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Report No: PAD1144

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US$ 100 MILLION

TO THE

PEOPLE'S REPUBLIC OF CHINA

FOR A

HUAINAN MINING AREA REHABILITATION PROJECT

April 14, 2015

Social, Urban, Rural and Resilience Global Practice
East Asia and Pacific Region

CURRENCY EQUIVALENTS
(Exchange Rate Effective December 2014)

Currency Unit	=	Renminbi Yuan (RMB)
RMB 1.00	=	US$ 0.164
US$ 1.00	=	RMB 6.10

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
APAO	Anhui Provincial Audit Office
APFB	Anhui Provincial Finance Bureau
APG	Anhui Provincial Government
CPS	Country Partnership Strategy
CQ	Consultant Qualifications
DA	Designed Account
EA	Environmental Assessment
ECOP	Environmental Code of Practice
EIA	Environmental Impact Assessment
EIRR	Economic Internal Rate of Return
ESMP	Environmental and Social Management Plan
FIRR	Financial Internal Rate of Return
FMM	Financial Management Manual
FSR	Feasibility Study Report
FYP	Five Year Plan
GoC	Government of China
GDP	Gross Domestic Product
Ha	Hectare
HAWIC	Huainan Agriculture and Water Investment Company
HFB	Huainan Finance Bureau
HMG	Huainan Municipal Government
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding

ICR	Implementation Completion and Results Report
IFR	Interim Financial Report
ISDS	Integrated Safeguards Data Sheet
LA	Loan Agreement
LIBOR	London Interbank Offered Rate
M&E	Monitoring and Evaluation
MFB	Huainan Municipal Finance Bureau
MOF	Ministry of Finance
NBF	Non-bank Finance
NCB	National Competitive Bidding
NDRC	National Development and Reform Commission
MTR	Mid-term Review
NPV	Net Present Value
O&M	Operation and Maintenance
ORAF	Operational Risk Assessment Framework
PAD	Project Appraisal Document
PDO	Project Development Objective
PDRC	Provincial Development and Reform Commission
PFB	Provincial Finance Bureau
PIA	Project Management Agency
PIP	Project Implementation Plan
PEMB	Provincial Environmental Protection Bureau
PLG	Huainan Municipality Project Leading Group
PMO	Project Management Office
PMP	Pest Management Plan
PRC	People's Republic of China
RAP	Resettlement Action Plan
RFP	Request for Proposal
RMB	Renminbi Yuan (Chinese currency)
SA	Social Assessment
SDB	Standard Bidding Document
SSA	Shungengshan Scenic Area
TA	Technical Assistance
UDIC	Urban Development Investment Company
WTE	Waste to Energy
WWTP	Wastewater Treatment Plant

Regional Vice President:	Axel van Trotsenburg, EAPVP
Country Director:	Bert Hofman, EACCF
Senior Global Practice Director:	Ede Jorge Ijjasz-Vasquez, GSURR
Practice Manager:	Abhas K. Jha, GSURR
Task Team Leader:	Xiaokai Li, GWADR

CHINA
Huainan Mining Area Rehabilitation Project

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DATA SHEET
CHINA: Huainan Mining Area Rehabilitation Project

Basic Information		
Project ID	EA Category	Team Leaders
P133000	A - Full Assessment	Xiaokai Li/Sing Cho
Lending Instrument	Fragile and/or Capacity Constraints [ ]	
Investment Project Financing	Financial Intermediaries [ ]	
	Series of Projects [ ]	
Project Implementation Start Date	Project Implementation End Date	
01-October-2015	30-June-2021	
Expected Effectiveness Date	Expected Closing Date	
01-October-2015	30-June-2021	
Joint IFC		
No		

Practice Manager	Senior Global Practice Director	Country Director	Regional Vice President
Abhas Kumar Jha	Ede Jorge Ijjasz-Vasquez	Bert Hofman	Axel van Trotsenburg

Borrower: People's Republic of China			
Responsible Agency: Huainan Project Management Office			
Contact:	Mr. Chen Yongduo	Title:	Project Director
Telephone No.:	0086-554-6667251	Email:	huainanpmo@163.om

Project Financing Data(in USD Million)

[X]	Loan	[ ]	IDA Grant	[ ]	Guarantee
[ ]	Credit	[ ]	Grant	[ ]	Other

Total Project Cost:	168.40	Total Bank Financing:	100.00
Financing Gap:	0.00		

Financing Source	Amount
Borrower	68.40
International Bank for Reconstruction and Development	100.00
Total	168.40

Expected Disbursements (in USD Million)

Fiscal Year	2016	2017	2018	2019	2020	2021
Annual	2.00	18.00	25.00	23.00	22.00	10.00
Cumulative	2.00	20.00	45.00	68.00	90.00	100.00

Institutional Data

Practice Area / Cross Cutting Solution Area

Social, Urban, Rural and Resilience Global Practice

Cross Cutting Areas

[ ] Climate Change

[ ] Fragile, Conflict & Violence

[ ] Gender

[ ] Jobs

[ ] Public Private Partnership

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Water, sanitation and flood protection	General water, sanitation and flood protection sector	60		
Agriculture, fishing, and forestry	General agriculture, fishing and forestry sector	40		
Total		100		

☑ I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Environment and natural resources management	Other environment and natural resources management	65
Urban development	Other urban development	35
Total		100

Proposed Development Objective(s)

The project development objective is to remediate and create a public space at the JiuDa mining site in Huainan city.

Components

Component Name	**Cost (USD Millions)**
Component 1: Environmental Remediation and Water Management	89.52
Component 2: Infrastructure Improvement and Site Utilization	39.71
Component 3: Capacity Building and Technical Assistance	18.48

Compliance		
Policy		
Does the project depart from the CAS in content or in other significant respects?	Yes [ ]	No [X]
Does the project require any waivers of Bank policies?	Yes [ ]	No [X]
Have these been approved by Bank management?	Yes [ ]	No [ ]
Is approval for any policy waiver sought from the Board?	Yes [ ]	No [ ]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X]	No [ ]

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

Legal Covenants

Name	**Recurrent**	**Due Date**	**Frequency**
SSA Master Plan and Implementation Plan	Recurrent		Continuous

Description of Covenant

Section I.C.7 of the Schedule to the PA. The Project Implementing Entity shall: (a) ensure that the Shungengshan Scenic Area Development Master Plan 2020 is strictly observed and duly enforced throughout Project implementation; (b) develop, by no later than December 31, 2017, the SSA Implementation Plan under Part C.1(c) of the Project, under terms acceptable to the Bank; and (c) once completed, implement the SSA Implementation Plan in accordance with its terms.

Conditions

Source Of Fund	**Name**	**Type**
IBRD	Signing of a Subsidiary Agreement	Disbursement

Description of Condition

Section IV.B.1(b) of Schedule 2 to the LA. No disbursements under Categories 1(b) and 2(b) shall occur until Huainan Municipality and HAWIC have entered into a Subsidiary Agreement, satisfactory to the Bank.

Team Composition

Bank Staff

Name	Title	Specialization	Unit
Sing Cho	Urban Specialist	Municipal Engineer, CO-Team Leader	GWADR
Alejandro Gerez	Senior Counsel	Project Lawyer	LEGES
Yi Dong	Senior Financial Mgmt. Specialist	Financial Management Specialist	GGODR
Feng Ji	Senior Environmental Specialist	Environmental Safeguards	GENDR
Yuan Wang	Senior Procurement Specialist	Procurement Specialist	GGODR
Isabel Duarte A. Jr.	Program Assistant	Program Assistant	GWADR
Xiaokai Li	Senior Water Resources Mgmt. Spec.	Task Team Leader	GWADR
Chaogang Wang	Senior Social Development Specialist	Social Development and Safeguards	GSURR
Zhefu Liu	Senior Social Development Specialist	Resettlement and Social Safeguards	GSURR
Frank Van Woerden	Senior Environmental Engineer	Environmental Engineer	GENDR
Sandra Walston	Temporary Staff	Team Assistant	GSURR
Jian Xie	Senior Environmental Specialist	Environmental Economics	GENDR
Hongwei Zhao	Program Assistant	Program Assistant	EACCF

Non Bank Staff

Name	Title	City
Hardy Wong	Urban Water/Environment Specialist	Toronto, Canada
Michael Feiss	Geotechnical/Mining Engineer	Germany
Yan Li	Economist	Washington, D.C.

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
China	Anhui	Huainan Municipality	Datong District	Datong District	

I. STRATEGIC CONTEXT

A. Country Context

1. China has seen a remarkable record of economic growth since the 1980s, lifting tens of millions of people out of poverty and making the country the second largest economy in the world. China's growth has been largely based on manufacturing and export, which are resource-intensive with massive environmental consequences. Going forward, the country must vigorously address issues of natural resource depletion, pollution, and environmental degradation, and create a more sustainable economy. These issues are now high on the government's agenda.

2. During the process of industrialization over the past decades, many brownfields were created, covering large areas of land in different regions of China and often highly contaminated, mainly due to mining and industrial pollution. Huainan Municipality is a typical example of this process, where around 200 km^2 of former mining subsidence areas exist, which account for about 7% of the municipal land area. Many of these brownfields are now closed and are located within the city's build-up area, as a result of the rapid urbanization in the country. Because of the environmental damage they cause and the conflicts with ongoing urban expansion, there is an increasing need to clean up and redevelop these contaminated and degraded areas. At the national level, several ministries are involved in industrial brownfield management, including the Ministry of Land Resources, Ministry of Environmental Protection, Ministry of Housing and Urban-Rural Development, and National Development and Reform Commission. While a regulatory framework for brownfield remediation and redevelopment is yet to be developed at the national level, some provinces and municipalities have rolled out policies and regulations, and started to clean up polluted industrial sites.

B. Sectoral and Institutional Context

3. Huainan Municipality is located in the north of Anhui Province at the middle reach of the Huai River. It has a population of 2.45 million people, including 1.18 million living in urban areas. The GDP per capita is US$5,400 (2012), which ranks fifth among the fifteen municipalities in the province. However, the development level in different parts of the city is rather uneven. The average annual disposable income per capita in the urban district is about RMB 20,733 (US$3,400) in 2012. The income of the population in Datong District, where the proposed project is located, is much lower at about RMB 8,000 (US$ 1,310) in the same year. This city has a history of coal mining that goes back to 1903. Coal mining has fueled the local economy, but also led to large areas of subsidence and environmental degradation. In an effort to clean up and remediate the subsided land for urban development, the municipal government has taken a series of major steps in recent years. The municipal decree "Coal Mining Subsidence Area Rehabilitation and Utilization" was issued in 2003. A special agency for comprehensive remediation of coal mining subsidence areas was created in 2009. The municipal government has also prepared the "Comprehensive Plan for Coal-mining Subsidence Areas in Huainan Municipality (2009-2020)". Moreover, Huainan initiated a number of small scale activities to remediate selected subsidence areas to gain practical experience with rehabilitation of such sites.

4. Common challenges for the remediation and redevelopment of former mining sites and brownfields include: (a) lack of regulations defining the responsibilities and rights of responsible parties, particularly when there are historic or other obstacles to apply the 'polluters pay' principle; (b) the need for sustainable (institutional) mechanisms for financing of often costly remediation efforts; and (c) lack of established procedures and standards for (site) risk assessment and remediation management, including selection of appropriate remediation technologies; and (d) inexperience in strategic planning to tailor remediation approaches to the future use of the land after cleanup.

5. The strategy of the government is to make use of a World Bank loan to mobilize international know-how based on best practices of mining subsidence area remediation and redevelopment. The old mining area at JiuDa site in Datong District was selected as the Urban Master Plan (2010-2020) foresees the redevelopment of the mining area into a 'green heart' within the city boundaries where people can recreate and can undertake different social and economic activities. The government expects that the project will bring international best practices in the rehabilitation and redevelopment of mining subsidence areas, which can be replicated in other parts of China.

C. Alignment with Twin Goals and Higher Level Objectives

6. Huainan municipality has been selected as one of the first pilot cities for the "*National Sustainable Development Planning for Resource-Based Cities (2013-2020)*", the first national-level plan in China to guide the sustainable development of resource-dependent cities. The proposed project is therefore a high priority for both the national and local governments and fully aligned with national strategies due to its sustainability focus. The project is also aligned with both strategic themes of the Bank's Country Partnership Strategy for China (2013-2016), namely, promotion of green growth and more inclusive development. The project will help convert a wasteland into a green zone and in line with the Bank's shared prosperity objective will directly benefit poor communities in the Project area in the Datong District where the average disposable family income is substantially lower than the city average. Priority will be given to low-income and disadvantaged families in the skills training and employment opportunities under the project.

II. PROJECT DEVELOPMENT OBJECTIVE(S)

A. Project Development Objective

7. The project development objective is to remediate and create a public space at the JiuDa mining site in Huainan city.

B. Project Beneficiaries

8. Direct beneficiaries of the proposed project are about 20,000 people (of whom around 48 percent are women) living in the communities and small villages in Datong District, adjacent to the former JiuDa Mining Site (Project Area). The people are mainly in the lower income levels compared to the city averages and have been directly or indirectly affected by the land subsidence and environmental degradation that resulted from the former coal mining activities.

They will benefit from the Project's improved environmental services, land and property price appreciation, and potential employment opportunities. Furthermore, some 100,000 visitors are expected to annually visit the park to be created under the Project, for leisure and recreational activities. Those living in Datong District and the two districts north and south of the project site will also benefit from improved connectivity and access to the project site and facilities.

C. PDO Level Results Indicators

9. The main outcome indicators are: (a) area of dump sites closed under the project; (b) improved water quality; (c) satisfaction of the users of the public space created under the project; and (d) direct project beneficiaries.

III. PROJECT DESCRIPTION

A. Project Components

10. The project will finance investments for environmental remediation and redevelopment of a coal mining subsidence area in the Datong District of Huainan Municipality. A risk-informed and balanced approach has been adopted, which integrates site remediation and infrastructure upgrading for improving environmental conditions and services through different cleanup and rehabilitation activities, and limited redevelopment for creating income generating opportunities through carefully selected development undertakings. The project design has benefited from relevant international experiences, tailored to local circumstances. Intensive consultation and in-depth discussions on the project design have been held with the local government, line departments, local communities and other stakeholders to ensure ownership and sustainability.

11. The project will have three components, and will be implemented over a five years period. The project components and activities are selected based on detailed environmental site investigations, an environmental and geo-hazard risk assessment, and detailed feasibility studies.

Component 1. Environmental Remediation and Water Management (US$89.52 million)

12. This component will remediate and preserve the overall environment at the former JiuDa Mining Site through cleaning up, controlling pollution sources, improving the storm water drainage system, vegetation remediation and landscaping. It has three sub-components.

13. ***Subcomponent 1.1. Environmental remediation:*** Environmental remediation and preservation of the JiuDa Mining Site (Project Area/Site), through the carrying out of, *inter alia*: (a) clean-up of mining and waste dump sites, including environmental and landscape rehabilitation, and closed mine shafts reinforcement; (b) re-vegetation activities; and (c) development of a green path system with basic sanitation service facilities for recreation purposes.

14. ***Subcomponent 1.2. Water Stream Rehabilitation:*** Rehabilitation of the local water system for storm water drainage, rainwater harvesting and landscaping through the carrying out of, *inter alia,* rehabilitation of drainage channels, connecting streams, storage ponds, cross structures, and irrigation facilities.

