenditure Sheet²³ setting out the estimated expenditures for the first six (6) months of project implementation, and submission of evidence satisfactory to ADB that the imprest account has been duly opened, should accompany the request for initial advance to the imprest account. For every liquidation and replenishment request of the imprest account, the borrower will furnish to ADB (i) Statement of Account (bank statement) where the imprest account is maintained; and (ii) the Imprest Account Reconciliation Statement (IARS) reconciling the above mentioned bank statement against the executing agency's records.²⁴

45. Direct payment, reimbursement, commitment, and imprest fund procedures may be used to withdraw funds from the loan account. The direct payment procedure will apply for goods contracts exceeding \$1 million. If the government initially funds eligible expenditure from its own resources, the reimbursement procedure will be used. To expedite flow of funds and simplify the documentation process, the ADB statement-of-expenditure (SOE) procedure will be used for liquidation and replenishment of the imprest account, and for reimbursement of eligible expenditures not exceeding \$200,000 per individual transaction. The payments in excess of the SOE ceiling will be reimbursed, liquidated, or replenished based on full supporting documentation. SOE records should be maintained and made readily available for review by

²⁰ Available at: http://www.adb.org/Documents/Handbooks/Loan_Disbursement/loan-disbursement-final.pdf

²¹ Available at: <http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf>

²² The bank charges on the imprest account will be financed from the proceeds of the loan.

²³ Available in Appendix 29 of the *Loan Disbursement Handbook*.

²⁴ Follow the format provided in Appendix 30 of the *Loan Disbursement Handbook*.

ADB's disbursement and review mission or upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit.²⁵

46. Before the submission of the first withdrawal application, the Borrower should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the Borrower, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is \$100,000, unless otherwise approved by ADB. The Borrower is required to consolidate claims to meet this limit for reimbursement and imprest account claims. Withdrawal applications and supporting documents will demonstrate among other things that the goods and/or services were produced in or from ADB members, and are eligible for ADB financing.

C. Accounting

47. The PMOs at the provincial, municipal, and county levels, and each implementing agency will identify the goods and services to be financed by the ADB loan and counterpart financing. Each implementing agency will prepare its own project accounts per subproject and submit them to the provincial PMO (PPMO) after verification by the local financial bureaus. Project accounts will follow international accounting principles and practices and/or those prescribed by the government's accounting laws and regulations. The PPMO will verify and consolidate the accounts of all subprojects, and incorporate the expenses incurred for the operation of the PPMO for the project. The Anhui Provincial Finance Department will verify the consolidated project accounts. Each project account will include a balance sheet, statement of sources and uses of funds, statement of implementation of loan agreement, and statement of imprest account. Subprojects will follow a uniform format, sound accounting principles, domestic regulations, and ADB requirements. The financial management assessment indicated that the existing institutional base can be strengthened to fulfill the required functions and responsibilities.

D. Auditing

48. The Anhui Provincial Finance Department will be responsible for overall project accounting and will ensure that the consolidated provincial project accounts are prepared for final consolidation and audited yearly by independent auditors acceptable to ADB. The audit report should include a separate audit opinion on the use of the imprest account and SOE procedures. The audited financial statements will be submitted to ADB not later than 6 months after each fiscal year.

E. Reporting

49. The implementing agencies will submit quarterly reports to the PPMO detailing implementation activities, physical and financial accomplishments, problems encountered or anticipated, and actions taken to resolve the problems. The PPMO will compile quarterly reports from the implementing agencies on the execution of the project, including the operation and management of the project facilities, and submit the compilation to ADB for review. Also, the PPMO will prepare consolidated project progress reports twice a year, following the project performance information format in ADB's eOperations. Within 6 months after project completion,

²⁵ Checklist for SOE procedures and formats are available at:

http://www.adb.org/documents/handbooks/loan_disbursement/chap-09.pdf
http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Contracts-100-Below.xls
http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Contracts-Over-100.xls
http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Operating-Costs.xls
http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Free-Format.xls

the PPMO will prepare, in coordination with the municipal and county PMOs and implementing agencies, and submit to ADB a completion report evaluating the performance of the different PMOs and implementing agencies, summarizing the loan funds utilization, project implementation, attainment of project impact, outcome, and outputs, implementation experience, project performance, actual costs incurred, benefits, and other information requested by ADB, and assessing the accomplishment of the purposes of the loan.

VI. PROCUREMENT AND CONSULTING SERVICES

A. Advance Contracting and Retroactive Financing

50. The government has requested for the provision of advance contracting under the loan for nine contracts, comprising two international competitive bidding (ICB) contracts for goods, five national competitive bidding (NCB) contracts for works, and two quality- and cost-based selection (QCBS) contracts for consulting services, with a total value of \$39.09 million, with ADB financing of \$31.50 million. Of these, retroactive financing has been proposed for two contract packages with a total estimated value of \$14.26 million, with ADB financing of \$12.89 million, representing 5% of the loan amount. The proposal will allow completion and operationalization of the Hefei City Binhuxin Beilaowei Environment Improvement Subproject by September 2013 to treat the wastewater that is currently discharged into the Chao Lake. Details of contracts proposed for advance contracting and retroactive financing are presented in Table 5 below.

Table 5: Contracts for Advance Contracting and Retroactive Financing

Ref No.	Package Type	General Description	Contract Value	ADB Financing	Procurement Method	Date of Advertise-ment
Advance Contracting						
H6-C-C01	works	Ecological wetland: water street bridge - the proposed terminal segment purchase and planting of wetland plants	8.15	5.54	NCB	Q1 2013
H8-A-C03	works	Civil works for dredging and ecological revetment for Tongyang River	2.65	1.99	NCB	Q1 2013
L1-B-C01	works	Civil works for WWTP (20,000 m ³ /d)	6.26	4.01	NCB	Q1 2013
H11-CL-E01	goods	Water quality and quantity monitoring system equipment	2.08	2.08	ICB	Q1 2013
CS-01	consulting services	Strengthening of project implementation capacity	1.70	1.70	QCBS	Q4 2012
CS-03	consulting services	Capacity building for CLMA	2.14	2.14	QCBS	Q4 2012
HS1-B-C02	works	WWTP (10,000m ³ /d) in Lintou Town	1.85	1.15	NCB	Q4 2012
Advance Contracting and Retroactive Financing						
H1-B-C01	works	Civil works and goods for Hefei Binhuxin	4.40	3.03	NCB	Q3 2012
H1-B-E01	goods	Belaowei environment improvement	9.86	9.86	ICB	Q4 2012
Total, advance contracting			39.09	31.50		
Total, retroactive financing			14.26	12.89		

ADB = Asian Development Bank, ICB = international competitive bidding, m³/d = cubic meter per day, NCB = national competitive bidding, Q = quarter, WW = wastewater, WWTP = wastewater treatment plant.

Source: Asian Development Bank estimates.

51. The government has requested for the provision of advance contracting under the loan for nine contracts, comprising two international competitive bidding (ICB) contracts for goods, five national competitive bidding (NCB) contracts for works, and two quality- and cost-based selection (QCBS) contracts for consulting services, with a total value of \$39.09 million, with ADB financing of \$31.50 million. Of these, retroactive financing has been proposed for two contract packages with a total estimated value of \$14.26 million, with ADB financing of \$12.89 million, representing 5% of the loan amount. The proposal will allow completion and operationalization of the Hefei City Binhuxin Beilaowei Environment Improvement Subproject by September 2013 to treat the wastewater that is currently discharged into the Chao Lake. Details of contracts proposed for advance contracting and retroactive financing are presented in Table 5 below.

B. Procurement of Goods, Works, and Consulting Services

52. All procurement to be financed under the ADB loan will be carried out following ADB's Procurement Guidelines (2010, as amended from time to time). Contracts for civil works valued at over \$10 million and contracts for goods and related services valued at over \$1 million will be procured through international competitive bidding. Contracts for civil works valued at \$10 million or less but over \$200,000, and contracts for goods and related services valued \$1 million or less but over \$100,000 will be procured through national competitive bidding. National competitive bidding will be undertaken following the PRC Tendering and Bidding Law (1999), subject to modifications agreed with ADB.²⁶ Contract packages for civil works and for goods valued at \$100,000 or less will be awarded through shopping procedure. Procurement will be centralized and a procurement agency that is familiar with ADB procurement procedures will be engaged by APG to undertake procurement of works, goods, and services under the project on behalf of the implementing agencies.

53. A procurement capacity assessment of the executing agency and implementing agencies (included in the RRP as supplementary appendix) were undertaken. Based on the assessment, the mission recommended that prior review be applied for all ICB contracts, consulting services, the first NCB contract for works, and the first NCB contract for goods and post review for all other contracts. The training of project staff on procurement, as well as in all other aspects of implementation needs to be pursued to enable them to gain better understanding of the contract packaging under the project, the method of procurement to be used for each package, and the requirements to be met and procedures to be followed for the different types of procurement methods

54. Before the start of any procurement, ADB and the government will review the public procurement laws of the central and state governments to ensure consistency with ADB's Procurement Guidelines (2010, as amended from time to time).

55. A procurement plan indicating the thresholds and review procedures; contract packages for goods, works, and consulting services; and national competitive bidding provisions are provided in Section C below. The relevant sections of ADB's Anticorruption Policy (1998, as amended to date) will be included in all documents and contracts relating to procurement.

²⁶ The mission requested the use of ADB standard bidding documents to ensure the high quality and consistency of the documents, which will facilitate ADB review.

56. All consultants to be financed under the ADB loan will be selected in accordance with ADB's Guidelines on the Use of Consultants (2010, as amended from time to time). ADB will finance three teams of consultants under the project for a total of 345 person-months (72 international, 273 national) to: (i) facilitate project management and implementation; (ii) implement a pilot project for NPS pollution control; and (iii) capacity development for CLMA. Consulting services for the individual packages are estimated at 125 person-months (25 international and 100 national) for project management, 65 person-months (all national) for NPS pollution control, and 155 person-months (47 international and 108 national) for capacity building for CLMA. The consultants will be selected and engaged following the quality and cost-based selection method, with a quality-cost ratio of 80:20, using full or simplified technical proposal, in accordance with ADB's Guidelines on the Use of Consultants (2010, as amended from time to time). Outline terms of reference for all consulting services are detailed in Section D. The relevant sections of ADB's Anticorruption Policy (1998, as amended to date) will be included in all documents and contracts relating to the engagement of consultants.

C. Procurement Plan

57. The procurement plan for the project, as agreed with the executing and implementing agencies is provided below:

Basic Data

Project Name: Anhui Chao Lake Environmental Rehabilitation Project	
Country: People's Republic of China	Executing Agency: Anhui Provincial Government
Loan Amount: \$250 million	Loan Number: L44036-PRC
Date of First Procurement Plan: 30 March 2012	Date of this Procurement Plan: 30 March 2012 (Loan fact-finding mission)

1. Process Thresholds, Review, and 18-Month Procurement Plan

58. **Project procurement thresholds.** Except as ADB may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

Procurement of Goods and Works	
Method	Threshold
International Competitive Bidding (ICB) for Works	Above \$10,000,000
International Competitive Bidding for Goods	Above \$1,000,000
National Competitive Bidding (NCB) for Works ^a	Below ICB threshold, but more than \$100,000
National Competitive Bidding for Goods ^a	Below ICB threshold, but more than \$100,000
Shopping for Works ^b	Below or equal to \$100,000
Shopping for Goods ^b	Below or equal to \$100,000

^a NCB procedures are described in section B.

^b For the procurement of items below \$10,000, the executing agency and implementing agencies may purchase the items directly from the supplier and in such cases, the ADB should be satisfied that the price paid is reasonable.

Source: Asian Development Bank.

59. **ADB's prior or post review.** Except as ADB may otherwise agree, the following prior or post review requirements apply to the various procurement and consultant recruitment methods used for the project.

Procurement Method	Prior or Post Review	Comments
Procurement of Goods and Works		
ICB Works ICB Goods	Prior	For ICB, invitations for bids and for prequalification, draft prequalification documents and bidding documents, and prequalification and bid evaluation reports will be submitted to ADB for prior review and approval. Use of this method is subject to the provision of ADB's Procurement Guidelines (2010, as amended from time to time) and project administration instruction (PAI) 3.03.
NCB Works NCB Goods	Prior/ Post	For NCB, the first draft English language-version of the procurement documents for goods and for works should be submitted to ADB for review and approval regardless of the estimated contract amount. ADB-approved procurement documents should be used as a model for all NCB procurement financed by ADB for the project, and need not be subject to further review. ADB will review the bid evaluation report and award of contract on a post-review basis. Use of this method is subject to the provisions of the NCB Annex, ADB's Procurement Guidelines, paras. 3.3–3.4; and PAI 3.04
Shopping for Works Shopping for Goods	Post	For shopping (including direct contracting), ADB will review the award of contract on a post-facto basis. Use of this method is subject to the provision of ADB's Procurement Guidelines (2010, as amended from time to time), para. 3.5; and PAI 3.04, C.4-6.
Procurement of Consulting Firms		
Quality- and Cost-Based Selection (QCBS), 80:20	Prior	For QCBS, a quality-cost ratio of 80:20 will be used. The borrower will be required to make three submissions (prior reviews) for ADB approval: (i) a draft request for proposal (RFP), including the shortlist, (ii) a technical proposal evaluation report; and (iii) an overall evaluation and ranking report. Use of this method is subject to Guidelines on the Use of Consultants by ADB and its Borrowers (2010, as amended from time to time.), and para. 47 of PAI 2.03.

ADB = Asian Development Bank, ICB = international competitive bidding, NCB = national competitive bidding.
Source: Asian Development Bank.