15. ***Subcomponent 1.3. Datong Dumpsite Closure:*** Closure of the Datong municipal waste dumpsite located within the JiuDa Mining Site, through the carrying out of, *inter alia*: (a) reshaping and final capping activities; (b) construction of dump boundary dikes and vertical barrier walls; (c) construction of a leachate collection and treatment system; and (d) construction of a landfill gas collection and treatment system.

Component 2. Infrastructure Improvement and Site Utilization (US$39.71 million)

16. This component has two sub-components, and will improve the accessibility of the JiuDa Mining Site (Project Area/Site) and connection between the central district and the new Shannan district with an emphasis on increasing non-motorized transport (including walking and biking). It is also intended to utilize the remediated site and local resources available for community livelihoods development.

17. ***Sub-component 2.1. Urban Infrastructure Improvement:*** Construction of roads and associated basic infrastructure, including water supply pipelines, sewerage pipelines and storm water pipelines.

18. ***Subcomponent 2.2. Site Utilization for Community Development:*** Provision of support for economic redevelopment activities in the Project Area, including the establishment of: (a) tree nurseries (including sales) and associated facilities supporting the maintenance of the environmental remediation site; (b) a flower market and associated supporting facilities; (c) a bonsai tree area and associated supporting facilities; and (d) visitor centers. The visitor centers together with the re-vegetation work, green paths under Sub-component 1.1 and part of the water structures under Sub-component 1.2, form the key elements of the recreation park to be created under the Project.

Component 3. Capacity Building and Technical Assistance (US$18.48 million)

19. Carrying out of capacity building activities (including domestic and international training and study trips) and provision of technical assistance for, *inter alia*: (a) Project implementation support, including project management, detailed designs, construction supervision, project monitoring, and provision of incremental operating costs for the Project; (b) the long-term management and redevelopment of coal mining subsidence areas in Huainan Municipality; and (c) the development of the Shungengshan Scenic Area (SSA) Implementation Plan.

B. Project Financing

Lending Instrument

20. This project will be financed by an US$100 million IBRD loan to the People's Republic of China (PRC) to be on-lent to Anhui Province. The proposed loan will have a variable spread, with a repayment period of 34 years, including a 6-year grace period, a front-end fee of 25 basis points, and a commitment charge of 25 basis points.

Project Cost and Financing

21. The project is estimated to cost RMB1.03 billion (US$168.4 million), of which US$100 million will be financed by the IBRD loan. The Huainan Municipal Government (HMG) will provide the US$68.4 million in counterpart financing. The estimated costs and Bank financing for different components and sub-components are presented in the table below.

Table1. Project Cost Estimates by Component

Project Component	Estimated Cost		IBRD Loan (US$ million)
	RMB million	US$ million	
Environmental Remediation and Water Management	**546.12**	**89.52**	**63.61**
Environmental Remediation	399.26	65.45	45.65
Water Stream Remediation	61.87	10.14	7.20
Datong Dumpsite Closure	84.99	13.93	10.77
Infrastructure Improvement and Site Utilization	**242.23**	**39.71**	**27.09**
Urban Infrastructure Improvement	133.14	21.83	12.91
Site Utilization for Community Development	109.09	17.88	14.18
Capacity Building and Technical Assistance	**112.75**	**18.48**	**3.09**
Sub-Total:	**901.10**	**147.72**	**93.79**
Contingency	88.23	14.46	
Interest During Construction and Commitment Fee	36.36	5.96	5.96
Front-end Fee	1.53	0.25	0.25
Total:	**1027.22**	**168.40**	**100.00**

C. Lessons Learned and Reflected in the Project Design

22. This is the first operation of its type in China. The team has drawn many lessons from two recent Bank studies on brownfield management and redevelopment: (i) *Overview of the Current Situation on Brownfield Remediation and Redevelopment in China***;** and (ii) *Overview of International Experiences on Policies and Regulatory Framework for Brownfield Management*. The first paper provides a brief history and preliminary assessment of the progress made in brownfield remediation and redevelopment, highlighting the huge challenges faced by the governments at different levels. The second paper focuses on relevant international experiences and lessons and recommendations for China. The project has also drawn lessons from the experiences of a number of related operations in Europe, Central Asia and China. The main lessons are described in the next paragraphs.

23. **Risk informed project design.** For investment projects of this nature, lack of adequate risk identification and assessment could lead to inappropriate design and dire consequences in operation. During project preparation, much attention was devoted to environmental baseline investigation, geo-hazard studies and related risk assessment to provide solid basis for designing the project interventions.

24. **Balancing remediation with redevelopment.** Pure remediation without interventions to utilize the rehabilitated area often represents lost opportunities for the project, particularly for the communities that were affected disproportionally by the land subsidence and/or environmental degradation. An integrated approach was adopted to balance environmental remediation with limited infrastructure improvement and redevelopment undertakings. It is anticipated that with such interventions the local communities will benefit more from improved urban environmental services and from different livelihoods development opportunities. At the same time, the revenue generated from the redevelopment activities will contribute to the O&M of project facilities and enhance financial sustainability of the project.

25. **Appropriate sizing of project facilities.** Overly optimistic forecasts for infrastructure need growth and market demands often result in overdesign and under-utilization of capacity for a long period of time. Solid analysis and projection of urban infrastructure needs for roads and associated works were conducted, similarly detailed market survey and business planning undertaken for redevelopment interventions. Investment scales and technologies used have been reviewed carefully to ensure that appropriate design parameters have been adopted.

26. **Realistic counterpart funding plan.** In recent years, a considerable number of urban development projects implemented by sub-national governments in China had difficulties with timely provision of adequate counterpart funds. During project preparation, much attention was given to review and optimization of the proposed counterpart funding plan.

27. **Early attention to O&M arrangements for project facilities.** Operation and maintenance of project assets is very often not given sufficient attention by the borrower and project entities, which could lead to their unsustainable use and failure in delivering the intended services. The institutional implementation arrangements of this project requires that a dedicated public entity will be established to be responsible for the overall management of the remediated site while specialized project facilities be operated and maintained by respective line agencies with municipal government budget.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

28. **Project implementation arrangements.** HMG has established a Project Leading Group (PLG) chaired by the executive vice-mayor and comprising members from line bureaus concerned, to provide strategic direction and policy guidance for the project. A Project Management Office (PMO) headed by the director of the Huainan Municipal Finance Bureau has been set up within the bureau to be responsible for project management and coordination. Huainan Agriculture and Water Investment Company (HAWIC), a state-owned company under the HMG, and four other municipal agencies - Huainan Municipal Construction Commission, Urban Management Bureau, Municipal Coal Mining Subsidence Management Office, and Datong District Development and Reform Commission – have been designated as the project implementing agencies (PIAs). The HMG and PIAs will ensure adequate management of the project activities and facilities during implementation and after completion. More detailed implementation arrangements can be found in the Project Implementation Plan.

29. **Implementation support and quality assurance arrangements.** Qualified consulting firms and specialized experts will be hired to provide project implementation support, quality assurance, technical assistance and capacity building. Experienced firms will be employed to carry out detailed design and construction supervision for different project activities, professional entities will be engaged for planned specialized monitoring and evaluation. The sector advisory group comprised of senior technical staff from municipal line agencies (authorities) will provide the PIAs with sector-specific advice and support, coordination and synergy across inputs from the municipal agencies.

B. Results Monitoring and Evaluation

30. The monitoring and evaluation system for the project includes two parts: project progress and results monitoring, and specialized monitoring. These tasks will be undertaken by both internal and external teams. The monitoring and evaluation (M&E) group within the PMO's general office, assisted by an implementation support consultant team, will undertake progress and results (outputs and outcomes) monitoring in accordance with the results framework in Annex 1 and the Project Implementation Plan (PIP). Specialized monitoring, including technical monitoring (e.g. water quality and settlement monitoring) and monitoring of resettlement action plan implementation will be undertaken by specialized external consultant teams. Construction related environmental monitoring will be covered by the respective construction supervision teams with oversight from PMO's environmental management unit. A random sample survey will be undertaken of the users of the public park and facilities (bonsai area and flower market) with proportional representation of women to gauge the level of satisfaction with the public spaces created under the Project. The costs of M&E have been included in the related activities of the three project components. The project results framework and outcome indicators and more details on monitoring and evaluation arrangements are shown in Annex 1 and Annex 3 respectively.

C. Sustainability

31. The Huainan Municipal Government is committed to environmental remediation of coal mining subsidence sites, as demonstrated by the issuance of a series of targeted policies and regulations. It has included the JiaDa Mining site remediation in its 12th five-year plan. To ensure a sound project design, international best practices in environmental and subsidence risk assessment and management planning were followed to design the project components and interventions. Sector agencies and experts from Huainan, China and overseas were engaged throughout the project preparation process, and they will continued to be involved in the implementation together with specialized firms for design, construction and monitoring for technical quality assurance and enhancement. For the remediated site (park), a non-profit public management entity will be established to be responsible for the O&M with funds from the HMG budget. The concerned municipal line agencies will take the responsibility of implementation of the respective project activities and the O&M of related project facilities after their completion. Finally, continued involvement of the beneficiary communities and stakeholders throughout the project cycle will also contribute to the project sustainability.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary Table

32. The risk ratings are summarized in the table below (See details in Annex 4):

Risk Category	Rating
Stakeholder Risk	Moderate
Implementing Agency Risk	
- Capacity	High
- Governance	Moderate
Project Risk	
- Design	Substantial
- Social and Environmental	Substantial
- Program and Donor	Moderate
- Delivery Monitoring and Sustainability	High
Overall Implementation Risk	High

B. Overall Risk Rating Explanation

33. Based on the assessment of the main risks identified during project preparation stage and the mitigation measures taken and to be implemented as specified in Annex 4, the overall risks for both project preparation and implementation are rated as "high". The identified risks and mitigation measures have been discussed and agreed with the client. The main risks to the successful achievement of the project objectives are: (a) inadequate experiences and capacity of the PMO and PIA in managing and implementing Bank financed projects; (b) a project design which may inadequately address the geo-hazard and environmental risks; (c) the resettlement action plan not properly implemented; and (d) the lack of counterpart funding due to changing priorities under a more fiscally constrained environment.

34. The risk due to lack of local capacity has been and will be further mitigated through staffing the PMO and PIAs with sufficient number of competent staff, providing them with targeted training on Bank policies, procedures, project management and related technical skills during project preparation and early stage of implementation. They were assisted by a technical expert panel and sector advisory group for design review and quality control at the project preparation stage. During project implementation, their capacity will be enhanced by competent implementation support consultants and specialized firms for detailed design, project management, construction supervision, monitoring, and studies. The project design risk has been mitigated through a risk-informed design approach and process based on detailed environmental site investigations, monitoring and studies, geological investigations and subsidence observations. The project activities and technical design were selected through alternatives analyses and option assessment in consultation with beneficiary communities and key stakeholders to meet the remediation requirements and service needs in the most cost-effective

way. The resettlement and social risk is mitigated through targeted training of PMO resettlement management staff and staff from Datong District Resettlement Office on related Bank policies and procedures, involvement of affected communities in RAP development and implementation oversight, and engagement of an independent monitoring consultant.

35. One of the most critical risks of the project relates to availability and adequacy of counterpart financing for the project. The recently approved budget law will restrict the ability of local governments to raise revenues and will require a much higher level of fiscal discipline in managing public accounts and expenditures. The task team worked closely with the local government to prepare a detailed project funding plan that was reviewed and approved by the Bank. This plan includes bonds issued by the national and provincial authorities to support Huainan Municipality to raise part of the necessary counterpart financing. The PMO will also submit annual counterpart funding plans to the Bank for review, and an annual budget that is officially approved by the local People's Congress. However, despite these measures, in this new environment of higher fiscal austerity, local investment priorities could change and there remains a residual risk of lack of counterpart financing.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

36. **Economic analysis.** The benefits of the project will largely derive from the remediation and redevelopment of the mining subsidence site. Without the project, the environment in and around the project area will continue to degrade, further impacting the quality of life of surrounding communities and suppressing the value of neighboring assets. In quantifying the benefits, the price appreciation of land and properties in and around the project area was used as proxies for valuation. Higher economic outputs can be expected from the project area as a result of redevelopment activities. Furthermore, the skills training and employment opportunities provided by the project will help increase income levels, especially among low-income and low-skill population in the project area. Finally, the roads to be constructed under the project will help reduce travel time between northern and southern districts of Huainan City. Project costs include (a) investment costs in environmental remediation, water management, infrastructure improvement and site utilization activities; and (b) costs of operating and maintaining the project facilities and remediated site.

37. At a discount rate of 10 percent, the project yields an estimated net present value (NPV) of RMB 403 million, a benefit-cost ratio of 1.48 and an EIRR of 23.7%. With a 20% cost increase, a 1.11 of benefit-cost ratio and a 15.1% EIRR can still be achieved. Thus, the project is economically justified. At the component and sub-component levels, cost-effectiveness was a key factor in comparing and selecting options and final designs.

38. **Financial analysis.** A financial analysis was carried out by the HMG for the revenue-generating activities under the project: (i) the tree nurseries; (ii) the bonsai area; (iii) the flower market; and (iv) the two service stations for the Shungengshan Scenic Park. With a combined estimated investment of about RMB 98 million and O&M costs of RMB 97 million a year, the

business activities under the project will yield a combined revenue of an estimated RMB 112 million a year. At a weighted average cost of capital (WACC) of 6.7%, these activities will yield an NPV of RMB 48.6 million, and an FIRR of 13.8% over the lifetime of the project.

39. **Fiscal analysis.** A fiscal analysis was undertaken to assess the project's impact on the financial situation of HMG. The analysis indicates that the outstanding debt level of HMG is fairly high, standing at over 30% of GDP. To help HMG reduce the fiscal resource stress, the national government and provincial government are providing financial assistance, for example, in 2014-2015, the MOF has agreed to issue RMB 400 million in urban construction bonds on behalf of the municipal government. The provincial government is also committed to issuing dedicated bonds for HMG. Those funds will be used partly for debt restructuring and partly for provision of counterpart funding for the Project. Further, the HMG is also taking measures to reduce the debt level, e.g. some RMB 1 billion has been saved through rationalizing the designs of the two major bridges under construction in Huainan. The fiscal analysis concludes that with the mitigation measures taken, the HMG has sufficient borrowing space and is able to provide adequate counterpart funding for the Project (See details in Annex 6).

B. Technical

40. The technical appraisal included the analysis of alternatives, and technical design of different components and sub-components against the applicable national and international standards and practices, with a focus on risk assessment and management. The main risks related to the technical design of the project are ground subsidence as a result of past mining activities and local karst terrain, and pollution from waste dumps at the site. Subsidence and groundwater monitoring programs were established during the project preparation stage under close guidance and supervision of international experts. Systematic investigation, observations and baseline studies were carried out by specialized national consultant teams, which led to the identification of critical areas prone to subsidence (primarily near the recently closed six small mining sites), area of karst terrain, and major sources of water and soil pollution. On that basis, subsidence risk zoning was carried out to inform the selection of project interventions, technical design of project works (roads, drainage channels and other infrastructure) and mitigation measures. The project design requires that no project facilities will be built in the medium to high subsidence risk zones and karst terrain. In the case of Datong Dumpsite, as the boundary wall has to be seated on the closed shaft of No.3 small mine, the mining shafts will be reinforced following established international best practice, before the dump site closure works starts. In regard to site remediation design, the approach was to reduce the pollution risk through closing and containing the Datong Dumpsite, removing all identified waste dumps, and restoring the vegetation cover.