60. **Goods and works contracts estimated to cost more than \$1 million.** The following table lists goods and works contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

Contract No.	Description	Contract Value (\$ million)^a	Procurement Method	Pre-qualification of Bidders (y/n)	Advertisement Date (quarter/year)
1. Goods					
H1: Hefei City Binluxin District Beilaowei Environment Improvement					
H1-B-E01 ^c	Electrical and mechanical equipment for 30,000 m3/d WWTP and a 24,000 m3/d pumping station	9.86	ICB	N	Q3 2012
H2: Feidong Country Chao Lake Basin (Chaolin River Region) Water Environment Integrated Improvement					
H2-D-E01	Equipment for municipal solid waste collection and transfer	1.57	ICB	N	Q3 2013
H4: Feixi County Environment Integrated Improvement for Rivers Flowing into Chao Lake					
H4-B-E01	Supply and installation for Zhongpai	10.85	ICB	N	Q4 2013

Contract No.	Description	Contract Value (\$ million) ^a	Procurement Method	Pre-qualification of Bidders (y/n)	Advertisement Date (quarter/year)
	WWTP (50,000 m3/d) & one pumping station				
H8: Water Environment Rehabilitation of Zhegao River and Tongyang River					
H8-B-E01	Supply and installation for Tongyang Town WWTP (6,000 m3/d), and a pumping station; Xiage Town WWTP (5,000 m3/d)	3.08	ICB	N	Q1 2014
H11: Chao Lake Management Authority Institutional Capacity Building					
H11-CL-E01 ^b	Water quality and quantity monitoring system equipment	2.08	ICB	N	Q1 2013
HS1: Hanshan County Qingxi River Water Environment Integrated Improvement					
HS1-B-E01	Supply and installation for WWTP (10,000 m3/d) in Lintou Town	1.86	ICB	N	Q4 2013
L1: Chao Lake Basin Lu'an Eastern New Town District Water Environment Improvement					
L1-B-E01	Supply and installation for WWTP (20,000 m3/d)	4.86	ICB	N	Q2 2013
2. Works					
H1: Hefei City Binhexin District Beilaowei Environment Improvement Project					
H1-B-C01 ^c	30,000 m3/d WWTP and a 24,000 m3/d pumping station	4.40	NCB	N	Q3 2012
H1-A-C01	Beilaowei Gully (Chaohu river) dredging & embankment, length 3.878 km	27.09	ICB	N	Q3 2013
H1-B-C02	51 km wastewater collection pipe	6.52	NCB	N	Q1 2014
H1-C-C01	North of Chaohu entrance of Beilaowei gulch 30 ha	5.79	NCB	N	Q1 2014
H2: Feidong Country Chao Lake Basin (Chaolin River Region) Water Environment Integrated Improvement					
H2-A-C01	Dredging Yaopuyu port; Shibalianwei River; Xinglongqiao River	7.24	NCB	N	Q4 2013
H2-A-C02	Civil works for rivers	4.43	NCB	N	Q2 2014
H3: Feidong County Chao Lake Basin (Cuo Town Region) Water Environment Integrated Improvement					
H3-B-C01	Cuozen WW collection pipeline (27.7 km)	6.37	NCB	N	Q2 2013
H3-A-C01	Zhennan River dredging and embankment	1.51	NCB	N	Q3 2013
H4: Feixi County Environment Integrated Improvement for Rivers Flowing into Chao Lake					
H4-B-C01	Zhongpai wastewater collection pipe network, 60.02 km length	9.47	NCB	N	Q2 2013
H4-A-C01	Dredging six tributaries of Fengle River	9.38	NCB	N	Q3 2013
H4-B-C03	Zhongpai WWTP (50,000 m3/d) & one pumping station	4.97	NCB	N	Q3 2013
H4-B-C02	Zhongpai wastewater collection pipe network, 60 km length	9.46	NCB	N	Q2 2014
H5: Banqiao River Upstream Water Environment Integrated Improvement					
H5-B-C01	WW interceptor pipeline, length 30.185 km	5.45	NCB	N	Q3 2013

Contract No.	Description	Contract Value (\$ million) ^a	Procurement Method	Pre-qualification of Bidders (y/n)	Advertisement Date (quarter/year)
H5-A-C01	Changfeng section of Chuhe River trunk,length 3 km, dredging 51,300 m3	2.91	NCB	N	Q1 2014
H6: Hefei City Chao Lake Bank Water Environment Improvement and Ecological Rehabilitation					
H6-C-C01 ^b	Ecological wetland: Water Street Bridge - terminal segment purchase and planting of wetland plants	8.15	NCB	N	Q1 2013
H6-C-C02	Ecological wetland: The proposed wetland - Tangxi river mouth eastern section	4.11	NCB	N	Q2 2013
H6-C-C03	Ecological wetland: Tangxi river mouth eastern section – Shiwuli river mouth eastern section, length 2.49 km	8.54	NCB	N	Q3 2013
H6-C-C04	Ecological wetland: Shuijie Bridge - the proposed pier	4.23	NCB	N	Q1 2014
H7: Estuary Wetland Ecological System Rehabilitation of Rivers Flowing into Chao Lake in Rural Area (Zhegao River and Tongyang River)					
H7-A-C01	Dredging of Yuxi River	6.67	NCB	N	Q3 2013
H7-B-C01	Construction of Chaohu South Bank WWTP (20,000 m3/d)	2.53	NCB	N	Q3 2013
H7-A-C02	Ecological revetment of Yuxi River	9.86	NCB	N	Q4 2013
H7-B-C02	City South WW Collection pipe length 26.558 km	2.81	NCB	N	Q4 2013
H8: Water Environment Rehabilitation of Zhegao River and Tongyang River					
H8-A-C03 ^b	Dredging and ecological revetment for Tongyang River	2.65	NCB	N	Q1 2013
H8-B-C02	Tongyang town WWTP(6.000 m3/d), and a pumping station; Xiage town WW collection; Xiage Town WWTP (5,000 m3/d	3.11	NCB	N	Q4 2013
H8-A-C02	Dredging and ecological revetment for Xiage River	2.25	NCB	N	Q1 2014
H8-B-C01	WW collection pipe (Tongyang town 25.72 km; Zhegao town 22.64 km; Xiage town 28.76 km)	6.04	NCB	N	Q2 2014
H9: Huatang River Estuary Ecological Wetland					
H9-C-C01	Huatang river mouth ecological wetland	4.94	NCB	N	Q4 2013
H10: Rehabilitation of Xian River and Its Tributaries in Lujiang County					
H10-A-C01	Dredging and embankments Lujiang County river and branches	8.07	NCB	N	Q2 2013
H10-B-C01	Sewage collection pipe with length 22.2 km	4.31	NCB	N	Q3 2013
H10-A-C02	Dredging and embankments Dongda River and Xipihongge River	5.54	NCB	N	Q4 2013
L1: Chao Lake Basin Lu'an Eastern New Town District Water Environment Improvement					
L1-B-C01 ^b	WWTP (20,000 m3/d)	6.26	NCB	N	Q1 2013
L1-B-C04	Two pumping stations (Shengli Road & Shouchun Road)	1.68	NCB	N	Q3 2013
L1-B-C02	WW collection pipe (42 km length)	5.96	NCB	N	Q3 2013
L1-B-C03	WW collection pipe (45 km length)	6.18	NCB	N	Q2 2014

Contract No.	Description	Contract Value (\$ million) ^a	Procurement Method	Pre-qualification of Bidders (y/n)	Advertisement Date (quarter/year)
HS1: Hanshan County Qingxi River Water Environment Integrated Improvement					
HS1-B-C01	WW Collection with length 27.68 km	2.03	NCB	N	Q1 2014
HS1-A-C01	Dredging Qingxi River	2.62	NCB	N	Q3 2013
HS1-B-C02 ^b	WWTP (10,000 m3/d) in Lintou Town	1.85	NCB	N	Q4 2012
WW1: Wucheng Water Environment Rehabilitation in Wuwei County					
WW1-B-C01	WWTP (25,000 m3/d) in City East zone and a pumping station	4.08	NCB	N	Q2 2013
WW1-B-C02	WW collection pipe network with length 45.3 km	5.63	NCB	N	Q4 2013

ICB = international competitive bidding, NCB = national competitive bidding, WW = waste water, WWTP = waste water treatment plant.

^a All contract values exclude physical and price contingencies.

^b Requested for advance contracting.

^c Requested for advance contracting and retroactive financing.

Source: Asian Development Bank estimates.

61. **Consulting services contracts estimated to cost more than \$100,000.** The following table lists consulting services contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

Package No.	Description	Contract Value (\$ million)	Recruitment Method	Type of Technical Proposal	Advertisement Date
CS-01 ^a	Strengthening of project implementation capacity	1.70	QCBS (80:20)/ International	Full	Q4 2012
CS-02	Implementation of research, demonstrations and capacity building for NPS pollution control	3.00	QCBS (80:20)/ National	Full	Q1 2013
CS-03 ^a	Capacity building for CLMA	2.14 (Multiple)	QCBS (80:20)	Simplified	Q4 2012

CLMA = Chao Lake Management Authority, NPS = non-point source, Q = quarter, QCBS = Quality- and Cost-Based Selection.

^a Requested for advance contracting

Source: Asian Development Bank estimates.

62. **Goods and works contracts estimated to cost less than \$1 million and consulting services contracts less than \$100,000.** The following table groups smaller-value goods, works and consulting services contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

Contract No.	Description	Contract Value (\$ million) ^a	Procurement Method	Pre-qualification of bidders (Y/N)	Advertisement Date
1. Goods					
H9: Huatang River Estuary Ecological Wetland					
H9-C-E01	Huatang river mouth ecological wetland equipment	0.09	Shopping	N	Q4 2013
H11: Chao Lake Management Authority Institutional Capacity Building					
H11-P-E01	Municipal, county and city PMO equipment (multiple)	0.80	Shopping	N	Q2 2013
H11-CL-E02	Environmental information platform	0.55	NCB	N	Q3 2013
H11-CL-E03	Detection system of water resources project	0.23	NCB	N	Q1 2014

L1: Chao Lake Basin Lu'an Eastern New Town District Water Environment Improvement

L1-B-E02	Supply and installation for two pumping stations (Shengli Road & Shouchun Road)	0.97	NCB	N	Q1 2014
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2. Works**H2: Feidong Country Chao Lake Basin (Chaolin River Region) Water Environment Integrated Improvement**

H2-D-C01	Two 60-t/d garbage transfer stations	0.61	NCB	N	Q2 2013
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H3: Feidong County Chao Lake Basin (Cuo Town Region) Water Environment Integrated Improvement

H3-C-C01	Civil works for Xuguangshibajian River	0.82	NCB	N	Q1 2014
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NCB = national competitive bidding, PMO = project management office, N = no, Q = quarter, Y = yes.

^a All contract values exclude physical and price contingencies.

Source: Asian Development Bank estimates.

2. Indicative List of Packages Required Under the Project

63. The following table provides an indicative list of all procurement (goods, works and consulting services) over the life of the project. Contracts financed by the Borrower and others should also be indicated, with an appropriate notation in the comments section.

Contract No.	Description	Total Contract Value (\$ million) ^a	Procurement Method	Pre-qualification of bidders (Y/N)	Advertisement Date
1. Goods					
Output 1: Increased Municipal Point Source Pollution Control					
H1-B-E01 ^c	Electrical and mechanical equipment for 30,000 m ³ /d WWTP and a 24,000 m ³ /d pumping station	9.86	ICB	N	Q3 2013
H4-B-E01	Supply and installation for Zhongpai WWTP (50,000 m ³ /d) & one pumping station	10.85	ICB	N	Q4 2013
H7-B-E01	Supply and installation for 20,000 m ³ /d WWTP	1.90	ICB	N	Q3 2014
H7-B-E02	Supply & installation for electric power supply outside the WWTP	0.57	NCB	N	Q3 2014
H8-B-E01	Supply and installation for Tongyang Town WWTP (6,000 m ³ /d), and a pumping station; Xiage Town WWTP (5,000 m ³ /d)	3.08	ICB	N	Q1 2014
HS1-B-E01	Supply and installation for WWTP (10,000 m ³ /d) in Lintou Town	1.86	ICB	N	Q4 2013
L1-B-E01	Supply and installation for WWTP (20,000 m ³ /d)	4.86	ICB	N	Q2 2013
L1-B-E02	Supply and installation for two pumping stations (Shengli Road & Shouchun Road)	0.97	NCB	N	Q1 2014
WW1-B-E01	Supply and installation for WWTP (25,000 m ³ /d) in City East zone, and a pumping station	3.60	ICB	N	Q3 2014
Output 2: Enhanced NPS Pollution Control					
H2-D-E01	Equipment for municipal solid waste collection and transfer	1.57	ICB	N	Q3 2013

Contract No.	Description	Total Contract Value (\$ million) ^a	Procurement Method	Pre-qualification of bidders (Y/N)	Advertisement Date
Output 3: Improved Institutional Capacity of Chao Lake Management Authority					
H11-CL-E01 ^b	Water quality and quantity monitoring system equipment	2.08	ICB	N	Q1 2013
H11-CL-E02	Environmental information platform	0.55	NCB	N	Q3 2013
H11-CL-E03	The detection system of water resources project	0.23	NCB	N	Q1 2014
H9-C-E01	Huatang river mouth ecological wetland equipment	0.09	Shopping	N	Q4 2013
Output 4: Strengthened Project Management Capacity					
H11-P-E01	Municipal, county and city PMO equipment	0.80	NCB	N	Q2 2013
2. Works					
Output 1: Increased Municipal Point Source Pollution Control					
H1-B-C01	30,000 m ³ /d WWTP and a 24,000 m ³ /d pumping station	4.40	NCB	N	Q2 2013
H1-B-C02	51 km wastewater collection pipe	6.52	NCB	N	Q1 2014
H1-B-C03	34 km wastewater collection pipe	4.34	NCB	N	Q3 2014
H3-B-C01	Cuozen WW collection pipeline (27.7 km)	6.37	NCB	N	Q2 2013
H3-B-C02	Cuozen WW collection pipeline (18.47 km), & a pumping station	4.78	NCB	N	Q4 2014
H4-B-C01	Zhongpai wastewater collection pipe network, 60.02 km length	9.47	NCB	N	Q2 2013
H4-B-C03	Zhongpai WWTP (50,000 m ³ /d) & one pumping station	4.97	NCB	N	Q3 2013
H4-B-C02	Zhongpai wastewater collection pipe network, 60 km length	9.46	NCB	N	Q2 2014
H5-B-C01	WW interceptor pipeline, length 30.185 km		NCB	N	Q3 2013
H7-B-C01	Chaohu South Bank WWTP (20,000 m ³ /d)	2.53	NCB	N	Q3 2013
H7-B-C02	South WW Collection pipe length 26.558 km	2.81	NCB	N	Q4 2013
H8-B-C02	Tongyang town WWTP (6,000 m ³ /d), and a pumping station; Xiage town WW collection; Xiage Town WWTP (5,000 m ³ /d)	3.11	NCB	N	Q4 2013
H8-B-C01	WW collection pipe (Tongyang town 25.72 km; Zhegao town 22.64 km; Xiage town 28.76 km)	6.04	NCB	N	Q2 2014
H10-B-C01	Sewage collection pipe with length 22.2 km	4.31	NCB	N	Q3 2013
HS1-B-C01 ^c	WW Collection with length 27.68 km	2.03	NCB	N	Q1 2014
HS1-B-C02 ^b	WWTP (10,000 m ³ /d) in Lintou Town	1.85	NCB	N	Q4 2012
L1-B-C01 ^b	WWTP (20,000 m ³ /d)	6.26	NCB	N	Q1 2013
L1-B-C04	Two pumping stations (Shengli Road & Shouchun Road)	1.68	NCB	N	Q3 2013
L1-B-C02	WW collection pipe (42 km length)	5.96	NCB	N	Q3 2013
L1-B-C03	WW collection pipe (45 km length)	6.18	NCB	N	Q2 2014
WW1-B-C01	WWTP (25,000 m ³ /d) in City East zone and a pumping station	4.08	NCB	N	Q2 2013

Contract No.	Description	Total Contract Value (\$ million) ^a	Procurement Method	Pre-qualification of bidders (Y/N)	Advertisement Date
WW1-B-C02	WW collection pipe network with length 45.3 km	5.63	NCB	N	Q4 2013
Output 2: Enhanced NPS Pollution Control					
H10-A-C01	Dredging and embankments Lujiang County river and branches	8.07	NCB	N	Q2 2013
H10-A-C02	Dredging and embankments Dongda River and Xipihongge River	5.54	NCB	N	Q4 2013
H10-A-C03	Dredging and embankments Zhongtang River, Zhongtang River Right branch, Sujia river	6.58	NCB	N	Q3 2014
H1-A-C01	Beilaowei Gully (Chaohu river) dredging & embankment, length 3.878 km	27.09	ICB	N	Q3 2013
H1-C-C01	North of Chaohu entrance of Beilaowei gulch 30 ha	5.79	NCB	N	Q1 2014
H2-A -C01	Dredging Yaopuyu port; Shibalianwei River; Xinglongqiao River	7.24	NCB	N	Q4 2013
H2-A -C02	Civil works for rivers	4.43	NCB	N	Q2 2014
H3-A-C01	Zhennan River dredging and embankment	1.51	NCB	N	Q3 2013
H3-C-C01	Civil works for Xuguangshibajian River	0.82	NCB	N	Q1 2014
H4-A-C01	Dredging six tributaries of Fengle River	9.38	NCB	N	Q3 2013
H5-A-C01	Changfeng section of Chuhe River trunk, length 3 km, dredging 51300 m ³	2.91	NCB	N	Q1 2014
H6-C-C01 ^b	Ecological wetland: Water Street Bridge - proposed terminal segment purchase and planting of wetland plants	8.15	NCB	N	Q1 2013
H6-C-C02	Ecological wetland: proposed wetland - Tangxi river mouth eastern section	4.11	NCB	N	Q2 2013
H6-C-C03	Ecological wetland: Tangxi river mouth eastern section – Shiwuli river mouth eastern section, 2.49 km	8.54	NCB	N	Q3 2013
H6-C-C04	Ecological wetland: Shuijie Bridge - proposed pier	4.23	NCB	N	Q1 2014
H6-C-C05	Other ecological wetland, planting location	7.44	NCB	N	Q3 2014
H7-A-C01	Dredging of Yuxi River	6.67	NCB	N	Q3 2013
H7-A-C02	Ecological revetment of Yuxi River	9.86	NCB	N	Q4 2013
H7-A-C03	Dredging for Tianhe River	6.84	NCB	N	Q3 2014
H7-A-C04	Sewage collection works for Tianhe River	4.19	NCB	N	Q4 2014
H8-A-C03 ^b	Dredging and ecological revetment for Tongyang River	2.65	NCB	N	Q1 2013
H8-A-C02	Dredging and ecological revetment for Xiage River	2.25	NCB	N	Q1 2014
H8-A-C01	Dredging and ecological revetment for Zhegao River	7.58	NCB	N	Q3 2014
H9-C-C01	Huatang river mouth ecological wetland	4.94	NCB	N	Q4 2013
HS1-A-C01	Dredging Qingxi River	2.62	NCB	N	Q3 2013
H2-D- C01	Two 60-t/d garbage transfer stations	0.61	NCB	N	Q2 2013

Contract No.	Description	Total Contract Value (\$ million) ^a	Procurement Method	Pre-qualification of bidders (Y/N)	Advertisement Date
ICB = international competitive bidding, km = kilometer, m ³ /d = cubic meter per day, t/d = ton per day, N = no, NCB = national competitive bidding, PMO = project management office, Q = quarter, WW = waste water, WWTP = waste water treatment plant, Y = yes.					
^a All contract values exclude physical and price contingencies.					
^b Requested for advance contracting.					
^c Requested for advance contracting and retroactive financing.					
Source: Asian Development Bank estimates.					

Package No.	Description	Contract Value (\$ million)	Recruitment Method	Type of Technical Proposal	Advertisement Date
3. Consulting Services					
CS-01 ^b	Strengthening of project implementation capacity	1.70	QCBS (80:20)/ International	Full	Q4 2012
CS-02	Implementation of research, demonstrations and capacity building for NPS pollution control	3.00	QCBS (80:20)/ National	Full	Q1 2013
CS-03 ^b	Capacity building for CLMA	2.14 (Multiple)	QCBS (80:20)	Simplified	Q4 2012

CLMA = Chao Lake Management Authority, NPS = non-point source, Q = quarter, QCBS = quality- and cost-based Selection.

^a All contract values exclude physical and price contingencies.

^b Requested for advanced contracting.

Source: Asian Development Bank estimates.

Table 6: Summary of Procurement Plan

Category	Method	No. of Contracts	Amount (\$ million)
Works	ICB	2	11.94
	NCB	47	241.18
Goods	ICB	9	39.66
	NCB	5	2.32
	Shopping	2	1.69
Consultant Services	QCBS	3	6.84
Total			303.63

ICB = international competitive bidding, NCB = national competitive bidding, QCBS = quality- and cost-based selection.

Source: Asian Development Bank estimates.

3. National Competitive Bidding

64. The Borrower's *Law of Tendering and Bidding of the People's Republic of China* promulgated by Order No. 21 of the President of the People's Republic of China on 30 August 1999 is subject to the following clarifications required for compliance with the guidelines:

- (i) All invitations to prequalify or to bid shall be advertised in the national press, or official gazette, or a free and open access website in the Borrower's country. Such advertisement shall be made in sufficient time for prospective bidders to obtain prequalification or bidding documents and prepare and submit their responses. In

any event, a minimum preparation period of thirty (30) days shall be given. The preparation period shall count (a) from the date of advertisement, or (b) when the documents are available for issue, whichever date is later. The advertisement and the prequalification and bidding documents shall specify the deadline for such submission.

- (ii) Qualification requirements of bidders and the method of evaluating the qualification of each bidder shall be specified in detail in the bidding documents, and in the prequalification documents if a prequalification process precedes the bidding.
- (iii) If bidding is preceded by a prequalification process, all bidders that meet the qualification criteria set out in the prequalification document shall be allowed to bid and there shall be no limit on the number of pre-qualified bidders.
- (iv) All bidders shall be required to provide a performance security in an amount sufficient to protect the Borrower/project executing agency in case of breach of contract by the contractor, and the bidding documents shall specify the required form and amount of such performance security.
- (v) Bidders shall be allowed to submit bids by mail or by hand.
- (vi) All bids shall be opened in public; all bidders shall be afforded an opportunity to be present (either in person or through their representatives) at the time of bid opening, but bidders shall not be required to be present at the bid opening.
- (vii) All bid evaluation criteria shall be disclosed in the bidding documents and quantified in monetary terms or expressed in the form of pass/fail requirements.
- (viii) No bid may be rejected solely on the basis that the bid price falls outside any standard contract estimate, or margin or bracket of average bids established by the Borrower/project executing agency.
- (ix) Each contract shall be awarded to the lowest evaluated responsive bidder, that is, the bidder who meets the appropriate standards of capability and resources and whose bid has been determined (a) to be substantially responsive to the bidding documents and (b) to offer the lowest evaluated cost. The winning bidder shall not be required, as a condition of award, to undertake responsibilities for work not stipulated in the bidding documents or otherwise to modify the bid as originally submitted.
- (x) Each contract financed with the proceeds of the Loan shall provide that the suppliers and contractors shall permit ADB, at its request, to inspect their accounts and records relating to the performance of the contract and to have said accounts and records audited by auditors appointed by ADB.
- (xi) Government owned enterprises in the Borrower's country may be permitted to bid if they can establish that they (a) are legally and financially autonomous; (b) operate under commercial law; and (c) are not a dependent agency of the Borrower/project executing agency.
- (xii) Re-bidding shall not be allowed solely because the number of bids is less than three.

D. Outline Terms of Reference for Consultants

65. The outline terms of reference for the consultants to be engaged under the project are as follows:

1. Consultants for Project Management, Capacity Building, and Training (Contract Package CS-01)

(a) Introduction

66. The Anhui Provincial Project Management Office (PMO) will be responsible for engaging consultants to assist in project implementation and management, as well as providing training to staff of Anhui PMO, local PMOs, and the implementing agencies of the project.

67. The consulting services will involve international and national experts, with an international team leader and national deputy team leader. The consultant will assist the Anhui PMO, local PMOs, and implementing agencies in (i) liaising and coordinating with ADB; (ii) establishing the project performance monitoring system (PPMS) procedures and preparing quarterly reports to ADB; (iii) monitoring the project based on its design monitoring framework; (iv) implementing the Social Action Plan (SAP), Resettlement Plans (RPs), and Environment Management Plans (EMPs); and (iv) promoting the adoption of international standard practices for project management and monitoring systems. Capacity building and training activities on all implementation aspects will be provided to strengthen the Anhui PMO, local PMOs, and implementing agencies' capacity for design and supervision, and O&M functions. Anhui PMO will recruit the consultant in accordance with ADB's Guidelines on the Use of Consultants (2010, as amended from time to time).

(b) Proposed Consulting Services

68. The consultant will work with the Anhui PMO, local PMOs, implementing and local government agencies, as may be necessary, to provide assistance and advice on the tasks outlined below. The consultant will be recruited under the Package – Project Management, Capacity Building and Training to be recruited through quality- and cost-based selection (QCBS), using a quality-cost ratio of 80:20.

(c) Consulting Services for Project Management

69. The Consultant will assist and support the Anhui PMO, local PMOs, and implementing agencies. Particularly, the consultant will undertake the following tasks:

- (i) Review of project organization, operation, and systems of monitoring and reporting procedures, in accordance with ADB guidelines;
- (ii) In coordination with a procurement agent, assistance in contract bid documentation, bidding and evaluation procedures, and appointment of contractors;
- (iii) Assistance in facilitating required approval procedures and financial administration, planning, and management;
- (iv) Assistance in the finalization of resettlement plans based on final design and established safeguards monitoring and evaluation system;
- (v) Finalization of the project performance monitoring system (PPMS) and implementation for effective safeguards monitoring and reporting;
- (vi) Assistance in technical, managerial, institutional, coordination and financial activities as appropriate for project completion;
- (vii) Assistance in the Project Information System development and maintenance across the project period to enhance PMO's capacity for project management and

information sharing, a centralized project management information system will be developed;

- (viii) Review on wastewater tariffs issues and calculating tariff levels required for full cost recovery and a mechanism to develop proposals for tariff increases required as a result of changes in the operating environment;
- (ix) Review and recommend improvements to wastewater collection and treatment, including operations and maintenance and asset management;
- (x) Training to PMOs, implementing agencies, operators, and contractors' representatives on environmental laws, regulations, and policies, and basic environmental management;
- (xi) Training to PMOs, implementing agencies, and contractors on EMP implementation: (a) responsibilities and duties for the project construction, management and environmental protection; (b) task of environmental protection in project construction; (c) key environmental protection contents in project construction; (d) various environmental monitoring; and (e) EMP improvement and corrective actions;
- (xii) Provide support for implementation of resettlement plans, and social and gender action plans;
- (xiii) Provide support for the monitoring of social safeguards and social and gender action plans;
- (xiv) Provide support for environmental safeguard monitoring; and
- (xv) Training to PMOs, implementing agencies, and operators on environmental monitoring, inspection, and reporting: monitoring and inspection methods, data collection and processing, interpretation of data, and reporting system.

(d) Consulting Services for Capacity Building and Training

70. The capacity building will include an appropriate mix of formal and informal training delivery including workshops, seminars, study tours, and on-the-job training, to be provided directly by the specialist consultants, under locally arranged training contracts, or through approved in-country or overseas study activities.

(e) Consulting Inputs and Costs

71. A summary of consultancy and associated costs is set out below. Table 7 shows indicative number of person-months for the consulting services. Table 8 provides a provisional outline budget for the proposed consulting services.

Table 7. Schedule of Consulting Services

Project Management, Capacity Building and Training	International	National
Team Leader	8	-
Procurement and Contract Management Specialist	4	10
Wetland Specialist	2	6
River Control and Hydraulic Specialist	-	6
Financial Management and Wastewater Tariff Specialist	2	8
Wastewater Operation Specialist	2	8
Deputy Team Leader – Construction Management Specialist	-	40
Environment Specialist/Environmental Management Specialist	2	8
Resettlement Specialist	1	4
Social Impact Assessment and Gender Specialist	1	4
Institutional and Corporate Governance Specialist	3	6
Total	25	100

Source: Asian Development Bank estimates.

Table 8. Consultancy Services Budget (Provisional)

Item	Budget (\$ million)
Consultancy (including fees, per diems and airfares/local transportation costs and other costs)	1.0
Provisional Sum: Study Tours and Training	0.7
Total	1.7

Source: Asian Development Bank estimates.

(f) Implementation and Reporting

72. The overall consultancy will be provided over a five-year implementation period. Reports to be submitted are as follows:

- (i) Inception report within two months of commencement of the consulting services submitted for the PMO's review and approval and for submission to ADB;
- (ii) Quarterly progress reports detailing programmed and actual progress versus the overall project work plan (the integrated reporting system will be applied), including external monitoring and evaluation, environmental monitoring report, PPMS etc. as requested by PMO and ADB; and
- (iii) Midterm review report and project completion report.

73. The consultant will assist the Anhui PMO, local PMOs, and implementing agencies to prepare and submit the project inception report, quarterly progress reports, the midterm review report and project completion report, which confirm the status of the project for discussion with ADB at related review missions. The reports will also include an assessment on the consultant's progress against program, an indication of key outstanding issues, and an updated development program, if relevant, for key project activities. Three copies of each report will be submitted to PMO in English for submission to ADB.

2. Consultants for Pilot Project on NPS Pollution Control in the Chao Lake Basin (Contract Package No. CS-02)

(a) Background

74. Chao Lake is one of the "three rivers and three lakes" that are listed as the most important pollution control targets by the central government of the PRC. Massive funds from all levels of governments have been invested to control pollution in the Chao Lake Basin since 1990s. Most of the investments had been put into treatment of industrial and municipal wastewater, sewage network, dredging of river sludge, etc. Although it resulted to e.g., curbing further deterioration of water quality of Chao Lake amidst urban area expansion and industrial development, Chao Lake still suffers from heavy pollution, eutrophication, and algae explosion. The municipality of Hefei has to give up Chao Lake as its source of water because of the heavy pollution. The role of NPS pollution to the Chao Lake gets recognized.