41. To further mitigate the subsidence risks, the subsidence monitoring program will be continued during project implementation and beyond, which will be supplemented by more detailed geological investigation to support the detailed technical design of different project works. Groundwater monitoring and surface water test program will also be continued to evaluate the effects of project investments. In addition, technical assistance will be provided under the project to introduce related international best practices for the technical design, construction and management of the project facilities. With the above mitigation measures, the design and construction risks of the project will be at an acceptable level of international good practice.

42. In addition to risk consideration, cost-effectiveness and sustainability criteria including minimizing the need for resettlement were used in options assessment for project works design at feasibility study phase. The technical designs as part of the project feasibility study completed are in accordance with prevailing national standards and/or established good practices. The environmental remediation design was optimized through careful selection of suitable tree/plant species, modules and seedling sizes to meet the needs of a green zone at least cost. Further, site utilization investments were decided on the basis of market survey and business and business planning with inputs from related sector authorities and local communities.

C. Financial Management

43. The Project Management Office, established under Huainan Municipal Finance Bureau, will be responsible for project management and implementation coordination. Huainan Agriculture and Water Investment Company (HAWIC) together with four other government agencies will be the project implementing agencies. The Bank loan proceeds, including oversight of the Designated Account, will be managed by Anhui Provincial Finance Bureau (APFB). A financial management capacity assessment has been conducted by the Bank and actions to strengthen the project's financial management capacity have been agreed to with the relevant implementing units. The financial management assessment has concluded that with the implementation of the proposed actions, the financial management arrangements will satisfy the Bank's requirements under OP/BP 10.00. Annex 3 provides additional information on financial management.

44. Retroactive financing of up to US$ 2 million will be available for eligible expenditures incurred after September 23, 2014. Retroactive financing will be processed according to the requirements specified in the loan agreement and project agreement.

D. Procurement

45. The PMO will be responsible for the management of all procurement activities under the project, with assistance of a procurement agent to be recruited. The key project procurement issues and risks identified by the procurement capacity assessment are: (a) the PMO and its staff do not have sufficient prior experience with Bank procurement policy and procedures; and (b) the PMO may unintentionally follow domestic procurement practices, which may lead to delays or non-compliance with Bank Procurement/Consultant Guidelines. To address these risks, during project preparation the Bank provided training on the Bank's procurement policy and procedures to key staff of the PMO and the project implementing agencies. . Tailored procurement training will be provided to the procurement and project management staff throughout the project cycle. A detailed action plan for procurement capacity strengthening and risks mitigation has been developed and agreed upon. With implementation of the proposed actions to strengthen the procurement capacity, the assessment concluded that the PMO should have adequate capacity to carry out procurement activities for the proposed project. Annex 3 provides additional information on procurement arrangements.

46. Procurement activities will follow the procedures described in the procurement manual which has been reviewed by the Bank and found satisfactory. A detailed and comprehensive

procurement plan for the entire scope of the project has been agreed with the Bank. The procurement plan will be updated annually, or as required, to reflect actual project implementation needs. The initial procurement plan and all subsequent updates will be available at the PMO, and the Bank shall arrange the publication of the plans on its external website.

E. Social (including Safeguards)

47. The project brings significant social benefits to all stakeholders, Huainan Municipal Government, Datong District, local communities living within and adjacent to the project site, small businesses in the local area, tourists and the general public. The project helps improve the living environment and provide training and employment opportunities to the local communities. It supports enhancement of urban infrastructure services for the local residents, and connectivity among neighboring districts, and creation of a valuable green park with amenities and recreational facilities for the general public. The main negative social impact is the need for limited resettlement. A detailed resettlement action plan (RAP) has been developed to mitigate the impacts. The public consultation and participation process during project preparation enabled the project to take into account the concerns and demands in the project design to minimize the number of people affected by land acquisition and relocation. The value of about 195 hectares of land adjacent to the project areas will potentially be increased as a result of the project implementation. There are about 13,946 people currently living in this area will benefit from the land value increase. The details are included in the Social Assessment Report and ESMP.

48. **Involuntary Resettlement**. The Bank policy on Involuntary Resettlement (OP/BP 4.12) is triggered under the project. The resettlement impacts include demolition of residential and business structures, permanent acquisition of both collective and state owned land, and long term leasing of collective land. The total number of affected people will be 1,372, which includes 26 people, whose six houses will need to be demolished and relocated. The total amount of land needed for the project is 506.9ha, of which 373.5 hectares are already owned by the government and the remaining 133.4 hectares of collectively owned land will need to be acquired during project implementation. A Resettlement Action Plan (RAP) was prepared, which provides details on resettlement policy procedures and requirements that will have to be followed during project implementation, including compensation rates, mitigation measures to restore incomes, and institutional and monitoring arrangements. There are about 1,900 people currently living in the project area, who will not be relocated at this time. A Resettlement Policy Framework (RPF) has been prepared for potential future relocation of these people during project implementation. This RPF defines the principles and objectives of resettlement, and appropriate guidelines, rights, and legal and institutional framework, compensation and restoration patterns, participation characteristics, and grievance procedures for resettlement.

49. **Public Consultation and Disclosure**. The project conducted census and social survey, social impact analysis and public consultation. These have contributed significantly to the preparation of the RAP and project design. Villagers and farmer groups have been consulted and involved in the resettlement planning process and project preparation. Their feedbacks received have been incorporated into the RAP and design of project interventions. The consultation session concluded that the planned measures in the RAP are adequate to mitigate the project impacts due to land acquisition and relocation. The RAP was disclosed on the municipal website on July 17, 2014 and in the World Bank InfoShop on November 17, 2014.

50. **Gender and Shared Prosperity**. A disaggregated gender analysis was undertaken as part of the social assessment and RAP preparation. Women's expectations and suggestions were taken into consideration in the design of the project. Gender disaggregated information was also collected and used in the RAP development to ensure that women's interests are safeguarded during its implementation. Furthermore, the family income sampling survey conducted during project preparation indicates that the local communities in the project area has significantly lower level of disposable income for lack of employable skills and job opportunities. Priority considerations will be given to women and other vulnerable groups such as the affected persons and low-income and low-skill households of the local communities in skills training and employment opportunities under the project.

F. Environmental (including Safeguards)

51. The project is classified as a "Category A" under the World Bank environmental screening procedures specified in OP 4.01. It triggers the following EA safeguards policies: Environmental Assessment, Pest Management, Physical Cultural Resources, and Forests. Main issues addressed in the EA documents are summarized below:

52. **Environmental Assessment (OP4.01):** The project is expected to substantially improve the local environment without causing significant conversion or degradation of natural habitats. The closure of the Datong Dump will help reduce leachate pollution of ground water and surface water, and emissions of greenhouse gases and other air pollutants to the air. The re-vegetation in the project area will reduce soil erosion, and improve the landscape of the subsidence area. Rehabilitation of the drainage channels will improve the flood management capacity in the project area, and increase open water surface area, in which storm water will be collected and re-used for vegetation irrigation. The project also has the potential to bring about great social benefits to local communities. The environmental restoration, the provision of basic infrastructure and amenities are expected to improve living conditions of residents, attract tourists, and increase the property values in the area.

53. The main potential adverse impacts and risks related to project activities include the controllability of leachate contamination as part of dumpsite closures; and (ii) the geo-hazard/ instability in the project area caused by the past mining activities. To mitigate the first risk, adequate mitigation measures for the closure have been incorporated into the project design and the ESMP, including, among others, (i) constructing a dump boundary dike (wall) around the dump cells; and a vertical barrier wall to prevent lateral migration of leachate off the site; and (ii) installation of a boundary leachate removal system. A modeling study has been conducted for the Datong Dump closure showing that the migration of leachate into the environment will be greatly contained after the completion of the closure works, with an expected 99% reduction in pollution loads. Post-closure ground water monitoring at and around the dumpsite will continue during implementation and after project completion, to ensure that the pollution from the waste dump is adequately contained. With respect to the second risk, a geo-hazard study was undertaken to thoroughly delineate the extent of the risks associated with existing landforms and ground conditions, and a map showing the areas identified with different degree of geo-hazard/instability. The results have been taken into account in the project design which locates the infrastructures out of the instable areas.

54. Project construction will cause general construction related impacts on nearby villages and surrounding environment. But the impacts are not considered significant and can be readily mitigated with good engineering design and construction management. Environmental Code of Practices (ECOPs) and specific mitigation measures for construction have been prepared, and will be included in bidding documents and civil work contracts.

55. After full closure, the Datong Dump will for some time generate leachate ($23m^3/d$) and landfill gas. Leachate will be collected and trucked away for treatment at the leachate treatment facility of an existing new sanitary landfill site which is located at approximately 6.5 km from the dumpsite. Landfill gas will be collected and flared. Due diligence on associated facilities (e.g. an existing leachate treatment facility and a WWTP), have been conducted, confirming that these facilities are in compliance with Chinese EA regulations.

56. **Forests (OP4.36):** There are 137 hectares of woodland scattered in the project area. The project proposes to plant trees in a big area (total 374 hectares). This investment will improve significantly the landscape of degraded lands, reduce soil erosion, and provide local residents with space for recreation. The EA identified some negative risks (e.g. invasive species) which may occur if the plantation is not properly designed and implemented. Under the support of forest consultants, the project has selected a variety of indigenous species, which are compatible with local soil characteristics and are not prone to pest and disease.

57. **Pest Management (OP4.09):** While the project will neither finance the procurement of pesticides or equipment for pesticides application, the reforestation and nursery construction and operation will result in an increase in the use of pesticides for these project activities. Consistent with the provisions of Pest Management Policy (OP4.09), a Pest Management Plan has been developed for the project to improve capacity of farmers' knowledge in terms of minimizing the use and safe application of pesticides; and promoting integrated pest management.

58. **Physical Cultural Resources (OP4.11):** The EA shows that the construction of one of the two tourist service station is in the vicinity of a small church with a separation distance of 51 meters. The church is not registered as a historical cultural relic. However, it is considered as PCRs due to its religious significance to local communities. The project will not cause any significant impacts to the church. Instead, it will provide much improved environment for the local communities. Consultation has been conducted with the church and relevant stakeholder such as local cultural protection agency. Specific mitigation measures including chance find procedures have been proposed in the ESMP.

59. **Environmental and Social Management Plan.** A stand-alone ESMP for the project has been developed based on the findings of the EA. The ESMP describes the measures needed to minimize, mitigate or compensate for expected environmental impacts of the project, and monitoring plan; defines institutional responsibilities for the implementation of mitigation measures; and proposes capacity building activities and a budget for the ESMP implementation. The ESMP specifies the following major mitigation measures, including: (i) Environmental Code of Practices; (ii) Mitigation measures for the Datong Dump closure design; (iii) specific mitigation measures for other types of project activities, such as disposal of dredged sludge, road safety design, sustainable drainage design, pest management plan, and provision of sanitation facilities and service stations for tourists etc.; and (iv) a Social Impact Management Plan that

includes measures to ensure both urban and rural residents in the area benefit from the potential land value increase.

60. **Public Consultations and Information Disclosure.** In accordance with Bank requirements and Chinese regulations, public consultations were conducted from May 2013 to June 2014, including public consultation meetings and questionnaire survey, with project affected persons and other stakeholders (e.g. enterprises, village associations, local communities, governmental agencies). Their opinions and concerns have been taken into account in the EA and in the project design. The EA and the ESMP were locally disclosed on June 11, 2014 through announcements published on the local website and newspaper and re-disclosed on September 5, 2014. The English and Chinese EA safeguard documents were disclosed in the World Bank InfoShop on November 14, 2014 and November 17, 2014 respectively, and the EA executive summary was disclosed on December 4, 2014 in the World Bank Infoshop.

Annex 1: Results Framework and Monitoring

CHINA: Huainan Mining Area Rehabilitation Project

Project Development Objectives

PDO Statement:

The project development objective is to remediate and create a public space at the JiuDa mining site in Huainan city.

These results are at	Project Level

Project Development Objective Indicators

Indicator Name	**Baseline**	**Cumulative Target Values**						
		2016	**2017**	**2018**	**2019**	**2020**	**2021**	**End Target**
Indicator 1. PO-1. Dump sites closed under the project (Ha)	0	0	5	15	28	39	39	39
Indicator 2. PO-2. Improved water quality	Below Class V	Below Class V	Below Class V	Below Class V	Below Class V	Class V	Class V	Class V
Indicator 3. PO-3. Satisfaction of users of public space created under the project (of whom women)(%) / Total public space created (public park, flower market, bonsai area) (Ha)	0(0)	0(0)	0(0)	30(30)	60(60)	75(75)	75(75)	75(75)
	0	0	50	150	260	393	393	393
Indicator 4. PO-4. Direct project beneficiaries (of whom women) (Number)	0	0	5,000 (2,400)	8,000 (3,840)	15,000 (7,200)	20,000 (9,600)	20,000 (9,600)	20,000 (9,600)

Intermediate Results Indicators

Indicator Name	**Baseline**	**Cumulative Target Values**						
		2016	**2017**	**2018**	**2019**	**2020**	**2021**	**End Target**
Intermediate Result (Component One): To rehabilitate the environmental conditions and reduce environmental risks at the project site								
Intermediate Result indicator 1. IO-1.1. land area remediated with improved vegetation coverage (Ha)	0	0	60	180	330	410	410	410
Intermediate Result indicator 2. IO-1.2. Leachate collected and treated for safe disposal (m^3)	0	0	0	8,400	8,400	8,400	8,400	8,400
Intermediate Result indicator 3. IO-1.3. Area protected against 1/30 year floods (km^2)	0	0	0	3.0	6.0	9.0	9.0	9.0

Intermediate Result (Component Two): To improve urban infrastructure services in the project area, and support local community livelihoods development								
Intermediate Result indicator 4. IO-2.1. Length of road rehabilitated /constructed (km)	0	0	1.3	4.2	4.2	8.3	8.3	8.3
Intermediate Result indicator 5. IO-2.2 Increase in traffic volume at the junction of Zhongxing Road and Wanxiang Road (passenger car unit)	0	0	0	400	800	1,300	1,300	1,300
Intermediate Result indicator 6. IO-2.3. Annual sales of flower market, tree nursery and Bonsai in operation (USD)	0	0	0	0	1,000,000	3,000,000	8,000,000	8,000,000
Intermediate Result indicator 7. IO-2.4. Number of people employed through site utilization activities (of whom women) (Number.)	0	0	0	50 (24)	80 (384)	430 (206)	430 (206)	430 (206)
Intermediate Result indicator 8. IO-2.5. Number of visitors to public space created (/of whom women) (Number)	0	0	0	0	30,000 (14,400)	100,000 (48,000)	100,000 (48,000)	100,000 (48,000)
Intermediate Result (Component Three): To ensure successful completion of the project and increase HMG's management capacity for sustainable development								
Intermediate Result indicator 9. IO-3.1. Number of people trained at the skills training institution (of whom women) (Number.)	0	0	0	600 (288)	800 (384)	965 (463)	965 (463)	965 (463)
Intermediate Result indicator 10. IO-3.2. Technical Guidelines for mining subsidence area rehabilitation & redevelopment (Text)	Non-existent	Non-Existent	Workshop held	Technical Guideline completed	Technical Guidelines on website	Technical Guidelines on website	Technical Guidelines on website	Technical Guidelines on website
Intermediate Result indicator 11. IO-3.3. Project site management entity established and operational (Yes/No)	No	No	Yes	Yes	Yes	Yes	Yes	Yes

Indicator Description

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
PO-1. Dump sites closed under the project	This indicator measures the cumulative size of industrial or municipal dump sites that are closed as a result of the project	Semi-annually	Progress Report	PIA/PMO
PO-2. Improved water quality	Change in water quality rating, measured by three parameters, COD, BOD and TN in mg/l respectively at agreed sampling points. Baseline (Below Class V): COD/BOD/TN = 89/31/75, and End Target (Class V): COD/BOD/TN = 40/10/2	Semi-annually	Monitoring report & progress report	PMO/EPB

PO-3. Satisfaction of users of public space created under the project (of whom women) / Total public space created (public park, flower market, bonsai area)	Satisfaction level of users (men and women) of public space created under the project, including public park, flower market and bonsai area/ Cumulative area of public space created including public park, flower market and bonsai area	Semi-annually or as appropriate	Progress report & satisfaction survey	PMO/PIA
PO-4. Direct project beneficiaries (of whom women)	Cumulative number of people directly benefitting from the project investments (total and women respectively) (Core indicator)	Semi-annually	Progress report	PMO/PIAs

Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
IO-1.1. land area remediated with improved vegetation coverage	Cumulative land area remediated with improved vegetation coverage	Semi-annually	Progress Report	PIA/PMO
IO-1.2. Leachate collected and treated for safe disposal	Actual quantity of leachate collected and treated for safe disposal	Semi-annually	Monitoring Report & Progress Report	PIA/PMO
IO-1.3. Area protected against 1/30 year floods	Cumulative land area protected against 1/30 year floods	Semi-annually	Progress Report	PIA/PMO
IO-2.1. Length of road rehabilitated/constructed	Cumulative length of road rehabilitated/constructed	Semi-annually	Progress Report	PIA/PMO
IO-2.2 Increase in traffic volume at the junction of Zhongxing Road and Wanxiang Road	Incremental increase in traffic volume at the junction of Zhongxing Road and Wanxiang Road, measured by passenger car unit (pcu)	Semi-annually	Survey Report	PIA/PMO
IO-2.3. Annual sales of flower market, tree nursery and Bonsai in operation	Actual total annual sales revenue of flower market, tree nursery, and Bonsai in operation	Annually	Progress Report	PIA/PMO
IO-2.4. Number of people employed through site utilization activities (of whom women)	Actual number of people employed for long-term through site utilization activities (total and women respectively)	Semi-annually	Progress Report	PIA/PMO
IO-2.5. Number of visitors to public space created (/of whom women)	Actual number of visitors to the public space created under the Project annually (total and women respectively)	Semi-annually	Survey Report	PMO/PIA
IO-3.1. Number of people trained at the skills training institutions (of whom women)	Actual number. of people trained at the skills training institutions (total and women respectively)	Semi-annually	Progress Report	PIA/PMO
IO-3.2. Technical Guidelines for mining subsidence area rehabilitation & redevelopment	Status of development and dissemination of the technical guidelines for mining subsidence area rehabilitation & redevelopment	Semi-annually	Progress Report	PIA/PMO
IO-3.3. Project site management entity established and operational	Status of project site management entity establishment and operation	Semi-annually	Progress Report	PMO

Annex 2. Detailed Project Description

CHINA: Huainan Mining Area Rehabilitation Project

A. Description of the Project Area

1. The Project Area is the old Jiulonggang-Datong coal mining sites (or JiuDa Mining Site) in Datong District of Huainan Municipality, Anhui Province. It is situated between the central urban district (Shanbei district) and the new development district south to a local hill – Shungengshan (Shannan district), thus is now in the central area of the expanded city. Coal mining at the site started many decades ago and the two main mines, Datong and Jiulonggang, were closed in 1978 and 1982 respectively. Six small mines were operating for a number of years in a limited area until 2012. A large waste site, Datong dumpsite, which was used for domestic solid waste disposal in the period 1984-2009 with a total footprint of over 11ha and an estimated volume of 2.75 million m^3, is located in the northern part of the project site.

2. The JiuDa Mining Site has been deserted for over two decades, and has largely become dilapidated wasteland, with low vegetation coverage, soil erosion, waste dumps, deserted buildings, water ponds in subsided pieces of land and silted drainage channels. Existence of such a site within the central city area is a major nuisance and source of environmental risks, affecting the health and wellbeing of the local communities, and the land value of neighboring areas. In the city's master plan (2010-2020) approved by the State Council, this site has been designated as an ecological green land or 'green heart' of the city. It is included in the city's 12^{th} five-year plan for environmental remediation.

3. Environmental survey and monitoring, hydro-geological and geotechnical investigations, ground settlement observation and geo-hazard studies, were undertaken as part of the project baseline studies. The geo-hazard studies and settlement observation show that ground settlement at the project site has stabilized except in a few locations (near the six small mines closed in 2012). Further risk assessment was carried out and detailed risk zoning maps prepared to guide land use planning, project design and implementation. In addition, the environmental monitoring and test results indicate that the soils surrounding the Datong dumpsite and at some waste pile sites are contaminated, and that groundwater at the dumpsite is contaminated as well from the leachate generated by the dumpsite which cannot meet the national standards. The surface water quality at the site is generally below Class V according to the Chinese environmental standards. These baseline studies and investigation results form the basis for project design and technology selection.

4. **Land Ownership.** The JiuDa Mining Site (Project Area) is located within the Shuangengshan Scenic Area in Datong District, and has a total size of 9.3km^2 (13,950mu). The majority is state owned land, and the rest collectively or privately owned land. The state owned land includes land that was transferred from the Huainan Coal Mining Company (HCMC) to the Huainan Agriculture and Water Investment Company (HAWIC), Huainan Municipal Government (HMG) and Datong District Government. Although, the main coal mining activities ceased in 1982, some small enterprises, previously associated to the mining operation continued in the area. The collectively owned land in the Project area mainly belongs to two administrative

villages: Chenxiang Village and Jiulonggang Village in Jiulonggang Town. Most of the rural residents in these two villages have been relocated in the past, but some part of the farmland is still in use in the project area. Some small enterprises are also still located in the project area, including: (i) Tianhe Boiler Accessories Factory (needs to be relocated to complete project investments); (ii) Datong Municipal Waste Dump closed down; (iii) Huainan City Manhan Construction Material Co.; (iv) Huainan City Zongjian New Construction Material Co., Ltd.; (v) Huainan City Tianjie Commercial Concrete Co., Ltd.; (vi) Huainan Branch of Beijing Zhongdian Environmental Engineering Material Co., Ltd.; and (vii) Huainan Qiancheng New Construction Material Co., Ltd.

5. The HCMC used to own the land use right of 9,335mu of land in this area, including: (a) woodland (6,537mu), (b) subsided land (138mu), purchased urban construction land (2,034mu) and (d) allocated urban construction land (626mu). A Land Transfer Agreement was signed on April 9, 2014, between the HCMC and the HMG for the transfer of 6,537mu of woodland and 138mu of subsided land at no costs. A second Land Transfer Agreement was signed on January 4, 2015, between the HCMC and HMG for the transfer of the remaining 2,660mu of land. The agreement provides information about the land use rights and allowable activities on each plot and transfers any responsibility regarding future compensation for the demolition of third party structures to the HMG. HAWIC has been entrusted by HMG to use and exploit the land on behalf of the HMG.

6. **Land Use Master Plan**. According to the Shungengshan Scenic Area Master Plan 2020, prepared in September of 2010 by the HMG, the entire 9.3km^2 Project Area is part of a Green Buffer Zone with restricted development and construction opportunities. The preservation of this Green Space is important for the achievement of the Project Development Objective, and therefore the HMG should ensure this buffer zone and associated land use restrictions are complied with and enforced during project implementation. A covenant to this effect has been included in the Project Agreement, setting forth the obligation of HMG to enforce the Master Plan and related zoning restrictions. The current Master Plan lacks a detailed implementation and investment plan. Under the Technical Assistant Component, the World Bank will offer support to the preparation of such a plan based on investment needs, realistic costs estimates and available revenues over time. The project will also help assess innovative ways to increase land based revenues and land swap mechanisms to reduce the financial burden to the municipal government.

B. Project Development Objective and Beneficiaries

7. The project development objective is to remediate and create a public space at the JiuDa mining site in Huainan city.

8. **Project Beneficiaries**. The project will benefit the following groups in the project areas and beyond.

Table A2.1. Project Beneficiaries

Beneficiaries	Project Benefits
Local communities in and adjacent to project site	Improved living environment with reduced health hazards; improved access to urban infrastructure services; land and property price appreciation; skills training and employment opportunities
Huainan city residents, especially those in the surrounding three districts	Improved road access and connectivity with better road conditions and reduced travel time; access to a green park with amenities and recreational facilities
Women	Targeted skills training and job opportunities for income-generation
Tourists/Visitors	Access to more PCR sites and high quality recreational areas and facilities; Enhanced travel experience
Small and micro enterprises	Business opportunities from project implementation, and from redevelopment investments such as Bonsai, flower market and service centers
Huainan Government	Creation of a green zone and urban environmental service infrastructure; revenue from land price appreciation and related taxes; strengthened institutional capacity

C. Project Components and Description

9. The project has three components, which are described below with the sub-components and main activities:

Component 1. Environmental Remediation and Water Management

10. **Subcomponent 1.1: Environmental remediation.** The environmental remediation program aims at rehabilitating the degraded environment and reducing pollution from soil erosion and waste materials. It consists of two types of investments:

(a) *Re-vegetation:* A large part of the total project area, 410 ha, will be covered with a variety of trees (ranging in size from yearlings to 4-6 year trees), shrubs, bamboo and low vegetation for soil stabilization, greening and recreational purposes. The re-vegetation will be fully developed in the initial years of project implementation; the nurseries that will be established under the utilization program of Component 2 will play an important role in the following maintenance of the greened area. The works will in part require soil improvements and at a few places top soil recovery and aims to reach a vegetation coverage of 70%. The re-vegetated area will be developed as a public park for recreation which includes a 16km long green path for walking and bicycling around the water bodies. More comprehensive site clearance and restoration activities are included under the site cleanup described below;

(b) *Site cleanup:* The project baseline survey identified over two dozens of contaminated sites many of which contain heaps with waste materials up to 30,000m^3 in volumes. Some sites are related to former mining activities, a substantial number are for both informal domestic and construction waste disposal by private persons or small contractors and more industrial types of uses such as fly ash piles and building material storage. The total estimated volume of contaminated material is some 615,000m^3 (polluted top soil plus dumped waste) that requires removal and disposal. Soil tests at the project sites show that virtually all the waste materials are non-hazardous materials and

can be used in road construction and brick making, etc. In addition, protection measures for the closed mine shafts will also be undertaken as part of the cleanup investments.

11. **Subcomponent 1.2. Water Stream Rehabilitation.** This sub-component finances rehabilitation of the small water streams within the project area for storm water drainage and rainwater harvesting for plant irrigation and landscaping. According to the city's master plan, the rainstorm drainage standard for the project site will be for protection against 1-in-30-years floods from rainstorms in the local catchment area. The rainwater harvesting is for irrigation of vegetation in the project area and landscaping. The main activities include: (a) rehabilitation of three drainage channels, Datong, Chenxiang and Jiulonggang, with a total length of about 7km. The drainage channels will be connected to two existing drainage canals and one (Dragonking drainage channel) to be built under an ongoing Asian Development Bank (ADB) funded urban water management project; (b) a number of connecting streams, storage ponds and cross structures. The main work quantities involved in (a) and (b) include: de-silting 8,000 m3 sediments, 1.05 million m^3 earth work (excavation and backfilling), and slope protection work 92,900 m^3; and (c) irrigation facilities to prove up to 1.15 million m^3 of water for the trees and vegetation activities under the environmental remediation and site utilization sub-components.

12. The drainage channels and various water storage ponds will be connected locally to facilitate water flow during wet and dry seasons, and not to balance the pressure on the downstream channels. The routing and design of the drainage channels and water ponds were optimized to minimize the need for land acquisition. The rainstorm drainage pipelines and open channel, to be constructed under Sub-component 2.1 along the Project roads, will be connected to the three main drainage channels. Eco-friendly design will be adopted for lining of channel and water pond banks to be compatible with the green park environment. Inundation (flood) mapping was carried out and the results showed that none of the existing or new facilities to be built within the project area, such as tree nursery, flower market and Bonsai area, will be significantly affected by a 1-in-30 years storm after project completion.

13. **Subcomponent 1.3. Datong Dumpsite Closure**. This sub-component supports sanitary closure of the Datong waste dumpsite to prevent further pollution from the waste dump. The main investment activities include: (a) reshaping and final capping to the dumpsite with 800,000m^3 of waste over an area of 11ha.; (b) constructing a dump boundary dike (wall) around both of the dump cells, with a maximum height of 3 meters; (c) building a vertical barrier wall to prevent lateral migration of leachate off site; (d) constructing a leachate collection and treatment system; and (e) constructing a landfill gas collection system.

14. The overall dump remediation and closure will follow current national regulatory requirements. Where appropriate, additional industry good practices will be adopted. The main activities under this sub-component include the following:

(a) Re-configuration and contouring of the dump above grade: The top dump crown area is to have a contour of 5% slope, with the side slope gradient of 1:3. The estimated waste volume that requires excavation and replacement is close to 138,000m^3. The waste will be compacted at a compaction rate of 0.8t/m^3. A surface drainage system with 3.2km long ditches will be built.

(b) Dump boundary dike: A boundary dike 1,470m long is to be constructed around both of the dump cells with concrete drainage channel for the collection of storm water run-off at the edge of the dump footprint. Estimated amount of storm water run-off, and therefore, drainage channel and discharge pipe sizing are to be determined.

(c) A vertical barrier wall to prevent lateral migration of leachate off site: A vertical barrier wall is to be installed around the waste disposal footprint in order to minimize lateral migration of leachate off site. Barrier wall structure involves a layer of HDPE liner with a minimum thickness of 600mm, plus a layer of GCL (geo-synthetic clay liner), extended to a depth of 3 meters below clay layer underneath the base of the waste deposit (serving as the first layer of aquifer). Total amount of vertical barrier wall material is estimated to be approximately 19,100m^2.

(d) A leachate collection and treatment system of 50m^3/day in capacity: This includes: (i) installation of a boundary leachate removal system made of perforated collection pipe of DN400 HDPE with gravel bedding covered with geotextile; (ii) a boundary leachate collection and removal system to be constructed at the grade level at the site boundary against the boundary dike, and 2 leachate extraction wells, one for each of the dump cells, located at the lower portion of the cell to be installed to maximize leachate extraction from the dump; and (iii) a leachate storage and equalization pond with a capacity of 500m^3, and fitted with a composite liner system of two layers of 2.0mm HDPE liner and a drainage layer for potential leaks.

(e) A landfill gas collection system: It includes: (i) 53 vertical gas collection wells with a series of interconnected pipes and gas delivery system; (ii) gas blower, gas manifold stations and condensate removal system; and (iii) flare and control systems.