75. As indicated in the 12th Five-Year Plan of Water Pollution Management in the Chao Lake Basin, agricultural NPS pollution is one of the biggest contributors to Chao Lake pollution. Agricultural NPS contributes 42.5% of carbon oxygen demand (COD), 37.6% of total Nitrogen (TN), and 41.7% of total Phosphorus (TP) emissions to the Chao Lake. Among the four main sources of pollution (industrial, municipal, agricultural, and rural domestic), non-point sources of

agricultural and rural domestic ones contribute more than half of pollution.²⁷ Chao Lake pollution cannot be reduced considerably without treating NPS pollution.

76. Control of NPS pollution is becoming more and more cost-effective as the marginal costs of treatment of industrial wastewater and municipal sewage increase; resulting to innovative mechanism of nutrient trading between point sources and non-point sources of pollution (nitrogen and phosphorous) in developed countries such as the United States of America (USA).

77. Governments in the Chao Lake Basin have begun to pay more attention on NPS pollution control with both technical solutions and institutional innovations and to seek assistance from ADB and other development organizations for NPS control. Technologies and policy framework for NPS pollution control in the PRC have not been in shape and almost all the institutional settings in the PRC are designed for point source pollution control. A pilot project will be included to design, refine, and demonstrate applicable technologies and institutional innovations such as, eco-compensation mechanism for NPS pollution control in the Chao Lake Basin. Technical solutions and institutional innovations resulted from this pilot project will constitute important options for replication and scaling up in the whole Chao Lake Basin in the next phase of ADB investment and government actions.

(b) Expected Impact, Outcome, and Outputs

78. The impact of the pilot project will be reduced pollution emission to the Chao Lake. The expected outcomes are a pool of technologies and institutional innovations which have been identified, tested, and could be potentially replicated in the whole Chao Lake Basin in the next phase of intervention of local governments and ADB. The outputs are:

- (i) Technologies applicable in the Chao Lake Basin for controlling NPS from animal farms, crop growing, and rural households;
- (ii) Eco-compensation mechanism to promote application of animal manure in the farmland;
- (iii) Improved extension of environmentally friendly agriculture; and
- (iv) A management information system for NPS pollution control in the Chao Lake Basin.

(c) Scope and Location of Work

79. The table below shows the work to be done corresponding to the outputs of the pilot project in Lujiang County. The pilot sites are its three townships, i.e. Tongda, Baishan, and Shengqiao which border Chao Lake. There are intensive agricultural farmlands and lots of medium-size to large-size animal farms in the three townships. NPS pollution in these areas has direct and significant impacts on water quality of the Chao Lake.

Output 1: Technologies applicable in the Chao Lake Basin for controlling NPS pollution from animal farms are identified and demonstrated

- Animal wastes are processed into commercial organic fertilizer in one village of Tongda Township;
- A zero-emission pig raising technology (fermentation bed) is demonstrated in one animal farm in Baishan Township; and
- Two medium-size biogas systems are introduced into two animal farms in Shengqiao Township.

Output 2: Technologies applicable in the Chao Lake Basin for controlling NPS pollution from crop growing are identified and demonstrated

²⁷ Ministry of Environmental Protection. 2011. Pollution Emission in the Rural Areas Has Accounting for Half of the Total in China. China News <http://www.chinanews.com/gn/2011/06-03/3088624.shtml>

- Release-controlled and/or crop-specific chemical fertilizer is introduced in one village of Tongda Township; and
- Crop straw is retained in the field in one village of Tongda Township.

Output 3: Technologies applicable in the Chao Lake Basin for mitigating rural domestic wastewater and solid wastes are identified and demonstrated

- Solid wastes collection and treatment in one village of each Tongda and Shengqiao townships; and
- Domestic wastewater treatment in one village of Tongda Township.

Output 4: Eco-compensation mechanism to promote application of animal manure in the farmland is designed and demonstrated

- Carry out a survey in order a) to understand farmers' behavior of applying chemical fertilizers, organic fertilizers, animal manure, and retaining crop straw in the farmlands etc.; b) to understand the impacts of farm scale, aging, cropping system etc. on farmers' adoption of environmentally friendly agricultural practices e.g. using less chemical fertilizers and more organic fertilizers; and c) to understand the impacts of agricultural policies, environmental policies, urbanization policies, and land tenure policies etc. on farmers' adoption of environmentally friendly agricultural practices;
- Focus group discussions for designing eco-compensation mechanism;
- A service provider is selected with bidding process, who will provide the services of collecting manure from animal farms, storing the manure properly, and applying the manure in the farmland as per farmer's request, and/or procuring the commercial organic fertilizers, transporting them, and applying them in the farmland as per farmer's request. Eco-compensation fund will be used to subsidize either service providers and/or farmers involved, and the optimal subsidy rate will be tested. This mechanism will be implemented in the townships of Tongda, Baishan, and Shengqiao;
- The vouchers might be used for the eco-compensation, and there might two kinds: one is 100% discount voucher, and the other say 80% discount voucher. Farmers pay 100% discount vouchers for manure services and in this case farmers do not have to pay their own money. Farmers pay 80% discount vouchers for organic fertilizers services and in this case farmers have to pay 20% of the organic fertilizer costs with their own money. The eco-compensation fund might be kept in an account of Hefei Municipal Government. The IA gets the fund with the used vouchers which are signed by both the farmers and service providers; and
- The proposed US\$1 million eco-compensation budget might be procured separately, and the details will be worked out at late stage.

Output 5: Improved extension of environmentally friendly agriculture

- Training of extension workers and farmers with objectives of: i) helping extension workers identify the environmentally friendly agricultural practices in Lujiang County and other parts of Chao Lake Basin; ii) illustrating the environmental benefits of these practices and their implications for agricultural production; and iii) assessing incentives to encourage extension workers to do the extension and consent on a extension performance evaluation system; and
- Evaluation of training program.

Output 6: A Management Information System for NPS pollution control in the Chao Lake Basin is developed

- The Management Information System is GIS-based and will incorporate information of land use and land-use change, animal farms, villages and their population, pollution outlets, monitoring points, water quality, NPS pollution control intervention location and its progress etc.
-

(d) Project Management

80. Lujiang PMO at the Lujiang Agricultural Commission will be the implementing agency. Activities for output 6, the Management Information System (MIS), will involve the Chao Lake Management Authority and the MIS will be transferred to the CLMA upon completion.

(e) Proposed Specialist Positions

81. Seven specialists and 65 person-months (pm) are needed in the phase of implementation to assist the implementing agency to carry out the demonstration. Below are the proposed positions, tasks, qualifications, and deliverables:

Position/Tasks	Qualifications	Deliverables
1. NPS Pollution and Animal Waste Specialist (Team Leader, 18 person-months)		
(i) Coordinate all the parts of the demonstration activities, work closely with the executing agency on the plan, design, and implementation of each activity; (ii) Assist the executing agency on monitoring each activity with established evaluation and monitoring indicators; (iii) Provide professional suggestions on the applied technologies of 1) fermentation bed, 2) medium-to-large sized biogas systems, 3) organic fertilizer made of animal manure, 4) direct application of animal manure, and advise animal farmers on the feasibilities of each technology; (iv) Evaluate the feasibility of the above 4 technologies in terms of technical, economic, financial, cultural, environmental, and institutional aspects in the Chao Lake Basin; (v) Assess what incentives are needed to promote the application of environmentally friendly technologies listed above, evaluate the costs and effectiveness of the incentives (vi) Document what kind of technologies are applicable in what kind of animal farm, in what scale of animal farm, with what kind of raising techniques. (vii) Summarize the conditions for applying each of the 4 technologies, the environmental effects of each technology, the investment costs and O&M costs of each technology, and assess to what extent it could be replicated and/or scaled up in other areas of the Chao Lake Basin; and (viii) Draft project documents and reports with inputs from other specialists.	(i) At least 15 years of professional experiences in the field of agricultural NPS pollution and animal waste treatment and utilization; (ii) Holding a Master's or PhD degree in agriculture science related subjects is preferable; (iii) Having experiences of working with government officials in public programs/projects; (iv) Being skillful in communication with other team members and in coordination with government agencies; and (v) Can speak and write in both Chinese and English;	(i) Evaluation reports, documenting findings in demonstration of the 4 technologies in control of NPS pollution from animal farms; (ii) Synthesis report, incorporating findings in demonstration of other technologies of NPS pollution control which are evaluated by other specialists in the team; and (iii) Project implementation reports submitted to the executing agency and ADB.
2. Eco-compensation Specialist (Deputy Team Leader, 18 person-months)		
(i) Work closely with the executing agency on the plan, design, and implementation of eco-compensation for NPS pollution control in the 3 townships; and work closely with other team members; (ii) Carry out survey to understand farmers' behavior on adoption of environmentally friendly agricultural practices; (iii) Carry out the field survey for design of the eco-compensation mechanism, evaluate the willingness of the farmers to apply organic fertilizers and animal manure; test the willingness for different crops and in different scale of farmland; (iv) Design the eco-compensation mechanism which promotes farmers' use of organic fertilizers and/or animal manure in farmland. Test the compensation rate with random selected farmer groups.	(i) At least 8 years of professional experiences in eco-compensation; (ii) Holding a Master's or PhD degree in environmental economics is preferable; (iii) Having experiences of working with government officials in public programs/projects; (iv) Being skillful in communication with other team members and in coordination with government agencies; and (v) Can speak and write in both Chinese and	(i) Survey report on farmers' behavior on application of more organic fertilizers, animal manure, less chemical fertilizers and other environmentally friendly agricultural practices; and (ii) Evaluation reports, documenting findings in demonstration

Position/Tasks	Qualifications	Deliverables
<ul style="list-style-type: none"> (v) Assist the executing agency on monitoring the eco-compensation mechanism with established evaluation and monitoring indicators on demonstration sites; (vi) Evaluate the viability of the eco-compensation mechanism in terms of technical, economic, financial, cultural, environmental, and institutional aspects in the Chao Lake Basin; (vii) Assess what incentives are needed to promote the application of eco-compensation for NPS pollution control, evaluate the costs and effectiveness of the incentives (viii) Document what compensation rates are applicable for what group of households, in what scale of farmland, and for what crop farming. (ix) Summarize the conditions for applying the eco-compensation mechanism, the environmental effects, the compensate rate, eligible service providers and enrolled farmers, and assess to what extent it could be replicated and/or scaled up in other areas of the Chao Lake Basin; (x) Draft evaluation report on eco-compensation for NPS pollution control; and (xi) Provide inputs to project documents and reports as required by the team leader. 	English.	of the eco-compensation for control of NPS pollution.
3. Fertilizer Specialist (6 person-months)		
<ul style="list-style-type: none"> (i) Work closely with the executing agency on the plan, design, and implementation of NPS pollution control in the farmland; and work closely with other team members; (ii) Assist the executing agency on monitoring farmland NPS pollution control with established evaluation and monitoring indicators on demonstration sites; (iii) Provide professional suggestions on the applied technologies of 1) release-controlled chemical fertilizer, 2) crop-specific chemical fertilizer, 3) organic fertilizer, 4) animal manure, 5) crop straw retained in the field, and advise farmers on the feasibilities of each technology; (iv) Evaluate the feasibility of the above 5 technologies in terms of technical, economic, financial, cultural, environmental, and institutional aspects in the Chao Lake Basin; (v) Assess what incentives are needed to promote the application of environmentally friendly technologies listed above, evaluate the costs and effectiveness of the incentives (vi) Document what kinds of technologies are applicable for what crops, in what scale of farmland, with what kind of cropping systems. (vii) Summarize the conditions for applying each of the 5 technologies, the environmental effects of each technology, the investment costs and O&M costs of each technology, and assess to what 	<ul style="list-style-type: none"> (i) At least 10 years of professional experiences in agriculture and fertilization; (ii) Holding a Master's or PhD degree in agriculture science related subjects is preferable; (iii) Having experiences of working with government officials in public programs/projects; and (iv) Being skillful in communication with other team members and in coordination with government agencies. 	(i) Evaluation reports, documenting findings in demonstration of the 5 technologies in control of NPS pollution from farmland.

Position/Tasks	Qualifications	Deliverables
<p>extent it could be replicated and/or scaled up in other areas of the Chao Lake Basin;</p> <p>(viii) Draft evaluation report on farmland NPS pollution control; and</p> <p>(ix) Provide inputs to project documents and reports as required by the team leader.</p>		
4. Rural Wastewater Specialist (5 person-months)		
<p>(i) Work closely with the executing agency on the plan, design, and implementation of NPS pollution control of rural domestic wastewater; and work closely with other team members;</p> <p>(ii) Assist the executing agency on monitoring rural wastewater control with established evaluation and monitoring indicators on demonstration sites;</p> <p>(iii) Provide professional suggestions on the applied technologies of 1) 3-stage sanitary toilet, 2) other applicable, and advise farmers on the feasibilities of each technology;</p> <p>(iv) Evaluate the feasibility of the technologies in terms of technical, economic, financial, cultural, environmental, and institutional aspects in the Chao Lake Basin;</p> <p>(v) Assess what incentives are needed to promote the application of environmentally friendly technologies listed above, evaluate the costs and effectiveness of the incentives</p> <p>(vi) Document what kinds of technologies are applicable in what geographical regions, for what kind of households etc.</p> <p>(vii) Summarize the conditions for applying each of the technologies, the environmental effects of each technology, the investment costs and O&M costs of each technology, and assess to what extent it could be replicated and/or scaled up in other areas of the Chao Lake Basin;</p> <p>(viii) Draft evaluation report on rural wastewater NPS pollution control; and</p> <p>(ix) Provide inputs to project documents and reports as required by the team leader.</p>	<p>(i) At least 5 years of professional experiences in rural wastewater and sanitation;</p> <p>(ii) Having experiences of working with government officials in public programs/projects; and</p> <p>(iii) Being skillful in communication with other team members and in coordination with government agencies.</p>	<p>(i.) Evaluation reports, documenting findings in demonstration of the sanitary technologies in control of NPS pollution from rural wastewater.</p>
5. Rural Solid Waste Specialist (5 person-months)		
<p>(i) Work closely with the executing agency on the plan, design, and implementation of NPS pollution control rural solid wastes; and work closely with other team members;</p> <p>(ii) Assist the executing agency on monitoring solid wastes control with established evaluation and monitoring indicators on demonstration sites;</p> <p>(iii) Provide professional suggestions on the applied technologies of 1) collection and landfill on site (villages), 2) collection and transferred to large scale landfill site outside villages, and advise farmers on the feasibilities of each technology;</p> <p>(iv) Evaluate the feasibility of the above 2 technologies in terms of technical, economic,</p>	<p>(i) At least 5 years of professional experiences in rural sanitation;</p> <p>(ii) Having experiences of working with government officials in public programs/projects; and</p> <p>(iii) Being skillful in communication with other team members and in coordination with government agencies.</p>	<p>(i) Evaluation reports, documenting findings in demonstration of the technologies in control of NPS pollution from rural solid wastes</p>