Component 2. Infrastructure Improvement and Site Utilization

15. **Sub-component 2.1. Urban Infrastructure Improvement**. This sub-component finances (upgrading) construction of 4 roads and associated urban infrastructure service facilities which are to be used by different income level groups for better connectivity and access to the project area. The roads include Zhongxing, Yanshan, Wanxiang and Jiukong roads with a total length of 8.3km. The associated facilities include pipelines for water supply, sewerage and storm water management respectively to provide essential urban infrastructure services in the project area. The details of main investment activities under this sub-component are as follows:

(a) Construction of a 1.4km long and 30m wide secondary access road, Zhongxing Road (from the junction of Linchang Road to Yanshan Road), which serves as the major connector between the southern and northern districts for improved connectivity and for attracting visitors from central urban area to the project area;

(b) Construction of a 1.5km long and 25m wide secondary access road, Wanxiang Road, which serves as the secondary connector to attract visitors from central urban area to the eastern part of project area with most numbers of residents and commercial/public/education facilities;

(c) Construction of a 1.4km long and 9 m wide secondary access roads, Jiukong Road, which will serve to improve access to the project site, and facilitate transportation within the site;

(d) Construction of a 4.0km long and 7.0m wide access road, Yanshan Road (from the Junction of Zhongxing Road to G206 Road), which will be connected to the other part of Yanshan Road outside of the project, forming an important green path of the city, linking the project site to the nearby Jiulonggang Township; and

(e) Construction of 8.5km long water pipelines (DN150-300, Ductile Iron), 15.2km long storm water drainage pipelines (DN600-1000, Reinforced Concrete, including 7.1 km open channel along the Yanshan Road) and 5.0km long sewerage pipelines (DN400-800, PE or Reinforced Concrete). The different pipelines will be laid along the verges of the above roads to serve the 14,000 residents (2020) and visitors of the project area.

16. The road sizing and design were based on the forecasted travel flow, both generated and attracted travel, in line with the survey results in the Huainan urban Traffic Master Plan (2010-2020), and review of the travel capacity at different road junctions. Other infrastructure was designed to meet the short-term needs to provide and/or enhance essential urban infrastructure services for the residents and business operations in the project area. To prevent the risks associated with past mining activities and closed shafts as well as karst formation, the routing and layout of roads and other infrastructure took into full consideration the ground settlement risk zoning and land use recommendations from the geo-hazard study team.

17. *Linked Projects*. There are several projects (works) functionally linked to the Bank project and to be completed by other parties are summarized in the following table. The HMG has confirmed that those works will be finished prior to or by the Bank project completion.

Table A2.2. List of Functionally Linked Projects

Type	Name	Scale/Capacity	Responsibility
Water Supply	Zhongxingnan Road WS pump station	Capacity: 27,800m^3/day, included in the 2016-2020 urban master plan	Huainan Beijing Capital Water Company Ltd.
Drainage	Dragonking drainage ditch (rehabilitation)	12, 650m long; 1/30 year drainage design standards; included in the ongoing ADB funded Huainan urban water system rehabilitation project	Huainan ADB project management office
Road	Linchang Road	3.5km long and 25m wide (under construction)	Huainan Municipal Construction Commission

18. **Subcomponent 2.2: Site Utilization for Community Development.** The site utilization program includes the following key activities:

(a) *Flower Market* (9.7ha) – Huainan lacks an organized daily flower market where existing street vendors that now work in the area and the nurseries to be established can sell in a more organized manner and also store products such as flowers, plants, small trees, etc. The proposed flower market offers the required sales and storage facilities and in addition will also provide the facilities for selling other products such as fish, small pets, and household products. The flower market together with the Bonsai area will be owned and managed by HAWIC through a subsidiary that is part of HAWIC's operational unit and located at the flower market.

(b) *Tree Nurseries* (54.6ha) – The set-up and production of the nurseries are tailored to meet Huainan City's policy requirements of national and local urban greening programs and to support maintenance of the Project's re-vegetation areas (See Component1). The nurseries will need a period of three years for set-up and further development before they can start selling produce to the City, the public and other buyers, e.g. at the flower market. The nurseries will be owned and leased out by HAWIC to private entrepreneurs.

(c) *Bonsai Area* (8.1ha) – Adjacent to the flower market an area will be made suitable for interested people to rent small plots for bonsai nurturing. This activity will be closely linked to the flower markets were these products can also be sold.

(d) *Visitor Centers* (0.8ha) – The project will establish two service centers where visitors to the area/park/wetland can visit restaurants, rent bikes, get information about the park and also buy food and drinks. They will be owned by HAWIC but managed by the site management entity. The management entity will lease out most of the centers' space to private operators such as restaurants operators.

Component 3. Capacity Building and Technical Assistance

19. This component finances technical assistance for project management and implementation support, and long-term management of mining subsidence areas. The main activities include: (a) project management and implementation support, and related capacity building activities; (b) technical assistance for long-term management and redevelopment of coal mining subsidence areas in Huainan Municipality; and (c) technical support for the development of the Shungengshan Scenic Area Implementation Plan. This component also finances the incremental operating costs of the PMO and PIAs.

20. The project management and implementation support covers general project management support services, detailed design and construction supervision, specialized technical monitoring and project results monitoring, as well as RAP and ESMP implementation monitoring. The capacity building activities include training, workshops and study visits for project staff and concerned government agency staff on related technical subjects, such as training on project management, risk assessment and management, closed mine shaft stabilization, O&M of project facilities, as well as skills training for affected persons and local community members.

21. Technical assistance and support under the project includes the following key activities: (a) evaluation and introduction of technical guidelines and standards, best available techniques for risk identification and assessment, rehabilitation and utilization of coal mining subsidence areas in Huainan municipality; (b) study on policy mechanism for implementation of comprehensive control and management of coal mining subsidence areas in Huainan municipality. Both (a) and (b) will involve introduction of international best practices through workshops, exchange visits and consultants' inputs; (c) strengthening the management information system for mining subsidence area management, including a website for information and knowledge sharing; (d) technical support for the development of the implementation plan for the Shungengshan Scenic Area Development Master Plan, in the project area and defined neighboring area with involvement of local communities, as indicated above; and (e) waste dump monitoring and management, including training on technical and environmental monitoring of the remediated JiuDa waste dump, and on management of the waste dump site upon closure.

Annex 3. Implementation Arrangements

CHINA: Huainan Mining Area Rehabilitation Project

Project Institutional and Implementation Arrangements

1. **General Arrangements and Project Leading Group.** The project will be managed at the HMG Level with oversight from Anhui Province. Datong District Government under the HMG will be responsible for the implementation of the resettlement action plan and skills training program, and for enforcement of the dump ban in the project area. A Project Leading Group (PLG) chaired by the executive vice-mayor is established. Members of the PLG include senior officials from related government departments: Municipal Development and Reform Commission, Municipal Finance Bureau, Agriculture Commission, Water Resource Bureau, Municipal Coal Mining Subsidence Management Office, Municipal Key Project Construction Bureau, Municipal Urban and Rural Construction Commission, and Huainan Coal Mining Company. The main functions of the PLG are to: (a) provide policy direction and strategic guidance for project preparation and implementation; (b) coordinate and make decisions on key project issues, including land related issues, project changes, counterpart funding, and inter-sector collaborations; and (c) approve important project related proposals.

2. **Project Management and Coordination.** A Project Management Office (PMO) headed by the director of Huainan Municipal Finance Bureau, has been set up within the Huainan Municipal Finance Bureau to be responsible for overall project management and coordination during project preparation and implementation (See Figure 1). It is assisted by consultants and a cross-sector advisory group consisting of senior staff from the concerned municipal bureaus. The main responsibilities of the PMO are to: (a) be responsible for project coordination; (b) take charge of work programing, communications to and reporting to the World Bank, and upper authorities including provincial finance bureau and development & reform commission; (c) formulate the annual counterpart financing plan; (d) recruit and manage the implementation support consultants, and oversee procurement of works, goods and remaining consulting services; review and oversee bidding documents preparation; (e) take part in contract negotiations and oversee contract execution; (f) review and report on project works adjustments, design changes, and contract variations, and seek World Bank approval; (g) be in charge of training program formulation, implementation and coordination; (h) be responsible for project documents filing and record keeping; (i) oversee the implementation of the resettlement action plan and environmental management plan; (j) establish and maintain a monitoring and evaluation system covering project results monitoring, specialized technical monitoring and safeguards monitoring; (k) approve all loan withdrawal/reimbursement applications; and (l) participate in project related completion acceptance.

3. **Project Implementation.** The Huainan Agriculture and Water Investment Company (HAWIC), a state-owned company of Huainan municipal government, and four other agencies: Huainan Municipal Construction Commission, Municipal Sanitation Bureau, Municipal Coal Mining Subsidence Management Office and Datong District Government, have been designated as the project implementing agencies (PIAs) to be responsible for project implementation. Specifically, the Municipal Construction Commission will be responsible for implementation of

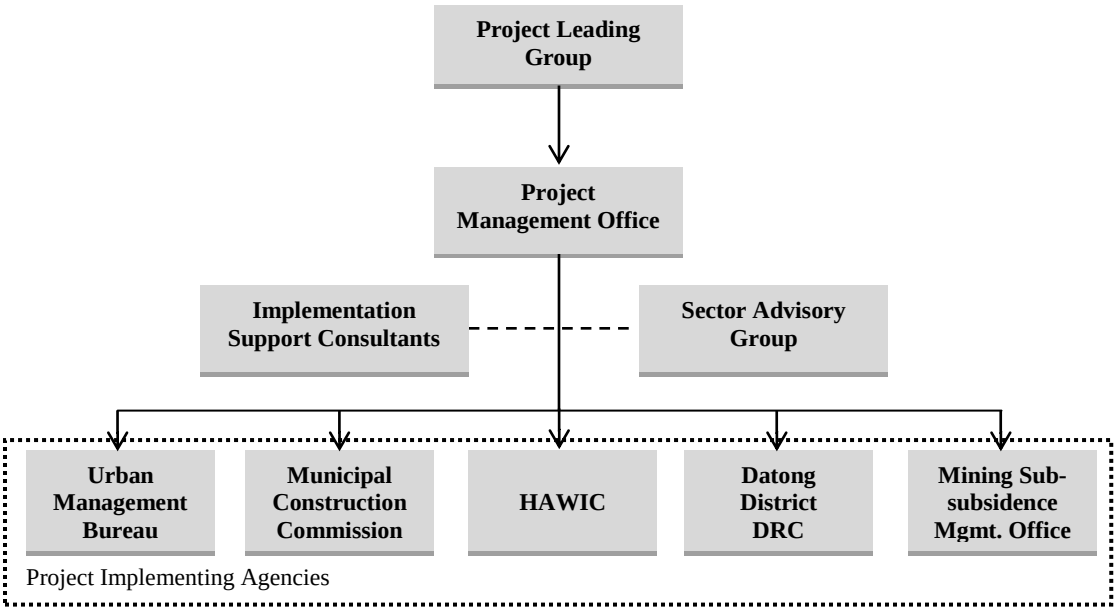
the following sub-components: environmental remediation, water stream rehabilitation, and urban infrastructure improvement; Urban Management Bureau for Datong Dumpsite Closure sub-component; HAWIC for site utilization sub-component; Municipal Coal Mining Subsidence Management Office for the technical and policy studies under Component 3; and Datong District Development and Reform Commission (DRC) for implementation of the resettlement action plan and the skills training program. All PIAs will be involved in the capacity building activities under the Project.

4. The main responsibilities of the PIAs are to: (a) be responsible for project implementation; (b) contract design firm (s) and procurement agent to prepare technical designs and bidding documents; (c) assist the PMO to recruit contractors, goods suppliers and consultants,; (d) contract consulting firm(s) to undertake construction supervision and quality assurance, as well as related environmental management supervision; (e) be responsible for respective annual work planning and implementation progress reporting; (f) establish a financial management system to ensure proper use of project funds, and be responsible for loan withdrawal applications, funds and asset management; and (g) be responsible for organizing project works completion acceptance, evaluation, and reporting, including the preparation of the respective parts of the mid-term review report and implementation completion report. The HMG and PIAs shall ensure that the project sites and facilities including the site utilization businesses are adequately managed, through project implementation and after their completion.

5. **Project Readiness and Implementation Support.** A detailed project feasibility study has been completed and reviewed by the Bank, and will be approved by the concerned provincial authorities before loan negotiations. A project implementation plan (PIP) which includes the implementation arrangements, responsibility division and staffing, implementation schedule, procurement plan, first year program and counterpart funding plan, and terms of references for different technical assistance and implementation support consultants, has been prepared and reviewed by the Bank team. Procurement and financial management manuals have also been prepared and cleared by the Bank. The HMG plans to carry out the detailed design and procurement of the priority works such as the Datong Dumpsite closure and associated resettlement, as soon as the loan negotiation has been completed. The core staff of the PMO and PIAs has been appointed and have received related training. A subsidiary agreement between the HMG and HAWIC has been drafted and will be signed after loan agreement signing.

6. An implementation support consultant team with project management specialists and competent technical experts in key technical fields such as environmental engineering and remediation, forestry, municipal engineering design, geotechnical engineering and road design and construction, will be hired to assist the PMO and PIAs with implementation management, including technical review and quality control, procurement and contract management, RAP and ESMP implementation oversight, project planning, monitoring and reporting. In addition, consulting firms for the design and construction supervision of project activities under the first two components will be employed. Other consultants will be engaged to assist with the technical assistance and capacity building activities as well. The related sector agencies will be involved in respective project activities concerned through the sector advisory group.

Figure A3.1. Project Implementation Organization Chart



Financial Management

7. The financial management capacity assessment identified the following principal risks: (a) The PMO is new to Bank operations, and some of the PIAs such as Huainan Agriculture and Water Investment Company (HAWIC), are new to Bank financed projects and infrastructure projects, and (b) the required counterparts investment under the project, from the municipal government, may not be provided adequately or timely.

8. Agreed mitigation measures to address the above risks include: (a) financial management training (formal and ad hoc) to be provided to the project financial staff; (b) a detailed financial management manual to be prepared to standardize project implementation procedures; (c) close monitoring and supervision from the Bank team during implementation; and (d) additional analysis and adjustment to the financing plan.

9. Overall, the residual financial management risk after mitigating measures for the project is assessed as Moderate.

10. **Budgeting**. The annual project implementation plan, including the funding budget and resources, will be prepared by PMO. Budget variance analysis will be conducted on a semi-annual basis by PMO to identify variances from plan that require management attention and action. The Bank will work with PMO through supervising the project budgeting system to enhance their budget preparation and execution during project implementation.

11. **Fund Flow**. The Bank loan proceeds will flow from the Bank into a project Designated Account (DA) to be set up at and managed by Anhui Provincial Finance Bureau (APFB). The loan will be on-lent to the HMG. APFB will be directly responsible for the management, maintenance and reconciliation of the DA activities. The PIAs will generally make payments to contractors and suppliers using its own funds and then request reimbursement from the DA. PIAs are responsible for preparing disbursement withdrawal applications with appropriate supporting documents and submitting them to the municipal finance bureau (MFB) for review and approval. Finally, withdrawal applications will be reviewed and approved by APFB. The reimbursed funds will be delivered to the municipal finance bureau and then to PIAs. MFB may also pay contractors directly based on PIAs' request.

12. **Accounting and Financial Reporting**. The administration, accounting and reporting of the project will be set up in accordance with Circular #13: "Accounting Regulations for World Bank-financed Projects" issued in January 2000 by Ministry of Finance. The PMO and PIAs will manage, monitor and maintain their project accounting records for the activities executed. The project will use accounting software named "User Friendly" to record project activities and prepare financial statement. This software is one of the most well-known accounting software in China and is being used successfully by other Bank financed projects to record transactions and produce reliable financial reports. The project will install this accounting software before effectiveness. The Bank will follow up to ensure project accounts are properly set up and project accounting and financial reporting are ready. Original supporting documents for project activities will be retained by the PMO and PIAs. The PMO will consolidate project financial statements prepared by PIA, which will then be submitted to the Bank for review and comment on a regular basis. The consolidated interim unaudited project financial statements should be prepared and furnished to the Bank by the PMO no later than 60 days following each semester (due dates will be September 1 and March 1), in form and substance satisfactory to the Bank.

13. **Internal Control**. All withdrawal applications are subject to the detailed review conducted by the municipal finance bureau and APFB. HAWIC will strengthen its internal control system by following related internal control standards issued by MOF and the main internal control requirements related to the proposed Bank financed project will be integrated in the financial management manual. The supervising engineers will be hired to supervise project constructions. The Huainan Municipal Finance Bureau (MFB) and APFB will carry out field inspection of investment on irregular basis.

14. **Auditing**. Anhui Provincial Audit Office (APAO) has been identified as the auditors for the project. APAO has extensive experience with previous Bank projects and APAO audits have been deemed acceptable. An annual audit report will be issued by APAO. The annual audit report of project financial statements will be due to the Bank within 6 months after the end of each calendar year. Following the World Bank's formal receipt of the audited financial statements from the borrower, the World Bank will make them available to the public in accordance with the World Bank Policy on Access to Information.

Disbursements

15. Three disbursement methods: advance, reimbursement and direct payment are available for the project. The primary Bank disbursement method will be advances to the DA. Withdrawal Applications (WA's) will be prepared to request Bank disbursements and to document the use of Bank financing. WA's will include supporting documents in the form of Statement of Expenditures (SOEs) and Summary Sheets (SS) and source documents identified in the Disbursement Letter issued by the Bank. A segregated DA in US dollars will be opened at a commercial bank acceptable to the World Bank and will be managed by APFB. The ceiling of the DA will be determined and documented in the Disbursement Letter. The World Bank loan will be disbursed against eligible expenditures (taxes inclusive) as in the following table:

Table A3.1. Disbursement Categories

Category	Amount of the Loan Allocated (in USD)	Percentage of Expenditures to be Financed (incl. Taxes)
(1) Works: (a) under Parts A and B.1 of the Project (b) under Part B.2 of the Project	 75,611000 9,357,000	81%
(2) Goods: (a) under Parts A, B.1 and C of the Project (b) under Part B.2 of the Project	 1,290,000 4,517,000	100%
(3) Consultant's services, Training and Incremental Operating Costs	3,015,000	100%
(4) Interest and other charges on the Loan accrued on or before the last Payment Date immediately preceding the Closing Date	5,960,000	Amount payable pursuant to Sections 2.04 and 2.05 of this Agreement in accordance with Section 2.07 (c) of the General Conditions
(5) Front-end Fee	250,000	Amount payable pursuant to Section 2.03 of this Agreement in accordance with Section 2.07 (b) of the General Conditions
(6) Interest Rate Cap or Interest Rate Collar premium	0	Amount due pursuant to Section 2.08(c) of this Agreement
TOTAL AMOUNT	**100,000,000**	

Note: Parts A, B and C as stipulated in the Loan Agreement, are the same as Components 1, 2 and 3 respectively in the PAD.

Procurement

16. **Capacity assessment.** Procurement under the project will be carried out by the PMO. The procurement capacity and risks assessment identified the possibility of non-compliance and delays in processing procurement as key procurement risks. The main reasons for the risks are the lack of experience by the PMO and its staff in procurement under Bank-financed projects and the differences between the Bank procurement policies and procedures, and the domestic procurement regulations and procedures. In order to address these risks, a capacity strengthening

and risks mitigation action plan was agreed with the PMO which includes the following measures: (a) procurement training provided by the Bank team during project preparation and implementation; (b) preparation and implementation of a procurement and contract management training plan by the PMO to train all procurement staff; (c) preparation and issuance of a procurement manual by the PMO to standardize project procurement procedures and provide guidance to project staff; and (d) a procurement agent with experience in World Bank procurement procedures to be recruited by the PMO to assist with procurement planning and implementation. The overall procurement risk is rated 'moderate'.

17. **Applicable Guidelines.** Procurement for the proposed project will be carried out in accordance with the World Bank's "*Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers*" dated January 2011, revised July 2014; and "*Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers*" dated January 2011, revised July 2014; and the provisions stipulated in the legal agreements. National competitive bidding (NCB) will be carried out in accordance with the Law on Tendering and Bidding of the People's Republic of China promulgated by Order of the President of the People's Republic of China on August 30, 1999, subject to the modifications stipulated in the legal agreements in order to ensure broad consistency with Bank Procurement and Consultant Guidelines.

18. **Procurement of Goods, Works & Non-Consulting Services**. Procurement will be done using the Bank's standard bidding documents (SBD) for all international competitive bidding (ICB) contracts and National Model Bidding Documents (MBD), agreed with or satisfactory to the Bank for all national competitive bidding.

19. **Selection of Consultants**. The Bank's Standard Request for Proposal shall be used for all competitive selection of firms. Universities and research institutes may be included in shortlists as a source of consultants, provided they possess the relevant qualifications and they are not in a conflict of interest situation. In such cases, QBS or CQS (for small assignments) would be used, if the shortlist also includes consulting firms.

20. **Training, Workshops and Study Tours**. Detailed programs for training, including study tours and workshops, will be developed by PMO during project implementation and will be included in the annual work plan for Bank review. Expenditures incurred in accordance with the approved programs would be used as the basis for reimbursement.

21. **Procurement Plan.** The procurement plan for the entire scope of the project, acceptable to the Bank, has been prepared by the PMO. The plan is available at the PMO and the Bank shall arrange for its publication on the Bank's external website after loan negotiations. The procurement plan will be updated in agreement with the Bank annually or as required to reflect project implementation needs and improvements in institutional capacity.

22. **Prior-Review Thresholds**. The thresholds for procurement methods and Bank prior review are indicated in Table A3.2.

Table A3.2. Thresholds for Procurement Methods and Prior Review

Expenditure Category	Contract Value (US$)	Procurement Method	Prior Review Threshold (US$)
Goods and Non-Consulting Services	≥10,000,000	ICB	All
	<10,000,000	NCB	First contract irrespective of value and all contracts ≥3,000,000
	<100,000	Shopping	N/A
	N/A	Direct contracting	N/A
Works/ Supply & Installation of plant and equipment	≥40,000,000	ICB	All
	<40,000,000	NCB	First contract irrespective of value and all contracts value ≥ 15,000,000
	<200,000	Shopping	N/A
	N/A	Direct contracting	N/A
Consultants	No Threshold	QCBS/QBS	First contract for each selection method and all contracts ≥ 1,000,000
	< 300K	CQS	
	N/A	SSS	All contracts≥100K for firms and ≥ 50K for individual consultants
	N/A	IC	Only in exceptional cases e.g. long term TA

Remarks: ICB –International Competitive Bidding
NCB –National Competitive Bidding
DC – Direct Contracting
N/A – Not Applicable
QCBS - Quality- and Cost-Based Selection ; QBS Quality-Based Selection
CQS –Selection Based on the Consultants' Qualifications
SSS –Single Source Selection; IC– Individual Consultant selection procedure

23. **Frequency of Procurement Supervision**. In addition to the prior-review supervision carried out from Bank offices, procurement post-reviews will be carried out every 12 months by the Bank and/or by external auditors in accordance with terms, conditions, and reporting procedures acceptable to the Bank. The initial procurement post review sampling ratio will be one out of 15 contracts.

24. **Advance Contracting and Retroactive Financing**. Contracts expected to be procured in advance (before Loan Signing) are included in the Procurement Plan. Retroactive financing will be allowed under the project for eligible expenditures. Withdrawals for eligible expenditures up to an aggregate amount not to exceed US$2 million may be made for payments within 12 months prior to the date of the Loan Signing, but on or after September 23, 2014. Relevant activities for which retroactive financing is being sought are subject to prior review.

Environmental (including safeguards)

25. The project is classified as a "Category A" project under the World Bank environmental screening procedures specified in OP 4.01. It triggers the following EA safeguards policies:

Environmental Assessment, Pest Management, Physical Cultural Resources, and Forests. Main issues addressed in EA document are summarized below:

26. **Analysis of Alternatives.** The Feasibility Study and EA included a review of the alternatives considered during the project feasibility study and project design. The alternative analysis mainly focused on options for Datong Dumpsite: (i) business as usual without proper closure; (ii) excavating and relocating waste from the dumpsite to the city's sanitary landfill and/or waste-to-energy (WTE) facility for disposal; (iii) In-situ closure and remediation of dumpsite; and (iv) dumpsite mining to recover recyclable materials with residual disposal at sanitary landfill or WTE facility. The analysis of these options resulted in the selection of in-situ closure and remediation (option 3, above). The alternative analysis also included options for other activities such as leachate treatment; alternatives for landscape and urban infrastructure (see EA for details).

27. **Environmental Assessment (OP4.01).** The project area consists of enterprises, closed mines, villages, and clumps of second-growth trees, farmland, and water ponds, and wasteland. The project area has been deeply influenced by human activities. There are no endangered or rare species identified in the project area. The project is expected to substantially improve local environment without the potential to cause significant conversion or degradation of natural habitats. The closure of the Datong Dump will effectively alleviate leachate pollution of ground water and surface water, and emissions of greenhouse gas, and other air pollutants from the Datong Dump. The clean-up of waste deposits will reduce pollution sources, while re-vegetation in the project area reduce soil erosion and carbon dioxide emission, and improve the landscape of the subsidence area. Rehabilitation of the drainage channels will improve the flood management capacity in the area, and increase open water surface area, in which storm water will be collected and re-used for vegetation irrigation. The project also has the potential to bring about great social benefits to local communities. The environmental restoration, the provision of basic infrastructure (e.g. road, water supply pipes, sewers, and drainage channels) and amenities (e.g. green lanes, vegetation, open water surface) are expected to improve living conditions of local residents, attract tourists, and increase the property values in the area.

28. Adverse impacts/risks of the project mainly include (i) the controllability of landfill closure on the emission of leachate; and (ii) the geo-hazard/ instability in the project area caused by the past mining activities. The first risk can be mitigated by the design of the closure taking into account good international practices and following relevant national regulations/standards. Adequate mitigation measures for the closure have been incorporated into the project design and the ESMP, including, among others, (i) constructing a dump boundary dike (wall) around the dump cells, and a vertical barrier wall to prevent lateral migration of leachate off the site; and (ii) installation of a boundary leachate removal system. A modeling study has been conducted for the Datong Dump closure showing that the migration of leachate into the environment will be greatly contained after the completion of the closure works, with an expected 99% reduction in pollution loads. Post-closure ground water monitoring at and around the dumpsite will continue during implementation and after project completion, to ensure that the pollution from the waste dump is adequately contained.

29. With respect to the second risk, a geo-hazard study was undertaken to thoroughly delineate the extent of the risks associated with existing landforms and ground conditions, and a map showing the areas identified with different degree of geo-hazard/instability. The results have been taken into account in the project design, including that: (i) no urban infrastructure or public areas will be established with the risk zones, without additional ground stabilization measures; and (ii) dumpsite closure footprint is to be adjusted to avoid unstable areas. In addition, Huainan Municipality has developed a city master plan, making the project area as a green space. No urban infrastructure shall be established within the risk zones. The master plan will be enforced by the Huainan Municipality

30. Project construction will cause general construction related impacts on nearby villages and surrounding environment. These impacts include disposal of dredged sludge (total 7,680m^3 non-hazardous sludge) and spoil; construction nuisances such as dust, noise, wastewater; increased traffic; and safety issues. But these impacts are not considered significant and can be readily mitigated with good engineering design and construction management. Environmental Code of Practices (ECOPs) and specific mitigation measures for construction haves been prepared, and will be included in bidding documents and civil work contracts.

31. During operation the Datong Dump will generate leachate (23m^3/d) and landfill gas. Leachate will be collected and trucked away for proper treatment at the leachate treatment facility of an existing sanitary landfill site which is located at approximately 6.5 km from the Datong Dumpsite. Landfill gas will be collected and flared. Due diligence on associated facilities (e.g. an existing leachate treatment facility and a WWTP), have been conducted, confirming that these facilities are in compliance with Chinese EA regulations. In addition, the operation of four new roads will cause some nuisance (e.g. noise) and road safety issue, for which mitigation measures (e.g. road safety design) have been specified in the ESMP.

32. **Forests (OP4.36).** There are 137 hectares of woodland scattered in the project area. The woodland is either of planted or second-growth trees consisting of common local species. The project proposes to plant trees in a big area (total 374 hectares) for soil stabilization, greening and recreational purposes. This investment will improve significantly the landscape of degraded lands, reduce soil erosion, and provide local residents with space for recreation. The EA identified some negative risks (e.g. invasive species) which may occur if the plantation is not properly designed and implemented. Under the support of forest consultants, the project has selected a variety of indigenous species, which are compatible with local soil characteristics and are not prone to pest and disease.

33. **Pest Management (OP4.09).** While the project will neither finance the procurement of pesticides or equipment for pesticides application, the reforestation and nursery construction and operation will result in an increase in the use of pesticides for these project activities. Consistent with the provisions of Pest Management Policy (OP4.09), a Pest Management Plan, as part of the ESMP, has been developed for the project to improve capacity of farmers' knowledge in terms of minimizing the use and safe application of pesticides; and promoting integrated pest management.

34. **Physical Cultural Resources (OP4.11).** A PCRs survey, as part of the EA, has been conducted. The EA shows that the construction of one of the two tourist service station is in the vicinity of a Church with a separation distance of 51 meters. The church is not registered as cultural relic. However, it is considered as PCRs due to its religious significance to local communities. The project will not cause any significant impacts to the church. Instead, it will provide much improved environment for the local communities. Consultation has been conducted with the church and relevant stakeholder such as local cultural protection agency. Specific mitigation measures have been proposed in the ESMP including, (i) installation of noise barrier and prohibiting the use of high noise-generating equipment during religion events; and (ii) chance finds procedures.

35. **Environmental and Social Management Plan.** A stand-alone ESMP for the project has been developed based on the findings of the EA. The ESMP describes the measures needed to minimize, mitigate or compensate for expected environmental impacts of the project and monitoring plan, defines institutional responsibilities for the implementation of mitigation measures; and proposes capacity building activities and a budget for the ESMP implementation. The ESMP specifies the following major mitigation measures:

(a) Environmental Code of Practices will be included in all bidding documents and contracts for construction activities, including management of wastes, erosion control, disposal sites, control of dust and nuisance, management of hazardous materials and wastes, de-commissioning of existing facilities, worker's camp management, health and safety issues, community relations, chance find procedures, and environmental supervision during construction.

(b) Mitigation measures have been incorporated in the design for the closure of Datong Dump, including the installation of a dump boundary dike around the dump cells with concrete storm water collection drain at the edge of the dump footprint to contain the waste cells, HDPE lining system, vertical barrier wall to prevent lateral migration of leachate off site, leachate collection, storage and treatment system, landfill gas collection and treatment system etc.