Position/Tasks	Qualifications	Deliverables
financial, cultural, environmental, and institutional aspects in the Chao Lake Basin; (v) Assess what incentives are needed to promote the application of environmentally friendly technologies listed above, evaluate the costs and effectiveness of the incentives; (vi) Document what kinds of technologies are applicable for what kinds of villages; (vii) Summarize the conditions for applying each of the technologies, the environmental effects of each technology, the investment costs and O&M costs of each technology, and assess to what extent it could be replicated and/or scaled up in other areas of the Chao Lake Basin; (viii) Draft evaluation report on rural solid wastes NPS pollution control; and (ix) Provide inputs to project documents and reports as required by the team leader.		
6. Agricultural Extension Specialist (5 person-months)		
(i) Work closely with the executing agency on evaluating the capacity of agricultural extension regarding environmentally friendly practices; (ii) Facilitate identification of environmentally friendly agricultural practices with Jujiang extension workers; (iii) Design the training program for extension workers; (iv) Evaluate the performance of the extension workers; (v) Assess to what extent it could be replicated and/or scaled up in other areas of the Chao Lake Basin; (vi) Draft evaluation report on training of extension workers; and (vii) Provide inputs to project documents and reports as required by the team leader.	(i) At least 5 years of professional experiences in agricultural extension; (ii) Having experiences of working with government officials in public programs/projects; and (iii) Being skillful in communication with other team members and in coordination with government agencies.	(i) Evaluation reports, documenting findings in training program.
7. Procurement Specialist (8 person-months)		
(i) Work closely with the executing agency on the procurement for the demonstration; and work closely with other team members; (ii) Assist the executing agency on preparing the procurement documents and monitoring procurement activities with established evaluation and monitoring indicators on demonstration sites; (iii) Draft procurement report; and (iv) Provide inputs to project documents and reports as required by the team leader.	(i) At least 5 years of professional experiences in procurement; (ii) Having experiences of working with government officials in public programs/projects; and (iii) Being skillful in communication with other team members and in coordination with government agencies.	(i) Evaluation reports, documenting findings in procurement for the pilot project.

(f) Budget

82. The budget is estimated at US\$3 million for the demonstration as shown in Table 9.

Table 9. Cost Estimates for the NPS Pilot Project

Item	Activities	Costs (\$'000)
1. Pilot activities		2,000
1.1 Survey, study and management	field survey pilot design consultancy project management	450
1.2 Animal waste management	1 organic fertilizer factory 1 fermentation bed pig raising; 2 two medium sized biogas;	350
1.3 Improved fertilizer use	promotion of release-controlled fertilizer use promotion of crop straw use on field	
1.4 Rural wastewater and solid waste management	solid wastes collection and treatment in 7 villages along the Xiaonan River in Tongda solid wastes management in Shengqiao wastewater treatment in Xuqiao Village of Shengqiao	750
1.5 Extension of environmentally friendly agricultural practices	training of extension workers farmer education evaluation	100
1.6 Management Information System	A GIS based management information system for NPS control	200
2. Eco-compensation fund	Subsidize farmers	1,000
TOTAL		3,000

GIS = geographic information system, NPS = non-point source.

Source: Asian Development Bank estimates.

3. Consultants for Capacity Building for the Chao Lake Management Authority (Contract Package No. CS-03)

(a) Introduction

83. The Chao Lake Management Authority (CLMA) is a new organization at vice-department level established by the government of Anhui Province in August 2011. CLMA has the primary responsibility to manage activities around, on, and in the lake and the rivers in the Chao Lake Basin in order to improve the water quality while making beneficial uses of the lake and its waters.

84. As a newly-formed organization and with the responsibilities for project management, there is a need for capacity building for CLMA that includes provision of equipment, training, and special studies. As part of the project, the Anhui Provincial Project Management Office (PMO) will procure equipment and engage consultants for CLMA capacity building.

85. The consulting services will involve international and national experts, with a national team leader to:

- (i) assist development of an automated monitoring system for water quality;
- (ii) organize and conduct a study on the management of Chao Lake Basin based on the concept of functional districts;
- (iii) organize and conduct a study on rapid detection of water quality problems; and
- (iv) organize training for CLMA staff through educational programs domestically (i.e. within the PRC) and internationally.

86. Anhui PMO will recruit the Consultant in accordance with ADB's Guidelines on the Use of Consultants by Asian Development Bank and its Borrowers (2010 as amended from time to time).²⁸

(b) Consulting Services for Water Quality Monitoring

87. The consulting services will advise on methodology for automated, real time sampling, and analysis linked to a geographic information system with results stored in an electronic database using commercially-available software and develop technical specifications and advise on procurement. When the equipment is on-site, assist installation and set-up of data entry, retrieval and analysis, and reporting

(c) Consulting Services for Special Studies for Functional Districts

88. The purpose of the study is to characterize the land area surrounding Chao Lake (e.g. urban, agriculture, industry, etc.), the uses of water supporting the surrounding land areas (e.g. agricultural irrigation), and uses of the lake (e.g. transportation, recreation). The consultant will collect data and organize it using a geographic information system and use the data to develop maps showing various functional districts.

(d) Consulting Services for Special Studies for Early Warning System

89. The purpose of the study is to improve the early-warning capacity for cyano-bacterial (blue-green algae) blooms (i.e. harmful algae blooms) and deterioration of water quality in the lake and rivers. The study will include a report on systems used in the world, promising technologies, proposed pilot testing. If the testing is approved, procurement and installation of equipment, and pilot testing will be done.

(e) Consulting Services for Capacity Building and Training

90. The capacity building will include an appropriate mix of formal and informal training by consultants during their work with the CLMA. Also, the Consultants will develop a training program for technical, field, and management staff that includes, classroom courses at domestic schools and universities and study tours domestic and international.

(f) Counterpart Cost for UNESCO-IHE Technical Assistance

91. ADB prepared a proposal for UNESCO-IHE technical support to strengthen the CLMA's capacity through (i) facilitating the development of a pilot institutional framework of the CLMA, which clarifies its internal structure and jurisdiction in relation to existing provincial agencies; (ii) assessing the technical and managerial training needs of CLMA staff; (iii) developing the understanding and capacity of CLMA staff to apply the principles of integrated water resources management (IWRM); and (iv) establishing links between the CLMA and lake and river basin management authorities elsewhere in the PRC and globally to facilitate exchange of management experiences and knowledge. This TA is expected to start in September 2012 and may include fielding of international consultants in separate missions with a defined scope of work.

(g) Consulting Inputs and Costs

²⁸ ADB. 2010. *Guidelines on the Use of Consultants by Asian Development Bank and its Borrowers*. Manila.

92. The summary of consultancy and associated costs are set out below. Table 9 provides the number of person months for each expertise. Table 11 below provides an outline budget for the proposed consulting services.

Table 10. Proposed Specialists for the Consulting Services

Capacity Building for CLMA	International	National
Team Leader/Lake Management Specialist		16
Deputy Team Leader/Lake Management Specialist	10	
Water Quality Monitoring Specialist	4	8
Water Resources Specialist	4	8
Water Pollution Specialist	4	8
Institutional Specialist	4	8
GIS Specialist	4	8
Planning Specialist	6	10
Land Resources Specialist	2	8
Management Information Specialist	2	8
Short Term Specialists	5	20
Training Specialist	2	6
Total	47	108

Source: Asian Development Bank estimates.

Table 11. Consultancy Services Budget

Item	Budget (\$ million)
Staff Training (including counterpart Fund for UNESECO-IHE TA)	0.66
Water Quality Monitoring	0.58
Study for Functional Districts	0.50
Study for Early Warning System	0.40
Total	2.14

Source: Asian Development Bank estimates.

(h) Implementation and Reporting

93. The overall consultancy will be provided over an 18-month period. Reports to be submitted are as follows:

- (i) Inception report within two months of commencement of the consulting services submitted for the PMO's review and approval and for submission to ADB;
- (ii) Quarterly progress reports detailing programmed and actual progress versus the overall project work plan;
- (iii) Study reports on water quality monitoring system, functional districts, and early warning system;
- (iv) Midterm review report; and
- (v) Final report.

VII. SAFEGUARDS

A. Environment

94. The project is classified as Category A following ADB's Safeguard Policy Statement (SPS, 2009). During project preparation, separate domestic environmental impact reports (EIR) were prepared for each of the subprojects in compliance with PRC's regulatory framework, and a consolidated Environment Impact Assessment (EIA) report, including an environmental

management plan (EMP), for the overall project was prepared in compliance with ADB's requirements. Adequate assurances on environmental safeguards have been established in the loan and project agreements.

95. APG, through the provincial Project Management Office (PPMO) in the CMLA, will be responsible for the overall implementation and compliance with the EMP mitigation and monitoring plan, institutional strengthening and capacity development arrangements and reporting. The PPMO will establish an environmental and social management unit staffed with at least 3 qualified environmental specialists to undertake environmental management activities including (i) managing the environmental activities carried out under the project; (ii) ensuring effective EMP implementation; (iii) recruiting and supervising the environmental management consultant to provide training on EMP implementation and assist the PMO in the evaluation of EMP implementation; and (iv) coordinating with other municipal agencies and ADB on all relevant environmental matters. The PPMO also has the final responsibility for implementation of a grievance mechanism for handling any disputes.

96. PMOs will be established at the municipality and county levels for each of the subprojects. The PMOs will assume day-to-day responsibility for supervising implementation of environmental mitigation measures and reporting to the PPMO, ensuring that mitigation measures are implemented as described in the EMP. Where necessary, the EMP will be updated at the end of the detailed design, and finally be passed to the construction contractors. The PMOs will appoint one environment officer to supervise the work of the contractors, report to the environment coordinator in the PMO, and coordinate with the local government agencies.

97. To ensure that contractors comply with the EMP's provisions, the PMOs and implementing agencies will prepare and provide the following specification clauses to be incorporated into the bidding procedures: (i) a list of environmental management requirements to be budgeted by the bidders in their proposals; (ii) environmental clauses for contractual terms and conditions; and (iii) full EIAs for compliance. The PMOs will also initially handle any disputes arising from noncompliance with the EMP.

98. Environmental training will be essential for the PMO, implementing agencies, and contractors to implement the EMP. The PMOs, with the support of the environmental management consultant, will be responsible for organizing training programs, which will cover (i) environmental laws, regulation, and policies; (ii) implementing mitigation measures; (iii) environmental technologies and procurement; (iv) operating and maintaining environmental facility; (v) environmental monitoring, and supervision; and (vi) documentation and reporting.

99. **EMP and loan covenants compliance monitoring.** During project implementation, ADB and the PPMO will closely monitor the compliance of all the covenants under the project and will take necessary remedy actions for any noncompliance. The EMP and loan covenants compliance status will be reported in the semi-annual environmental monitoring reports by the PPMO and will be reviewed during project review missions. Quarterly progress reports will include a brief summary, highlighting environmental issues that were encountered during that period, if any.

100. **Safeguards monitoring.** Monitoring of EMP implementation will be undertaken by the PMO through the environmental and social management unit. The PPMO will monitor and assess overall project activities under the project design and monitoring framework, including environmental targets. The PPMO will report to ADB the progress of the EMP, information on project implementation, environmental performance of the contractors, and EMP compliance through quarterly project progress reports and semiannual internal environmental monitoring

reports. The progress reports on the EMP will pay particular attention to consultation and participation, and to public and worker safety and health.

101. During construction and operations, the environmental management consultant will support the PMOs and implementing agencies to conduct internal environmental monitoring and inspections to ensure that environmental mitigation measures are properly implemented. Inspections or audits to verify the need for existing or associated facilities will also review the affected environment. External monitoring and inspection will be conducted by local environmental monitoring centers under the local environment protection bureaus. They will be responsible to undertake regular and random environmental monitoring and inspection activities before, during, and after construction as well as in the event of emergencies.

B. Resettlement

102. The project is classified as Category A for involuntary resettlement. Although the impacts of land acquisition on most of the 3,200 affected people are minor, even after design optimization, more than 50 people will be affected by house demolition and around 200 people will suffer significant loss of agricultural land which leads to loss of more than 10% of their income generating assets. Major design optimizations were undertaken to improve both the efficiency of the overall project and to reduce resettlement and associated social disruptions. After these design optimizations, the project will affect 20 villages of 11 townships in nine counties, permanently acquiring 1,251.29 mu²⁹ of land (1,202.32 mu or 96.1%, as cultivated land), and temporally occupying 1,789.44 mu of land. An estimated 3,050.4 m² of buildings (13 houses and other non-residential structures) will be demolished. A total of 3,168 persons in 817 households will be permanently affected due to land acquisition and house demolition (below is a summary). The cost estimate for land acquisition and resettlement is CNY92.2 million. Compensation will be paid to the affected persons and villages. Part of the compensation will be used for social insurance for the affected persons, based on their choice.

Subproject		Unit	H1	H3	H4	H7	H8	H9	H10	L1	WW1	Total
Affected County /District		Numbers	1	1	1	1	1	1	1	1	1	9
Affected Town/ Street		Numbers	1	1	2	1	2	1	1	1	1	11
Affected Village/ community		Numbers	1	2	2	1	2	1	7	3	1	20
Affected Group		Numbers	3	12	5	2	5	4	33	4	3	71
Permanent Collective land acquisition	Collective land	mu	30	106	75	120	64	483	223	100	50	1251
	including: cultivated land	mu	29	105	75	120	64	483	209	98	19	1202
Temporary land occupation		mu	157	90	15	724	612	0	191	0	0	1789
Demolition of residential house		m ²	0	550	0	0	0	0	0	0	1408	1958
Demolition of non-residential house		m ²	0	340	0	0	0	400	0	0	352	1092
Directly affected persons	affected by LA only	Household	19	82	48	57	79	252	218	33	15	803
		Person	75	323	172	205	286	900	914	168	72	3115
	affected by HD only	Household	0	1	0	0	0	0	0	0	8	9
		Person	0	4	0	0	0	0	0	0	28	32
	affected by LA & HD	Household	0	3	0	0	0	0	0	0	2	5
		Person	0	12	0	0	0	0	0	0	9	21
	Total	Household	19	86	48	57	79	252	218	33	25	817
		Person	75	339	172	205	286	900	914	168	109	3168

²⁹ 15 Chinese mu = 1.0 hectare.

LA = Land Acquisition, HD = House Demolition

Note: Affected Person is the same as Displaced Person in the ADB Safeguard Policy Statement (2009).

103. The estimated cost for land acquisition and resettlement is CNY 92.2 million in 2011 prices including contingencies and land taxes. The resettlement costs will be updated if there are changes in project design or regulations demand so. The land acquisition and resettlement costs are included as part of total project cost.

Table 12. Estimated Resettlement Cost

Sub-project	Resettlement Cost (CNY'000)	% of Total Cost
H1	3,344	3.6
H3	9,508	10.3
H4	6,974	7.6
H7	9,698	10.5
H8	4,153	4.5
H9	31,293	33.9
H10	15,702	17.0
L1	6,222	6.8
WW1	5,325	5.8
Total	92,219	100

Source: Asian Development Bank estimates.

104. The executing agency has assured that adequate counterpart funding would be made available for land acquisition and resettlement in line with the annual funding requirements as stipulated in the resettlement plans.

105. Based on the policies, guidelines, and principals as laid out in the draft resettlement plans, the entitlement matrix for the project has been formulated and confirmed by the implementing agencies. For land acquisition, compensation fees include a land compensation fee and a resettlement subsidy. The land acquisition compensation is determined based on the integrated land section price of Anhui province.

Table 13. Compensation Standard for Land Acquisition
(CNY/mu)

Sub project	Project Affected Towns/Villages	Annual Average Output Value (AAOV)	Compensation Multiples	Allowance Multiples	Land Compensation	Resettlement Subsidy	Integrated Land Section Price
H1	Nanhe Village of Yandun street		Not used for calculation		21,160	31,740	52,900
H3	Xuguang Village and Xianfeng Community of Cuozen	1460	7	15	10,220	21,900	32,120

Sub project	Project Affected Towns/ Villages	Annual Average Output Value (AAOV)	Compensation Multiples	Allowance Multiples	Land Compensation	Resettlement Subsidy	Integrated Land Section Price
	Town						
H4	Zhongpai Community of Shangpai Town	1460	8	15	12,000	22,500	34,500
H7	Daishan Village of Yinping Town	1400	7	15	9,800	21,000	30,800
H8	Nanjie Village, Xiagezhen Xiage Community of Tongyang Town	1400	7	15	9,800	21,000	30,800
H9	Hexi Village of Zhongmiao Town	1400	7	15	98,00	21,000	30,800
H10	Lucheng Town	1460	7	15	10,220	21,900	32,120
L1	Sanshipu Town	1450	9	15	13,050	21,750	34,800
WW1	Zhangmiao Village of Fudu Town	1400	7	15	9,800	21,000	30,800

Source: Asian Development Bank estimates.

106. For house demolition, compensation will be paid to owners. The compensation amounts are comprised of the house location price, replacement costs, compensation for auxiliary facilities and decorations, and other subsidies including transition subsidy, movement subsidy, etc. In addition, both men and women are entitled to sign the land acquisition and house demolition contract and obtain the payments.

107. Compensation for young crops, trees, other facilities, and temporary impacts will be paid directly to affected persons (APs). Income losses resulting from reduced production/sales and wages caused by the project will also be assessed and compensated.

108. Nine draft resettlement plans have been prepared based on the design in the feasibility study report (FSR) and the resettlement plans will be updated when the detailed design is finalized. The resettlement plans will be updated, based on detailed measurement survey and approved village reconstruction plans, and submitted to ADB for approval. Prior to ADB approval, the final resettlement plans will be disclosed to all affected households. This will be undertaken

through the engagement of resettlement specialist(s) to assist the PMO in updating the resettlement plans and to provide training to local officials. The PMO staff will supervise resettlement implementation and include progress in the quarterly progress reports of the project, and to prepare a Resettlement Completion Report for submission to ADB prior to loan closing. In addition, an external resettlement agency/institute will be engaged to monitor, evaluate, and report progress of the resettlement plan implementation and compliance to ADB semi-annually during construction and annually for 2 years thereafter.

C. Indigenous Peoples

109. The project is classified as category “C”. The population in the project area is ethnically homogenous mainstream Han. There are no impacts on ethnic minorities/indigenous peoples’ groups in the project area.

VIII. GENDER AND SOCIAL DIMENSIONS

110. The project preparatory technical assistance (PPTA) consultant conducted a poverty and social analysis of the project. The methodology consisted of: (i) literature review of government statistical year books and province plans; (ii) household socio-economic survey with 776 sample households; (iii) 30 focus group discussions (FGD) with more than 400 persons, including women and men, the poor, sanitation workers, small businessmen, and community leaders; (iv) 30 stakeholder workshops, three in each of the nine project counties and cities and an additional 3 in Chaohu municipality, with representatives of implementing agencies, PMO, relevant government agencies; and (v) 108 key informant interviews. The findings were used to formulate a Gender Action Plan, a Social Action Plan, and a Consultation and Participation Plan. Poverty and social dimensions are also summarized in the SPRSS (linked document 10 of the RRP).

A. Gender Action Plan

111. The Gender Action Plan includes targets for employment and training, educational programs, and public consultation. The project will establish a Community Environmental Supervision and Management Team (CESMT) in each subproject area. A CESMT convenes community representatives to develop generally accepted and feasible community rules and regulations on environmental management and supervise the implementation thereof. Each CESMT consists of three members who are elected by community representatives, at least one of which is female.

GENDER ACTION PLAN

Project Component	Gender Equality Features	Outputs/ Activities	Targets / Indicators	Budget	Responsibilities	Time frame
Output 1: Increased Municipal Point Source Pollution Control	Employment and Training	Women's equal access to job opportunities and appropriate training	Target at least 40% job opportunities for women created under the project. At least 50% livelihood skills training opportunities provided for women who lost land due to the project. At least 2/3 of the training sites will be selected on sites and times suitable for women and women will be involved in content design.	CNY150,000 project counterpart funds, HRSE training funds, ACWF training funds.	The PMOs will monitor, and contractors will be made to ensure The PMOs, local HRSE and ACWF are responsible for curricula design and monitoring women's participation.	Throughout implementation and operation
	Garbage Sorting Training	Strengthen garbage sorting training of women	Records of seminars, workshops, and meetings on garbage sorting knowledge, collection process, usage and maintenance of community solid waste facilities. (Sex disaggregated data, target for women = 50%)	CNY20,000 project counterpart funds; HURC, EPB, HB, and ACWF counterpart funds.		Throughout implementation and operation
	Public Consultation	Ensure women participate in meetings about the project	At least 40% of participants in public meetings for the subproject on wastewater collection, treatment, and disposal, river course rehabilitation, and wetlands are women	CNY 50,000 project counterpart funds; HURC, EPB, ACWF counterpart funds.	The PMOs, ACWF, EPB, HRSE, HURC, WRB, HB, CC (Reporting indicators should be reflected in ADB's project performance and monitoring system).	Early during implementation
		Ensure women participate in tariff setting for wastewater and solid waste	Wastewater and solid waste affordability analysis includes disaggregation by sex and incorporation into subproject reporting. At least 30% of participants in public hearings on tariff setting are women.			
	Educational Programs	Public awareness and education on uses and	Records of seminars, workshops, and meetings on river and lake environmental protection, importance of proper garbage disposal (not into the river or lake), benefits	CNY100,000 project counterpart funds; HURC,		Throughout implementation and operation

Project Component	Gender Equality Features	Outputs/ Activities	Targets / Indicators	Budget	Responsibilities	Time frame
		benefits of project components	of using low phosphorus detergents. Target for women = 40%	EPB, HB, and ACWF counterpart funds.		
Output 3: Improved Institutional Capacity of Chao Lake Management Authority	Women Participation in Institutions	Ensure women's participation in lake management	Female staffing in CLMA will reach 40% at end of the project.	Part of the routine operations of CLMA and included in the operating budget	CLMA supervision body	Throughout implementation and operation
Output 4 Strengthened project management capacity	Women's Access to Management	Ensure women's participation in project decision making	Representatives of ACWF and PAD Office in the PLG or consulted by it; Experienced specialist available to advise and assist with the implementation of gender training and to mentor safeguard staff, if required At least one person appointed to full time position to perform this role in each PMO/IA. All community offices have at least one woman member in place.	Part of the routine operations of the PMOs and included in their operating budget which comes from project management funding	PMOs PMOs shall submit annual monitoring reports to ADB.	Throughout implementation and operation
	Gender-Balanced Information Disclosure and Participation	Women will be informed and consulted about the project.	Female beneficiaries will be informed about opportunities to access project funds, technical advice, training, and employment opportunities. Women will be consulted to improve the subproject.			Early during implementation
	Monitoring and Evaluation	Sex disaggregated data collection	Sex disaggregated data on stakeholders' participation in trainings and community activities will be included in project progress reports			After project completion
	Gender Awareness for Project Staff	Staff training includes gender awareness	Number of participants in training curricula for all prefecture and county PMO and IA staff, to include discussion of (i) ADB gender policies; (ii) the GAP; and	CNY20,000 project counterpart funds	PMOs are responsible for management and ACWF will	Throughout implementation and operation

Project Component	Gender Equality Features	Outputs/ Activities	Targets / Indicators	Budget	Responsibilities	Time frame
			(iii) the benefits to be derived from gender mainstreaming in project		provide support. PMOs shall submit annual monitoring reports to ADB.	
	CESMT Building	Daily supervision and management of environment related activities	At least one CESMT member is a woman. Number of women participants in environmental protection activities that CESMT carries out should be at least 40%	CNY30,000 (wages and activity expenses), EMP funds		During project operation

Note: *CESMT consists of 3 members who are elected by community representatives. A CESMT convenes community representatives to develop generally accepted and feasible community rules and regulations on environmental management and supervise the implementation thereof.

ACWF = All China Women's Federation, ADB = Asian Development Bank, CC = Community Committee, CESMT= Community Environmental Supervision and Management Team, CNY = yuan, EMP= Environmental Management Plan, EPB= Environmental Protection Bureau, GAP = Gender Action Plan, HB= Health Bureau, HRSE = Department of Human Resources and Social Security, HURC = Housing and Urban-Rural Construction, IA =Implementing Agency, PAD = Poverty Alleviation and Development, PLG = Project Leading Group, PMO = project management office, WRB = Water Resource Bureau.

Source: Asian Development Bank.

B. Social Action Plan

112. The executing agency has agreed to ensure that Social Action Plan (SAP) measures will be included in project design, and will monitor implementation and effectiveness of these measures, including dissemination of information about HIV/AIDS awareness and prevention. The executing agency will nominate a qualified staff member, within the PMO, to be responsible for the implementation and monitoring of the SAP and other social indicators in the project performance monitoring system (PPMS).

113. The project implementation consultant will appoint at least one social/gender specialist, who will be allocated sufficient hours to be able, among his/her performance of other duties, to support the safeguard staff from the executing agency and implementing agencies in their overseeing of the implementation and monitoring of the social safeguard plans. This specialist will assist the safeguard staff, providing informal and on-the-job training as required.

114. In the course of consultation with community members, residents will be asked about the processes through which they would feel most comfortable receiving and conveying information about the project. Depending on the responses received, the staff of Community Offices, the All China Women's Federation and/or some other organization/s will be asked to provide a link between the residents, and the county PMO social safeguards staff. They will also assist with any Project-related community meetings, facilitating, in particular, the participation of women and vulnerable households. Additionally, they will provide a link between the community and the contractors with respect to helping the latter meet targets set for the employment of women and people from poor households.

115. Other agencies will be involved in implementing the SAP, including the Department of Civil Affairs, the Labor Management Committee, and the Center for Disease Control.

116. Internal monitoring of SAP implementation and other socio-economic indicators in the PPMS will be coordinated by the social/gender staff in the PMO. The PMO will be assisted by the social/gender consultant to supervise and submit annual progress reports on SAP implementation to ADB.

Chao Lake Social Action Plan (2012–2017)

Social benefit / risk	Action	Target area / population	Agency responsible	Assisting agencies	Budget	Monitoring indicator
1. New jobs and additional income for urban and rural residents in the project area	Organize job fairs in the project area to ensure that the APs have priority in obtaining new jobs under the project	All urban and rural residents in the project area	Implementing Agency	Local PMOs	Project construction funds	Not less than 80% of additional job opportunities are available to local residents, of which not less than 40% are available to women. Poor households and other vulnerable people living with disabilities will also be given preferential treatment in employment
2. Public environmental awareness and behavior is improved to ensure successful project implementation	Enhancing publicity in public environmental knowledge and awareness	Whole project area	Implementing Agency	Local PMOs, EPB, health bureau, Women's Federation, Poverty Reduction Office, local governments or sub-districts, communities	Project management funds, counterpart funds of agencies concerned	In the directly affected area of each subproject, the Implementing Agency organizes not less than 2 training and publicity activities per annum, with not less than 300 direct participants each. Each activity will be subsidized CNY2,000 from the project budget. The awareness of the public in the project area about the activity is not less than 50%, and the satisfaction of participants with the activity is not less than 80%
	Establish Community Environmental Supervision and Management Team (CESMT) Starts during construction and continues for 3 years	In each sub-project, select one pilot community in an area that is directly affected by the project	Local PMOs, pilot communities		Project management funds, community management funds	Each team has 3 members who are elected by community representatives, including not less than one woman. Each member will receive a working allowance of CNY600 per annum. The trial period is 3 years. A CESMT should convene community representatives to develop generally accepted and feasible community rules and regulations on environmental management, and supervise the implementation thereof. The satisfaction of community residents with the work of the team is not less than 70%
	HIV awareness raising	Local communities	Local PMO contractors	Local PMO	Project budget, contractors	All contractors include HIV awareness in reporting

Social benefit / risk	Action	Target area / population	Agency responsible	Assisting agencies	Budget	Monitoring indicator
3. Public awareness and satisfaction is increased through disclosing key project information to residents and workers in the affected communities	Establish a regular disclosure system of key project information for each subproject	Whole project area	Local PMOs	Implementing Agencies	Project management funds	The Local PMOs disclose key project information via local newspapers, television, and bulletin boards of the project cities, counties, & district at 6 month intervals. Information such as project description and progress, compensation and resettlement programs for land acquisition and house demolition. The awareness of the public in the project area about key project information is not less than 50%, and the satisfaction of informed persons is not less than 70%
4. People have a simple, straight-forward and fair grievance redress mechanism that is clearly documented	Establish a special grievance redress mechanism for each sub-project	Whole project area	Local PMOs	Implementing Agencies, land & resources bureau, construction bureau, planning bureau, EPB, local governments, communities	Project management funds	Each Local PMO establishes a Grievance Redress Office headed by a specially assigned person; develops grievance and appeal, handling, and management systems; sets up a special appeal hotline and discloses it via the channels of project information disclosure. The awareness of the public in the project area about the appeal hotline and channel is not less than 50%. The satisfaction of appellants with appeal handling and settlement is not less than 70%.
5. Risk that household expenses may increase from higher rates water and sanitation services, and not be affordable	Hold a public price hearing for changes in rates and new charges Establish differential price mechanism for urban and rural areas, exempting urban and rural poor and low-income groups from additional charges	All project districts (counties)	Implementing Agency	Price control bureau, public service agencies, township governments, communities	Local government finance	Among all participants at the hearing, not less than 60% are ordinary residents, of which not less than 30% are women. The awareness of the public in the project about additional charges is not less than 70%, and the satisfaction of informed persons is not less than 80% The satisfaction of the poor with having to pay additional charges is not less than 80%

AP = Affected Person, CESMT = Community Environmental Supervision and Management Team, EPB = Environmental Protection Bureau, PMO = Project Management Office, RP = Resettlement Plan, WRB= Water Resource Bureau.