(c) Specific mitigation measures for other types of project activities have been incorporated into the project design and the ESMP, such as disposal of dredged sludge, road safety design, sustainable drainage design, pest management plan, and provision of sanitation facilities (e.g. trash bins, public toilets) and service stations for tourists, etc.; and

(d) A Social Impact Management Plan has been prepared as part of the ESMP. The Plan includes measures to ensure both urban and rural residents in the area benefit from the potential land value increase, including: compensation that includes future land appreciation, annual cap on land to be expropriated, allocation of 5 to 10% of expropriated land to village collectives, and selection of relocation sites within the project area. The implementation of this Plan will be monitored by the resettlement external monitoring agency.

36. **Public Consultations and Information Disclosure.** In accordance with Bank requirements and Chinese regulations, public consultations were conducted from May 2013 to June 2014, including public consultation meetings and questionnaire survey, with project

affected persons and other stakeholders (e.g. enterprises, village associations, local communities, governmental agencies). Their opinions and concerns have been taken into account in the EA and in the project design. The EA and the ESMP were locally disclosed on June 11, 2014 through announcements published on the local website and newspaper and re-disclosed on September 5, 2014. The English and Chinese EA safeguard documents were disclosed in the World Bank InfoShop on November 14, 2014 and November 17, 2014 respectively, and the EA executive summary was disclosed on December 4, 2014 in the World Bank Infoshop.

Social (including Safeguards)

37. The project has significant social benefits for different stakeholders, including Huainan Municipal Government, Datong District, local communities living within and adjacent to the project site, small businesses in the local area, tourist and general public. The project helps improve the living environment and provide training and employment opportunities to the local communities. It supports enhancement of urban infrastructure services for the local residents, and connectivity among neighboring districts, and creation of a valuable green park with amenities and recreational facilities for the general public. The main negative social impact is the need for limited resettlement. A detailed resettlement action plan (RAP) has been developed to mitigate the impacts. The public consultation and participation process during project preparation enabled the project to take into account the concerns and demands in the project design to minimize the number of people affected by land acquisition and relocation.

38. **Involuntary Resettlement**. The Bank policy on Involuntary Resettlement (OP/BP 4.12) is triggered under the project. The resettlement impacts include demolition of residential and business structures, permanent acquisition of both collectively and government owned land, and long term leasing of collectively owned land. The total number of affected people will be 1,372, including 26 persons (6 households) affected by demolishing of 10,178m^2 of housing, 266 persons (33 households) affected by permanent acquisition of 5,780.9mu (385.3ha.) of land (including 177.7mu of collectively owned land and 5,603.2 mu of state owned land), 38 employees affected by five enterprises relocation, and 1,042 persons (306 households) affected by leasing 1,823mu (121.5ha.) of collectively owned land (see Table A3.3). A Resettlement Action Plan (RAP) was prepared, which provides details on resettlement policy procedures and requirements that will have to be followed during project implementation, including compensation rates, mitigation measures to restore incomes, and institutional and monitoring arrangements. An additional 1,902 people currently living in the project area will not be relocated at this time, and a Resettlement Policy Framework (RPF) was prepared for potential future relocation of these people during project implementation. This RPF defines the principles and objectives of resettlement, and appropriate guidelines, rights, and legal and institutional framework, compensation and restoration patterns, participation characteristics, and grievance procedures for resettlement.

Table A3.3. Amount of land needed for Project Investment by ownership (in mu)

Project Activities	Government Owned Land	Collective Owned Land	Leased Collective Owned Land	Total
Roadside Service Station	12.7	0	0	12.7
Bonsai Nursery	107.7	3.4	0	111.1

Tree Nursery	553.7	0	266.0	819.7
Flow Market	21.7	103.6	0	125.3
Jiukong Road	5.3	15.6	0	20.9
Wanxiang Road	37.4	16.1	0	53.5
Yanshan Road	38.3	5.7	0	44
Zhongxing Road	62.8	0	0	62.8
Water Stream Rehab	72.1	16	0	88.1
Green Path	146.5	17.3	0	163.8
Environmental Remediation	4,545.0	0	1,556.9	6,101.9
Sub-total	**5,603.2 (373.5ha)**	**177.7 (11.8ha)**	**1,822.9 (121.5ha)**	**7,603.8 (506.9ha)**

39. **Public Consultation and Disclosure**. The project conducted census and social survey, social impact analysis and public consultation. These have contributed significantly to the preparation of the RAP and project design. Focus group discussions and individual interviews have been used to consult with potentially affected persons to seek their views on resettlement impacts and mitigation measures. Villagers and farmer groups have been consulted and involved in the resettlement planning process and project preparation. Their feedbacks received have been incorporated into the RAP and design of project interventions. The consultation concluded that the planned measures in the RAP are adequate to mitigate the project impacts due to land acquisition and relocation. The RAP was disclosed on Huainan Municipal Government website on July 17, 2014 and in the World Bank InfoShop on November 17, 2014.

40. **Social Assessment**. A social assessment was conducted by the client team to identify related social issues, project social impacts and mitigation measures required. The assessment covers socioeconomic survey of the Datong District which includes the project area, social impact analysis, focus group discussions and individual interviews with the households affected by relocation, land acquisition and temporary land occupation, their village/community committees, as well as local communities in the project area and other stakeholders. The social assessment concluded that the project has many different types of benefits to the local communities and other stakeholders as indicated above. The main negative impacts are from resettlement, which will be mitigated through measures specified in the RAP. In addition, the project design has included interventions such as skills training and redevelopment activities to benefit the broader local communities.

41. **Gender and Shared Prosperity**. A disaggregated gender analysis was undertaken as part of the social assessment and RAP preparation. Women's expectations and suggestions were taken into consideration in the design of the project. Gender disaggregated information was also collected and used in the RAP development to ensure that women's interests are safeguarded during its implementation. The social analysis shows that women in the local communities have lower level of education and income contributions. Further, the family income sampling survey indicates that the average income level in Datong District including the project area is significantly lower than in central urban districts of Huainan city. For example, the average

disposable income of urban families in Huainan city is about RMB 20,733 in 2012, while that of the bottom 40% of the population in Datong District is about RMB 8,000 in the same year. This is partly due to lack of employable skills and job opportunities. The ten communities and three villages residing in and adjacent to the project site with an estimated total population of over 20,000 people, will benefit directly from the various opportunities provided by the project. Priority will be given to affected persons, women and the low-income and low-skill families in the local communities, for skills training and employment opportunities under the project.

42. **Institutional arrangements for RAP implementation and supervision**. The Datong District government will be responsible for the RAP implementation. The environmental management and resettlement unit of the PMO will supervise and support the resettlement implementation. In Datong District, a resettlement office headed by a senior official has been established for the RAP implementation. A village level resettlement office will also be established to support the RAP implementation. The affected village and communities will also play a key role in determining and implementing the livelihood restoration programs. Huainan Municipal Land Resources Bureau will be responsible for approval of the land acquisition. A competent consultant team with extensive Bank project experiences, which was involved in the project and RAP preparation, will be contracted to serve as the independent monitoring agency for implementation of the resettlement program and the social impact management plan for the adjacent area. The RAP implementation progress and results will be evaluated and reported regularly over the course of project implementation.

43. **Functionally Linked Projects (Works).** The task team conducted due diligence reviews of the projects (works) which link to the Bank project components. The Bank loan will finance construction (upgrading) of four roads. Three existing roads (National Road G206, Huaishun Road and Huanshan Road completed in 2006, 2010 and July 2014 respectively), and one road (Linchang Road) under construction with local government financing, form a local road network, together with the Bank supported roads. The land acquisition and resettlement (relocation) under the four locally financed roads were carried out according to the national land law and provincial land regulation. In addition to the roads, the Zhongxing south road water supply pumping station, the Jiulonggang sewage pumping station and the Longwang drainage were identified as associated projects. The detailed resettlement impacts are included in the RAP. The two pumping stations do not involve any resettlement. The resettlement impacts of the Longwang drainage are covered by a separate resettlement action plan of a project financed by the Asian Development Bank. In any case, the resettlement external monitoring agency will closely monitor these associated projects to ensure that involuntary resettlement impacts are adequately mitigated.

Monitoring & Evaluation

44. Detailed arrangements have been made and specified in the project implementation plan for monitoring the project progress and results in achieving the project in line with the results frameworks and monitoring indicators discussed and agreed with the client project team (See Annex 1). Arrangements have also been made to carry out specialized technical and safeguards related monitoring activities. The costs of monitoring and evaluation for different purposes have been included in the project cost estimates.

45. Huainan PMO will be responsible for project progress and results monitoring, and submission of semi-annual progress reports and financial reports to the World Bank. An experienced project implementation support consultant firm will be hired to assist with project management, and monitoring and evaluation. Technical monitoring teams will be engaged to continue the technical monitoring program (on water quality and ground settlement, etc.) started at preparation stage. Construction related environmental monitoring will be covered by the respective construction supervision teams with oversight from PMO's environmental management group. An external team will be engaged to undertake independent monitoring of the implementation of the resettlement action plan and the social impact management plan included in the ESMP, which will be enhanced by the oversight from the PMO and the local communities.

Annex 4. Operational Risk Assessment Framework (ORAF)

CHINA: Huainan Mining Area Rehabilitation Project

<table>
<tr><td>Project Stakeholder Risks</td><td colspan="2">Rating</td><td colspan="2">Moderate</td></tr>
<tr><td rowspan="2">Description: The affected groups in the project area may not support the project out of concern over fair compensation and livelihoods support needed from the project. Local community in the adjacent area may not benefit fairly from land value appreciation as a result of the project investments.</td><td colspan="4">Risk Management: Social assessment undertaken indicates that the local communities including the affected persons are very supportive of the project. They have been consulted and involved in project design and RAP preparation, and will continue to be involved in RAP implementation. Skills training and employment opportunities will be provided under the project to the affected. An independent consultant agency will be engaged to monitor the implementation of the RAP to ensure the interests of the affected persons including women are well taken care of;
Measures to ensure fair sharing of the land value appreciation benefits by the local communities have been agreed and included in the ESMP. The implementation of these measures will be monitored and reported regularly during project implementation.</td></tr>
<tr><td>Resp: Client</td><td>Stage: Both</td><td>Due Date: Continuous</td><td>Status: Ongoing</td></tr>
<tr><td colspan="5">Implementing Agency Risks (including fiduciary)</td></tr>
<tr><td>Capacity</td><td colspan="2">Rating:</td><td colspan="2">High</td></tr>
<tr><td rowspan="2">Description: Because the project management office and implementing agencies are new to Bank funded projects, they may not be able to implement the project effectively;
Technical designs for project works are yet to be prepared, which may cause project delays given the limited capacity of the PMO and PIAs;
About 40% of the project costs will be covered by counterparts funding, which may not be provided in a timely manner and in adequate amount, resulting delay in implementation. In addition, the new budget law that took effect in January 2015, requires much higher fiscal discipline and restricts opportunities to raise counterpart funds. This could lead to limited availability of counterpart funding and changing priorities due to changing local economic and financial situation.</td><td colspan="4">Risk Management: The PIAs will be staffed with qualified managers and engineers, and the key members are in place. Targeted training of PMO and implementing agency staff on Bank policies and procedures have been provided during project preparation stage, and will be continued in implementation stage. Technical assistance consultants experienced with Bank financed projects will be hired at the start of the project to provide implementation support covering key aspects of project management. The Bank team will also be staffed adequately with various specialists to advise the client team. A detailed project implementation plan (PIP) including required management manuals, has been prepared and reviewed by the Bank to guide project implementation.
The HMG has made the plan to start the recruitment of the design consultants for high priority works as well as the implementation support consultants as soon as the loan negotiation is completed. This is to ensure that implementation of the priority works starts on time.
A counterpart funding plan with the HMG providing all the required funds has been agreed on. To ensure counterpart funds are provided timely by the HMG, an annual project budget approved by the local People’s Congress will be provided to the Bank at the beginning of each year of project implementation. As an enhancement measure, bonds will be issued by national and provincial authorities to help Huainan municipality raise counterpart financing for the Project, The task team will continue to closely monitor implementation to ensure that any change in priorities due to fiscal constraints or other factors are identified and discussed as soon as they emerge to explore and discuss potential solutions.</td></tr>
<tr><td>Resp: Client/Bank</td><td>Stage: Both</td><td>Due date: Continuous</td><td>Status: Ongoing</td></tr>
</table>

<table>
<tr><td>Governance</td><td colspan="4">Rating: Moderate</td></tr>
<tr><td rowspan="2">Description: This project involves several sectors (environment, water, urban construction, sanitation and agriculture, etc.), and the individual sector agencies may act in their own interest leading to fragmentation of project design and inefficient implementation of project activities.</td><td colspan="4">Risk Management: A well-represented high level project leading group headed by the executive vice mayor of Huainan municipality has been established to guide the project preparation and implementation. The PMO located in the municipal finance bureau will continue to provide effective coordination among different sector agencies concerned and ensure synergy among different sector programs, including the linked works.</td></tr>
<tr><td>Resp: Client</td><td>Stage: Both</td><td>Due Date: Continuous</td><td>Status: Ongoing</td></tr>
<tr><td colspan="5">Project Risks</td></tr>
<tr><td>Design</td><td colspan="4">Rating: Substantial</td></tr>
<tr><td rowspan="2">Description: The project design is not based on adequate identification and assessment of pollution and geological risks, leading to ineffective site remediation and/or structural failures of project works.</td><td colspan="4">Risk Management :
Detailed environmental baseline survey, geo-hazard study, water quality and ground settlement monitoring were carried out to identify the related risks in the project area. This was followed by risk assessment and zoning, land use plan, which formed the basis of project design, infrastructure layout and technical design. Mitigation measures such as reinforcement of all closed mine shafts, have been built into the project design. Water quality and settlement monitoring will be continued during and beyond the project period to inform the technical design and operation of project infrastructure. Further technical guidance will be provided by the technical assistance consultants and the Bank team for the detailed design of project infrastructure. It is noted that based on the investigations and studies completed during project preparations, detailed designs for most of the works are not particularly challenging technically.</td></tr>
<tr><td>Resp: Client/Bank</td><td>Stage: Both</td><td>Due Date: Continuous</td><td>Status: Ongoing</td></tr>
<tr><td rowspan="2">Description: The project costs may exceed the estimate due to uncertainty in ground conditions at the site.</td><td colspan="4">Risk Management: The project design was based on solid technical studies and risk analysis to minimize the uncertainties with infrastructure construction. A relatively high percentage of contingency (10%) is used in determining the project costs to account for unforeseen uncertainties. HMG is committed to providing additional counterpart funding from the government budget to cover additional costs as needed.</td></tr>
<tr><td>Resp: Client</td><td>Stage: Implementation</td><td>Due Date : Continuous</td><td>Status: Not Yet Due</td></tr>
<tr><td>Social & Environmental</td><td colspan="4">Rating: Substantial</td></tr>
<tr><td rowspan="2">Description: Lack of experience of the implementing agencies in managing and implementing the RAP and ESMP of Bank project, may result in non-compliance of safeguard policies during implementation.
Some 2,000 people still live in the project area and their inappropriate relocation (not required by the project) may affect the Project’s reputation.</td><td colspan="4">Risk Management: An experienced independent consulting firm will be hired to monitor and report on the RAP and ESMP implementation. The PMO’s resettlement and environmental management unit as well as the village/community committees of the affected persons, will oversee the implementation. Tailored and refreshing safeguards training will be provided in the early stage of implementation.
A resettlement policy framework (RPF) has been developed to guide the client team to deal with potential relocation of those people.</td></tr>
<tr><td>Resp: Client/Bank</td><td>Stage: Both</td><td>Due Date : Continuou</td><td>Status: Ongoing</td></tr>
</table>