Source: Asian Development Bank estimates.

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

A. Project Design and Monitoring Framework

117. The design and monitoring framework for the project is provided below.

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Impact Improved quality of life and sustainable aquatic ecosystem in Chao Lake	By 2025: Water quality in Chao Lake and upstream rivers restored from class V to class III ^a Reduced episodes of harmful algal blooms in Chao Lake Improved hygiene conditions and reduction of waterborne diseases for 0.8 million people Improved livelihoods through employment created for 7000 people ^b	Annual public health reports by the APG Annual state of environment reports by provincial and city governments Monitoring reports from CLMA Reports of employment by agencies operating ADB-funded works	Assumptions Chao Lake environmental protection management plan (2008–2020) effectively implemented Contractors and operators provide skills training, especially to women and the poor Risk Government budget inadequate
Outcome Improved water resources and environment in Chao Lake and upstream rivers	By 2018: Reduced chemical oxygen demand discharge by 24,000 t/yr; ammonia nitrogen discharge by 1,740 t/yr; and phosphorus discharge by 280 t/yr ^c Additional 1.4 million people connected to expanded wastewater collection system	Monitoring reports by municipality and county environment protection bureau and water resources bureau Annual livelihood surveys by the municipality and county poverty alleviation and development office Municipality and county disease control center reports CLMA reports	Assumptions Municipality and county 12th five-year plans for social and economic development plan and water resources effectively implemented Municipality and county pollution control plan effectively implemented Local communities willing to participate Risks Ineffective enforcement of environmental regulations Wastewater collection and WWTP O&M not implemented effectively
Outputs 1. Increased municipal point source pollution control	By 2018: Expanded wastewater collection system by 484,500 m ³ /day Increased wastewater treatment capacity by 166,000 m ³ /day WWTP effluent treated to	Provincial, municipality, and county PQRs and annual development reports Operating agency employment records ADB mission reports (i.e.,	Assumptions Local governments expand wastewater treatment to include 100% of wastewater collected Customers are willing to pay increased tariffs Risks

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
	<p>People's Republic of China class 1A standards</p> <p>2,000 jobs created for the O&M of the wastewater collection system and WWTP</p> <p>40% of the 2,000 jobs created assigned to women</p>	<p>annual progress, midterm, and project completion)</p>	<p>Municipality and county governments favor economic development over environmental protection</p> <p>Delayed increases in tariff and tariff collection rates</p>
2. Enhanced nonpoint source pollution control	<p>By 2018:</p> <p>2.1 million m³ of sediments and sludge dredged and properly disposed of</p> <p>124 km of river banks protected by embankment construction</p> <p>Municipal solid-waste collection and transfer system established for 20 villages with an estimated population of 88,600</p> <p>40 work positions created by solid-waste project in Feidong county</p> <p>Three lakeside wetlands of 337 ha established and operated</p> <p>19 ha of riverine wetland established and operated alongside Xuguangshibajian River</p> <p>A pilot project for rural and agricultural nonpoint source control completed</p>	<p>Provincial, municipality, and county PQPRs and annual development reports</p> <p>CLMA reports</p> <p>Feidong county solid-waste operating agency employment records</p> <p>ADB mission reports</p>	<p>Assumptions</p> <p>Land use planning and development are strictly compliant with the master plan</p> <p>Local vegetation is used in the wetland and invasive plants cleaned</p> <p>Adequate incentive is introduced to stimulate farmer participation</p> <p>Risks</p> <p>Wetland plantation affected by unfavorable weather</p> <p>Dredging damages fish habitats</p> <p>Project implementation delayed by external factors</p>
3. Improved institutional capacity of Chao Lake Management Authority	<p>By 2018:</p> <p>CLMA staff trained and functioning efficiently</p> <p>CLMA equipped with appropriate equipment</p> <p>Female staffing reaches 40% at project end in CLMA</p> <p>At least 50% of positions in CLMA for female staff will be professional and/or skilled positions</p>	<p>CLMA annual reports</p> <p>ADB mission reports</p>	<p>Assumptions</p> <p>Timely engagement of consultants</p> <p>Adequate CLMA formal and human resources</p> <p>Low staff turnover</p> <p>Early deployment of procurement agency</p>

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
4. Strengthened project management capacity	By 2018: Municipal and county PMOs established and fully equipped	Provincial, municipality, and county PQPRs and annual development reports	Assumptions PMO staff appointed on time and low staff turnover
	Consultants recruited to support project management CESMT established with 40% women's participation	ADB mission reports	Timely nomination of staff for training
	40% of participants in project workshops and meetings are women	Provincial and Lujiang county PQPRs and annual development reports	Early deployment of procurement agency
	40% of beneficiaries in capacity building are women		Risks Counterpart funds not made available on time Insufficient counterpart funds
Activities with Milestones			Inputs
1. Increased Municipal Point Source Pollution Control			Project Loan:
1.1 423 km of wastewater collection piping, six wastewater pump stations, and five WWTPs with 111,000 m³/day design capacity constructed in Hefei municipality (by Q2 2017)			ADB \$250.00 million
1.2 88 km of wastewater collection piping, two wastewater pump stations, and one 20,000 m³/day WWTP constructed in Lu'an municipality (by Q2 2017)			Item Amount (\$ million)
1.3 28 km of wastewater collection piping and one 10,000 m³/day WWTP constructed in Hanshan county (by Q4 2015)			Civil works 186.30
1.4 45 km of wastewater collection piping, one wastewater pump station, and one 25,000 m³/day WWTP constructed in Wuwei county (by Q4 2015)			Equipment and materials 42.86
2. Enhanced Nonpoint Source Pollution Control			Consulting services 6.84
2.1 94 km of river courses dredged and 86 km of embankments constructed in Hefei municipality (by Q2 2015)			Interest during construction 13.10
2.2 2 km of river courses and 38 km of embankments constructed in Hanshan county (by Q3 2015)			Commitment charges 0.90
2.3 Two 60 t/day transfer stations constructed, collection and transportation equipment provided, and 1,240 trash collection bins procured and distributed in Feidong county (by Q4 2014)			
2.4 Three lake wetlands and one riverine wetland covering 337 ha constructed (by Q4 2016)			APG \$182.11 million
2.5 Consultants for nonpoint source pilot project mobilized (by Q2 2013)			Item Amount (\$ million)
3. Improved Institutional Capacity of CLMA			Civil works 81.36
3.1 Institutional development and capacity building program for CLMA started (by Q1 2013)			Survey, design, and supervision 35.73
4. Strengthened Project Management Capacity			Land acquisition and resettlement 13.95
4.1 Consulting services to support PMO mobilized (by Q1 2013)			Environmental and social monitoring 1.50
4.2 Environment management plans, resettlement plans, gender action plan, social action plan, and consultation and participation plans implemented (by Q2 2017)			Contingencies 49.57
4.3 CESMTs established (by Q2 2013)			

ADB = Asian Development Bank, APG = Anhui provincial government, CESMT = community environmental supervision and management team, CLMA = Chao Lake Management Authority, ha = hectare, km = kilometer, m³ = cubic meter, m³/day = cubic meter/day, O&M = operation and maintenance, PMO = project management office, PQPR = project quarterly progress report, Q = quarter, t/yr = ton/year, WWTP = wastewater treatment plant.

^a Class III water is suitable as a supply source for a municipal drinking water treatment plant and for swimming. Class V water is suitable only for agricultural water supply and general landscaping use. (PRC Environmental Water Quality Standard GB3838-2002).

^b It is estimated that 2,800 full-time job will be created during the project implementation phase and 4,180 direct jobs will be generated during the project operation phase.

^c In 2010, chemical oxygen demand discharge to Chao Lake is 176,000 tons, ammonia nitrogen discharge is 14,000 tons and phosphorus discharge is 2,000 tons. New baseline in 2013 will be collected when the project starts.

Source: Asian Development Bank.

B. Monitoring

118. **Project performance monitoring.** The project performance monitoring system (PPMS) indicators, their relevance, and monitoring practicalities will be discussed with the PMOs, implementing agencies, and other project beneficiaries during project implementation. Disaggregated baseline data for output and outcome indicators gathered during project processing will be updated and reported quarterly through the executing agency's quarterly progress reports and after each ADB review mission. These quarterly reports will provide information necessary to update ADB's project performance reporting system. At the start of implementation of the project, the APG PMO and the project management teams, with the assistance of the project implementation consultant, will develop comprehensive PPMS procedures to generate data systematically on the inputs and outputs of the project, as well as the indicators to be used to measure the project impact taking into account the subprojects' scope.

119. The PMO will (i) refine the PPMS; (ii) confirm achievable targets; (iii) finalize monitoring, recording, and reporting arrangements; and (iv) establish systems and procedures, no later than six months after loan effectiveness. The PMO will be responsible for monitoring and reporting on the performance of the project. The basis for performance monitoring will be the design and monitoring framework (DMF). The DMF identifies the performance targets for the impact, outcomes, and outputs of the project. By collecting data from the sources identified in the DMF, the PMO will be able to report on an annual basis the performance of the project. Specific reporting requirements will be set out in the agreement between the ADB and the Government. The PMO will collect the data, calculate the indicators, analyze the results, and prepare a brief report describing the extent to which the project is generating the intended outputs and outcomes in the project area.

120. To monitor the progress of the project in achieving the planned outcome and outputs, the PMO will coordinate implementing agencies to establish and maintain the PPMS (Table 14) which will permit adequate flexibility to adopt remedial action regarding project design, schedules, activities, and development impacts. In addition, risk management for the project shall be incorporated in the PPMS. With assistance of international consulting services, a framework of PPMS will be established within six months after the project inception based on the DMF of the project, which should include the baseline data of all indicators. The consulting firm selected will assist PMO in regular monitoring and reporting. The monitoring will cover all indicators listed in the DMF and the indicators reflecting the development results contributed by the project.

Table 14: Project Performance and Monitoring System

Ref	Item	Measurable Targets and Indicators	Monitoring Mechanism
1	Increased Municipal Point Source Pollution Control		
1.A.	Wastewater Collection		
1.A.1	Wastewater collection system expansion	Length (km) of pipe installed by the project	CB statistics

Ref	Item	Measurable Targets and Indicators	Monitoring Mechanism
1.A.2	Area served by piped wastewater collection system	Area (ha) of land served by wastewater collection system	CB statistics
1.B.	Wastewater Treatment		
1.B.1	Wastewater treatment capacity installed	Design capacity of WWTP constructed	CB statistics
1.B.2	Chemical Oxygen Demand (COD) discharge reduction	Tons/year removed by WWTP constructed by the project	EPB monitoring data
1.B.3	NH3-N Discharge Reduction		
1.B.4	Phosphorous (P) Discharge Reduction		
2	Enhanced Non-Point Source Pollution Control		
2.A.	Rehabilitation of River Courses		
2.A.1	Sediments and sludge removed from rivers flowing into the Lake	Estimated volume (cubic meters) of sediments dredged	CB statistics
2.A.2	Length of river bank protected by embankment	Length of embankment constructed	WRB statistics
2.A.3	Municipal solid waste (MSW) collection service	Number of Villages	ESB data
2.A.4	Population served by upgraded MSW	Population Served	Feidong County PMO
2.B.	Construction of Artificial Wetland		
2.B.1	Wetland in the Lake constructed	Area (ha) of wetlands constructed	FB Data
2.B.2	Riverbank wetland constructed	Area (ha) of wetland constructed along river	FB data
2.C.	NPS Pilot Project		
2.C.1	NPS pilot project implemented	Date of implementation and completion	PMO report
3	Improved Institutional Capacity of Chao Lake Management Authority		
3.1	Equipment procured for CLMA	Completion of procurement	CLMA
3.2	Number of CLMA staff trained in China	Number of CMLA staff trained per year	
3.3	Number of CLMA staff trained overseas	Number of CMLA staff trained per year	
4	Strengthened Project Management Capacity		
4.1	Compliance with ADB loan covenants	compliance	ADB review missions
4.2	Percentage of subprojects completed to time		Implementing agency records; PMO reports
4.3	Sub-project costs versus budget		Implementing agency records and PMO reports
4.4	% satisfaction of persons affected by LAR activities (gender disaggregated)	survey	Survey of affected peoples
4.5	Compliance with resettlement plans	Indicators are specified in the resettlement plans	Independent monitoring reports

Ref	Item	Measurable Targets and Indicators	Monitoring Mechanism
4.6	Compliance with environmental management plans	For each EMP, % compliance	Independent monitoring reports
4.7	% cost recovery of wastewater services	For each WWTP, money allocated by finance bureau divided by cost to operate	Wastewater Company data
5	Social Impact Measures		
5.1	Number of Temporary and permanent jobs created by the project	Total number of jobs per year	Implementing agency records; PMO reports
5.2	Number of temporary and permanent jobs assigned to women	Number of female workers hired or assigned	
5.3	Number of temporary and permanent jobs assigned to the poor	Number of people who were earning income below the poverty level before being hired	
5.4	Number of livelihood skills training opportunities provided for women who lost land to the project.	Number of women who are eligible and number receiving training	
5.5	Number of women participating in training activities		

% = percentage; ADB = Asian Development Bank; APs = affected peoples; APG = Anhui Provincial Government; CNY = Chinese yuan; CB=Construction Bureau; CLMA = Chao Lake Management Authority; EPB = Environmental Protection Bureau; ESB = Environmental Sanitation Bureau; GDP= gross domestic product; ha = hectares; km = kilometers; LAR = land acquisition and resettlement; m3/d=cubic meter per day; n/a = not applicable; pa = per annum; PRO = Poverty Reduction Office; t/y = tons per year; WRB=Water Resources Bureau; WWTP = wastewater treatment plant.

Source: Asian Development Bank.

121. Compliance monitoring: The compliance status of loan and project covenants will be reported and assessed through the semi-annual progress reports and to be verified by ADB review missions.

122. Grievance and redress mechanism. Within 3 months from the loan effectiveness, executing agency will cause implementing agencies to establish a complaint and problem management mechanism to (i) review and address grievances of project stakeholders, in relation to either the project, any of the service providers, or any person responsible for carrying out the Project; and (ii) set the procedures for handling such grievances, for proactively responding to them, and for providing the stakeholders with notice of the chosen mechanism/action.

123. Counterpart funding. APG will ensure that all counterpart financing necessary for project implementation will be provided in a timely basis to enable the completion of project activities, which will include: (i) providing additional counterpart financing for any shortfall of funds or cost overruns, and (ii) allocating in each fiscal year adequate funds for O&M of the project facilities in order to allow for such facilities to be operated and maintained in accordance with sound engineering practices.

124. Financial management system. APG will ensure that the implementing agencies will maintain a sound financial management system in accordance with ADB's *Guidelines for Governance and Financial Management of an ADB Investment Project* (2002), including the establishment of separate bank accounts and the maintenance of minimum balances to ensure

smooth cash flow and the timely settlement of project construction liabilities and future debt servicing. The financial management system will comprise (i) financial planning, budgeting, and budgetary control; (ii) accounting consistent with applicable PRC standards; (iii) internal control; (iv) data processing; and (v) financial reports.

125. **Construction quality.** The executing agency and the implementing agencies will ensure that all the civil works under the project are designed and constructed in accordance with national standards and specifications, and that the construction supervision, quality control, contract management, and completion inspection and acceptance comply with applicable national laws and regulations.

126. The executing agency and the implementing agencies, will furnish, or cause to be furnished, to ADB, promptly after their preparation, such plans, design standards, specifications and work schedules, and any material modifications subsequently made therein, in such detail as ADB shall reasonably request.

127. **Project assets sustainability.** APG, will cause the executing agency, and the implementing agencies to, at all times, operate and maintain their assets, equipment and other property and equipment, and from time to time, promptly as needed, make all necessary repairs and renewals thereof, all in accordance with sound administrative, financial, engineering, environmental, construction, maintenance and operational practices.

128. **Gender and social dimensions monitoring.** APG, through the executing agency and in collaboration with the Anhui Labor and Social Security Committee, will ensure that the construction contractors (i) provide timely payment of wages and safe working conditions to all workers; (ii) provide women's employment, where appropriate, and pay equal wages to the female and male employees for equivalent work; and (iii) will not employ child labor as required by the relevant laws and regulations of the Borrower. APG through the executing agency will (i) ensure that the project be designed and implemented in accordance with the Social Action Plan; and (ii) monitor the effects of the project on women and vulnerable groups through collection and compilation of gender-disaggregated data, where relevant. The PMO staff will supervise resettlement implementation and include progress in the quarterly progress reports of the project, and to prepare a Resettlement Completion Report for submission to ADB prior to loan closing. In addition, an external resettlement agency/institute will be engaged to monitor, evaluate, and report progress of the resettlement plan implementation and compliance to ADB semi-annually during land acquisition and resettlement activities and annually for 2 years thereafter.

C. Evaluation

129. ADB, the Government, and the executing agency will undertake (i) semi-annual review missions to evaluate the progress of project implementation; (ii) comprehensive midterm review 2 years after the start of project implementation that includes a detailed evaluation of the scope, implementation arrangements, resettlement, achievement of scheduled targets, and progress on the agenda for policy reform and capacity-building measures; and (iii) a final review within 3 to 6 months of project completion. Within 6 months of physical completion of the project the executing agency will submit a project completion report to ADB.³⁰

³⁰ Project completion report format is available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>

D. Reporting

130. The executing agency will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets; (b) key implementation issues and solutions; (c) updated procurement plan; and (d) updated implementation plan for next 12 months; and (iii) a project completion report within 6 months of physical completion of the project. To ensure projects continue to be both viable and sustainable, project accounts and the executing agency audited financial statements (AFSs), together with the associated auditor's report, should be adequately reviewed.

E. Stakeholder Communication Strategy

131. Extensive consultation will take place on those aspects of infrastructure design which will affect public usage. In the consultative meetings, participants—including male, female, and poor and vulnerable residents, and other significant stakeholders—will also be asked:

- (i) how they would feel most comfortable raising any concerns or complaints they might have in the course of project implementation,
- (ii) the issues on which they would like to be further informed and consulted in the course of project design and implementation; and
- (iii) the process through which they would like to be further informed and consulted in the course of project design and implementation.

132. The responses to these topics will form the basis of the communication strategy to be developed. This strategy will include a mixture of public meetings intended to keep residents and businesses informed of what is happening in their neighborhood and of consultative sessions in which stakeholders will have the opportunity to have an input into decision-making throughout the project cycle. In addition, the communication strategy will outline a process whereby residents can provide feedback, directly or indirectly, to implementing agencies, if they have any concerns regarding project implementation or its impacts. Table 15 provides the consultation and participation plan for project implementation.

133. The resettlement plans also describe how project information has been and will continue to be disseminated among the affected persons, the consultation approach, and how affected people's feedback has been incorporated into the draft resettlement plans, or included in the updated resettlement plans. The resettlement plans include a grievance redress mechanism outlining the procedure for resolving conflicts and appeals. With the progress of project preparation and implementation, the county PMO, communities, entities, commercial stores and village collectives will be involved in further public participation, including (i) discussion of resettlement housing construction, area and layout; (ii) scope of training for the affected people; (iii) issues arising from construction and solutions; (iv) listening to the affected people's opinions and expectations during implementation; (v) disclosure of compensation rates and means of appeal; and (vi) understanding the implementation of the resettlement plans and the livelihood restoration of the affected people.

Table 15. Chao Lake Consultation and Participation Plan (2012-2017)

Stakeholder Group	Objective of Their Intervention	Activity	Manner and Scope of Participation	Cost Estimate
	Why They Are Included			Sources of Funds
Anhui Provincial PMO	The provincial PMO is the management and coordination agency of the project	Develop scope of work for achieving project outputs	IAs work with Design Institutes to prepare detailed design that defines the scope of work. During this process, PMOs and IAs arrange public consultation meetings that include women, the poor, and other vulnerable groups are consulted, and their opinions and interests respected at the project design stage to ensure that they benefit from the project first. Women participation will be ensured at a level of at least 40%. The satisfaction of women and the poor with the project is not less than 70%	Cost estimate for these activities is not needed because they are part of the routine operations of the province PMO, local PMOs, and IAs and included in their operating budget which comes from project management funding
Local PMOs	The municipality and county PMOs are the management and coordinating agencies for the project	Project coordination	PMOs coordinate with stakeholders within their jurisdictions, such as owners, and affected urban and rural residents. Women, the poor, and other vulnerable groups, households affected by land acquisition and house demolition, and other directly affected groups are consulted, and their opinions and interests respected at the project implementation and management stages to ensure that they benefit from the project first. Women participation will be ensured at a level of at least 40%. The satisfaction of women and the poor with the project is not less than 70%, and the satisfaction of households affected by land acquisition and house demolition with the project is not less than 90%	
		Monitoring	IAs report to local PMOs who report to province PMO who reports to ADB. Reporting every 3 months with annual summary report. Assisted by Project Management Consultancy	
			Advise and assist monitoring and evaluation during project construction and project operation and management, and submit reports to the PMOs	
Implementing Agencies	The owners are the executing agencies of the project	Prepare annual Summary of Work Accomplished and Work	Annually the IAs prepare summary of work accomplished the past year and plan of work for the next year and forward to local PMOs who review, approve, and forward to provincial PMO who compiles into report for ADB. Local PMOs and IAs publicize the Work Summary and Work	

Stakeholder Group	Objective of Their Intervention	Activity	Manner and Scope of Participation	Cost Estimate
	Why They Are Included			Sources of Funds
		Planned Report	Planned Report to people living and working within their jurisdiction	
		PMO and IA capacity building	Province PMO, with assistance from the Project Management Consultancy, organizes and conducts quarterly training for local PMOs and IAs. Examples of topics are monitoring, reporting, invoice processing, infrastructure O&M, etc.	
			Capacity building and training of the project implementation and management staff	
Local PMO	Same as above	Grievance Redress Mechanism	Each PMO sets up an appeal hotline, discloses it widely to people in the project area, and establishes a Project Grievance Redress Office headed by a specially assigned person. The satisfaction of appellants with appeal handling and settlement is not less than 80%	
			Data such as number of calls/appeals and resolution reported quarterly to province PMO	
		Information disclosure	Every six months, local PMO publicizes key project information on local bulletin boards and local newspapers. Information includes work progress and scheduled, areas affected, etc.	
Implementing Agencies (IA) with oversight and assistance by local PMO	Same as above	Publicity and training	Each IA conducts at least two publicity and training activities per annum in the directly affected area of the sub-project, with no less than 300 direct participants each activity	Each publicity and training event will be subsidized CNY2,000 from the project budget. A total of CNY156,000 from local government financial budget and
			The IA will coordinate the publicity and training activities with local PMO and relevant provincial and local agencies such as EPB, Health, etc.	

Stakeholder Group	Objective of Their Intervention	Activity	Manner and Scope of Participation	Cost Estimate
	Why They Are Included			Sources of Funds
			<p>Publicity and training: utilizing available funds, techniques and experience of agencies concerned, social organizations, communities, and enterprises in a unified manner, such as EPB, health bureau, UMB, agriculture bureau, WRB, women's federation, poverty reduction office and owner, for publicity and training on environmental hygiene and public health, and not less than 40% of all participants are women</p> <p>The awareness of the public in the activity area about the activity is not less than 60%, and the satisfaction of participants with the activity is not less than 80%</p> <p>The overlap rate of the direct beneficiary areas of any two different publicity and training activities shall not exceed 30%.</p>	EMP.
Civil Society	Oversight function	Participation in design	Research institutes are assisting design institutes in preparation of project and action plans.	
		External monitoring	External monitoring will be conducted by research institutions or NGO for environmental and social safeguards.	
Households affected by land acquisition and house demolition	Compensation for their loss of land or house or both	Consultation and monitoring	Participate in public consultation in project design; and assist in land acquisition, house demolition, and resettlement during implementation	CNY150,000 from resettlement plan and local government financial budget
			Cooperate with internal and external monitoring to ensure successful project implementation	
		Job opportunities and training to make up for lost income	Priority in obtaining job opportunities: New jobs generated under the project are first available to households affected by land acquisition and house demolition. The satisfaction of households affected by land acquisition and house demolition with new jobs is not less than 80%	
			Have priority in participate in training and publicity activities on public health, and the satisfaction of households affected by land acquisition and house demolition with such activities is not less than 80%.	

Stakeholder Group	Objective of Their Intervention	Activity	Manner and Scope of Participation	Cost Estimate
	Why They Are Included			Sources of Funds
Affected vulnerable groups (i.e. displaced persons) and the poor	Groups with a high vulnerability to their livelihoods are likely to be affected by the project	Training and job opportunities	Priority to participate in training and publicity activities on public health, and the satisfaction of women and the poor involved with such activities is not less than 80%. Women participation will be ensured at a level of at least 40%.	
			New jobs generated under the project, especially unskilled jobs, are first available to local women and the poor. Not less than 40% of new unskilled jobs are available to women and the poor	
General public in the project area	The environmental sanitation behavior of the general public is important for the realization of project benefits.	Participation in project design and implementation	Adequate community consultation and publicity is conducted at the project design and implementation stages to ensure the rights of information and participation of the general public. Women participation will be ensured at a level of at least 40%. The satisfaction of the public in the project area with the project is not less than 80%	CNY65,000 from detailed design fees of Design institution
		Community Environmental Survey and Monitoring Team	In each of the sub-projects a CESMT will be established in a pilot community within the affected area to promote the change of public environmental behavior. Each team has 3 members who are elected by community representatives, including not less than one woman. The trial period is 3 years. A CESMT should convene community representatives to develop generally accepted and feasible community rules and regulations on environmental management, and supervise the implementation thereof. For CESMT activities, women participation will be ensured at a level of at least 40%. The satisfaction of community residents with the work of the team is not less than 70%	Each member will receive a working allowance of CNY600 per annum. CNY70,200 from local PMOs.
		Participation in training and publicity activities	In training and publicity activities on environmental hygiene and health knowledge, the participation rate of each activity is not less than 40%, and not less than 40% of all participants are women	CNY130,000 from EMP

ADB = Asian Development Bank, CESMT = Community Environmental Survey and Monitoring Team, CNY = Chinese Yuan, EMP = Environmental Management Plan, EPB = Environmental Protection Bureau, IA = Implementing Agency, O&M = operation and maintenance, NGO = non-government organization, PMO = Project Management Office, RP = Resettlement Plan, UMB = Urban Management Bureau, WRB = Water Resources Bureau.

Source: Asian Development Bank estimates.

X. ANTICORRUPTION POLICY

134. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the project.³¹ All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all project contractors, suppliers, consultants and other service providers. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the project.³²

135. To support these efforts, relevant provisions are included in the loan agreement and the bidding documents for the project. The ADB's Anticorruption Policy (2000, as amended to date) was explained to and discussed with the APG and executing agency. Consistent with its commitment to good governance, accountability and transparency, ADB reserves the right to investigate directly any alleged corrupt, fraudulent, collusive, or coercive practices relating to the project. To support these efforts, relevant provisions of ADB's Anticorruption Policy will be included in the loan covenants and the bidding documents for the Project. In particular, all ADB-financed contracts shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency, implementing agencies, and all contractors, suppliers, consultants, and other service providers related to the project.

136. For the project, project leading group, executing agency, and implementing agencies will undertake the following anticorruption actions: (i) establish a supervisory body to prevent undue interference in business practices with adequate resources made available for its effective operation; (ii) involve the agencies responsible for oversight of bidding processes and supervision of construction to enhance construction quality control; (iii) undertake briefing between executing agency and the Prosecutor's Office on a regular basis to share information on or warnings about any corrupt practices detected; (iv) introduce a dual-signing system in which the civil works contract winner also signs an anticorruption contract with the employer; and (v) periodically inspect the contractor's activities related to fund withdrawals and settlements.

XI. ACCOUNTABILITY MECHANISM

137. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.³³

³¹ Available at: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>

³² ADB's Integrity Office web site is available at: <http://www.adb.org/integrity/unit.asp>

³³ For further information see: <http://www.adb.org/Accountability-Mechanism/default.asp>.

XII. RECORD OF PAM CHANGES

138. All revisions/updates during course of implementation should be retained in this Section to provide a chronological history of changes to implemented arrangements recorded in the PAM.

Dates	PAM Changes
	First draft completed