Description: The open waste dumpsite might not be closed properly, posing risk of contaminating the water bodies and soil near and below the dumpsite.	**Risk Management:** Detailed hydrogeological investigation, (water and soil) testing and monitoring have been carried out to support the options assessment and design for managing the waste dump following international best practice. A qualified design firm will be recruited to conduct the detailed design. Post-closure water quality monitoring at and around the dumpsite will continue during implementation and after project completion, to ensure that the pollution from the waste dump is adequately contained.			
	Resp: Client	**Stage:** Both	**Due Date:** Continuous	**Status:** Ongoing
Program & Donor	**Rating:**	Moderate		
Description: The linked works to be funded by other sources of financing (a road, a pump station and a drainage channel) may finish later than the Bank project, leading to delay in operation of related project facilities.	**Risk Management:** The linked drainage channel will be financed by the ongoing Asian Development Bank funded Huainan Urban Water System Rehabilitation Project. The linked road is under construction. The HMG has committed to ensuring timely start and completion of the construction of the linked water supply pump station at Zhongxingnan road. The Bank team will monitor the progress of the linked works during implementation stage.			
	Resp: Client/Bank	**Stage:** Implementation	**Due Date:** June 30, 2018	**Status:** Not Yet Due
Delivery Monitoring & Sustainability	**Rating:**	High		
Description: The project facilities may not be of good workmanship or delayed in completion due to incompetent designers and contractors. Project completion may be delayed due to lack of counterpart funding **as a result of the new budget law and access to capital finance.** With the new budget law, the municipality may fail to make appropriate arrangements to raise necessary revenues to fund O&M of the project facilities upon project completion.	**Risk Management:** Experienced designers, contractors and supervision engineers will be selected through competitive bidding process. Quality assurance mechanisms and procedures will be established before construction starts. The designs which are to be conducted based on detailed engineering investigations and studies, will be reviewed by technical assistance consultants before bidding, and construction quality be supervised by the PIAs' supervision engineers. Technical experts on the Bank team will also contribute to the quality control. The counterpart financing options have been reviewed and the national and provincial governments have agreed to issue bonds on behalf of the HMG. The project progress and counterpart financing will be closely monitored and remedial actions taken by the Bank team (See also mitigation measures in 3.1). The municipal government will establish a management entity to manage the remediated site. The various project facilities will be managed by the concerned municipal line agencies respectively after their completion. The Bank is discussing with the HMG about opportunities to increase revenues from local taxes (e.g. coal tax) to ensure sufficient funding is available for the operation and maintenance of the park (remediated site) and project facilities.			
	Resp: Client	**Stage:** Implementation	**Due Date:** Dec.31, 2018	**Status:** Not Yet Due
Overall Implementation Risk Following Review: High				
Comments: The main risks for the completion of the project are: (a) inadequate experiences and capacity of the PMO and PIA in managing and implementing Bank financed projects; (b) a project design which may inadequately address the geo-hazard and environmental risks identified; (c) the resettlement action plan not properly implemented; and (d) the lack of counterpart funding due to changing priorities under a more fiscal constraint environment..				

Annex 5: Implementation Support Plan

CHINA: Huainan Mining Area Rehabilitation Project

1. **Implementation support strategy and plan.** The implementation support strategy has been developed based on the risk profile, with focus on the main risks identified in the ORAF and mitigation measures to achieve the project results. These risks include implementing agency capacity, design, counterpart funding, and safeguards management. The approach for implementation support is to fully utilize country-based staff and expertise within the Bank, complemented by external experts in specialized technical fields to meet the client's needs in the most cost-effective way. The intention of the implementation support plan is to provide tailor-made and timely assistance to the client team in capacity building and resolving bottleneck issues throughout the project. The implementation support plan will be reviewed and updated regularly on the basis of periodic assessment of risks and results of the mitigation measures implemented. The implementation support plan is summarized as follows.

2. *Implementing agency capacity building*: The project implementing agency has no experience in implementation of Bank projects. This has been identified as a substantial risk to the achievement of project objectives. Bank implementation support will initially focus on assisting the client in strengthening implementation capacity in procurement, resettlement, technical design quality control, and financial management. Special attention will be given to early recruitment and mobilization of implementation support consultant teams, and procurement and implementation of priority contracts such as those for Datong dump site closure. In addition to assist in complying with Bank fiduciary and safeguards policies and requirements. The Bank team will also support the client in work programming, result monitoring and reporting.

3. *Procurement*: Implementation support will focus on ensuring that: (a) implementation support consultant and procurement agent are mobilized in a timely fashion and perform effectively, (b) PMO and PIA staff are familiar with, and follow, the Procurement Management Manual; and (c) planned procurement training provided to procurement staff as needed. The team procurement specialist will carry out prior and post reviews of procurement documents and activities, and monitor the implementation updates of the procurement plan.

4. *Technical guidance*: Specific technical expertise in waste dump closure and management, infrastructure design, mining shaft closure and reinforcement, environmental and technical monitoring as well as redevelopment business planning will be mobilized. These will be complemented by international experts in the field of site cleanup and remediation, and environmental and geological monitoring and risk management. The arrangement for sustainable operation and maintenance of project facilities will be monitored by the technical members. Those specialists will also provide technical advice to help introduce relevant international good practice and techniques, and resolve complex technical issues.

5. *Environmental and social safeguards:* The Bank team will supervise the implementation of the agreed Environmental Management Plan, the Pest Management Plan, and Resettlement Action Plan, and provide guidance to PMO and PIA staff to address any outstanding implementation issues. To ensure compliance with Bank safeguards policy, particular attention will be paid to the environmental monitoring and management of activities with significant

impacts such as Datong dumpsite closure, and risks associated with resettlement. Training will be provided on environmental management and resettlement monitoring and reporting.

6. *Financial management:* The financial management supervision strategy is based on its financial management risk rating which will be evaluated on a regular basis by the team financial management specialist in accordance with the Financial Management Manual. The team specialist will join supervision missions to review financial management and disbursement aspects of implementation, with special attention to internal control arrangement and counterparts funding. The specialist will provide technical support to the project staff in financial reporting and timely resolution of financial management issues, including follow-up actions requested by auditors. Training on financial management and disbursement will be provided before project starts and during implementation.

7. **Resources and skills required**. Formal supervision and site visits covering different aspects of project implementation will be carried out semi-annually. These will be supplemented by need-based visits by small groups. A Mid-Term Review will be carried out no later than June 2018 to evaluate progress and make necessary adjustments. Estimated inputs from different specialists in different stages of project implementation are outlined below.

Table A5.1. Annual Supervision Input Estimate

Time	Focus	Skills Needed	Resource Estimate
First 12 months	Procurement supervision and training	Procurement specialist	5 SWs
	Financial management and supervision	Financial management specialist	2 SWs
	Social safeguards/Resettlement supervision	Social development specialist	4 SWs
	Environmental management and supervision	Environmental specialist	2 SWs
	Technical supervision and support	Environmental remediation, waste management, geotechnical engineering	9 SWs
	Project management	Task Team Leader	8 SWs
12 to 60 months	Procurement review, supervision and training	Procurement specialist	4 SWs
	Financial management supervision and training	Financial management specialist	1.5 SWs
	Social safeguards/Resettlement supervision	Social development specialist	3 SWs
	Environmental management supervision and support	Environmental specialist	2.0 SWs
	Technical supervision and support	Environmental remediation, landfill management, geotechnical engineering, urban infrastructure	8 SWs
	Monitoring and Evaluation/Economic Analysis	M&E Specialist/Economist	1 SW
	Team Leadership	TTL	8 SWs

SW: Staff Weeks

8. The skills mix required for implementation support is summarized below.

Table A5.2. Skill mix

Skills Needed	Nr of Staff Weeks (SWs) each Year	Number of Trips	Comments
TTL/Water Specialist	8 SWs	2	Washington Based
Urban, Env. Mgmt., Geo-technical engineering, and Landfill Mgmt. Specialists	9 SW	7 (total)	Country Office/Washington Based and Int'l Consultants.
Financial Management Specialist	2 SW	2	Country Office Based
Procurement Specialist	3 SW	2	Country Office Based
Social Development Specialist	2 SW	2	Country Office Based
Environmental Specialist	2 SW	2	Country Office Based

Annex 6. Economic and Financial Analysis

CHINA: Huainan Mining Area Rehabilitation Project

1. This annex comprises of three sections: (a) an economic analysis of the Project; (b) a financial analysis of the Project, and (c) a fiscal and debt analysis.

I. Economic Analysis

2. The project economic analysis was carried out over a 25-year period inclusive of a 5-year construction period, discounted at a social discount rate of 10 percent. The economic benefits and costs were expressed in domestic currency and constant 2013 prices. International costs were converted to local currency costs using the same exchange rates (at RMB 6.10 to US$1.00) as in the financial analysis. Project costs and benefits were estimated on a with- and without-project basis. Tradable cost components were adjusted to economic prices using a shadow exchange rate factor of 1.03, and non-tradable components were valued at domestic market prices. Shadow wage rate factors of 1.2 and 0.90 were applied to the wage of skilled and unskilled labor respectively at the domestic price level.

3. **Project Costs.** The project costs include: (a) investment costs in environmental remediation, water stream rehabilitation, infrastructure investment and site utilization activities; (b) ongoing costs of operations and maintenance of the infrastructure and business activities developed under the project. Base costs plus physical contingencies for each sub-project for the financial analysis were apportioned on the basis of tradable, non-tradable components, and skilled and unskilled labor costs. Similarly, operation and maintenance costs of the infrastructure components and the site utilization activities were assumed at 2 percent of the total investments. Table A6.1 shows a summary of the estimated project economic and financial costs.

Table A6.1. Estimates Project Economic and Financial Costs

	Economic	Financial
Base Cost (including physical contingencies)	939	1,022
Financing charges	-	35
Total:	**939**	**1,057**

Note: RMB million in Constant 2013 Price.

4. **Project Benefits.** The benefits of the project will largely be from the environmental remediation interventions under the Project. Without the project, the environment within the project area will continue to degrade, exacerbating the losses in the asset value and wellbeing for the local communities. Moreover, higher economic outputs can be expected from the project area as a result of higher level of site utilization enabled by the business activities under the project. Furthermore, job opportunities will be created, and labor productivity and income boosted, especially among low-income and low-skill population thanks to the vocational training opportunities provided by the project. Last but not least, the roads to be constructed under the project will also help reduce the time and cost of travel, especially between the northern and southern parts of Huainan city.

5. **Project Area** comprises of two parts: (i) a project site of 930ha that will undergo environmental remediation under the project. An estimated population of 5,589 either resides or works currently in the area. Due to the land subsidence caused by previous mining activities, the environment of the area has severely degraded. The project interventions will help restore this area into a green zone (park); and (ii) a residential and commercial land belt north of the project site, south of Dongshandong Road – the regional expressway – the railway. Of the estimated 232.8ha of residential and commercial land within the belt, about a quarter has been built up for residential use, the remaining three quarters are yet to be developed. Although there are no project direct inventions along the belt, the environmental improvement of the project site will result in substantial appreciation of residential and commercial land and properties in the belt zone.

6. **Land and Property Appreciation.** The economic impact of the project investments is estimated using land and property appreciation in the project area as a proxy. No land or property trading activities is planned within the project site of 930 ha. Thus, no value appreciation is estimated for that part of the project area. In the land belt north of the project site, land and property prices are currently repressed due to the poor environmental conditions in the project site. The project interventions will improve the local environmental and living conditions, and lead to tradable property appreciation in the existing build-up area, and tradable land appreciation in the area to be developed.

(a) *Property appreciation in the build-up area*. In the land belt adjacent to the project site, an estimated 51.6ha has been built up for residential use with an estimated 0.614 million m^2 of residential buildings, all of which are tradable. An estimated population of 13,946 currently resides in the area. The current price of the residential properties in this area averages around RMB 3,000 per m^2 against that of RMB3,500 to 5,000 per m^2 in the nearby build-up areas. Thus, property appreciation is conservatively estimated at RMB 800 per m^2.

(b) *Land appreciation in the areas.* Around 195 ha of land is yet to be developed for residential and commercial uses within the land belt mentioned above. An estimated population of 4,629 currently resides in the area. According to the social analysis, the costs of residential and commercial land in the area average around RMB 7.0 million per ha whereas residential/commercial land in some other parts of the city fetches between RMB 15 million and 30 million per ha. A conservative estimate of RMB 18 million per ha was assumed for the land price with the project interventions, indicating a potential unit land appreciation of RMB 11.0 million per ha.

7. ***Increases in economic outputs due to higher site utilization.*** Some 710.6 ha out of the total 930 ha project site, is "wasteland" today. Much of this area will be rehabilitated and converted to green public space (park). An estimated 73.2 ha will be converted for productive uses, including a tree (seedling) nursery, a flower market, a bonsai garden, and two service stations within the Shungengshan Scenic Area. Table A6.2 provides a summary of the estimated investment and O&M costs of these productive activities, and their expected annual revenues.

Table A6.2. Summary of the costs and benefits of the business development activities

	Land Area (ha)	Investment (RMB million)	Annual Revenue (RMB million)	Annual Operations* (RMB million)
Bonsai garden	8.1	9.7	4.0	3.1
Seedling nursery	54.6	38.5	14.1	10.1
Flower market	9.7	45.0	89.0	79.6
Service stations (x 2)	0.8	4.9	5.0	4.2
Total	**73.2**	**98.0**	**112.1**	**97.0**

* Excluding depreciation

8. Moreover, the project interventions will also generate the following benefits that are not quantified in the analysis:

a. *Public health benefits.* The environmental remediation and water management component of the project will generate substantial public health benefits in terms of avoided costs of morbidity and mortality;

b. *Employment.* A significant number of permanent jobs will be created in the project site in the long run for the management and operations of the park and the businesses created by the project;

c. *Increased income and labor productivity*. The training opportunities provided under the project will help enhance the vocational skills among the local residents in the project area, thus raising productivity and earning potential; and

d. *Savings in travel time and cost*. The roads to be constructed under the project will reduce travel time and costs both within the project area and between northern and southern Huainan.

9. **NPV and EIRR.** At a discount rate of 10 percent, the economic costs and benefits of the project were estimated at RMB 1,235 million and RMB 832 million respectively, translating to a net present value (NPV) of RMB 403 million, a benefit-cost ratio of 1.48 and an EIRR of 23.7 percent. Therefore, the project is economically justified.

10. **Sensitivity analysis.** The result of the sensitivity analysis conducted is shown in Table A6.3 below, which confirms that the economic returns of the Project are robust.

Table A6.3. Summary of the results of the sensitivity analysis

	NPV (RMB million)	Benefit-Cos Ratio	EIRR (%)
Base case	403	1.48	23.7%
Project Cost +20%	243	1.25	17.6%

II. Financial Analysis

11. A financial analysis was carried out from the perspective of the Huainan municipal government for the revenue-generating activities under the project, namely, the seedling nursery, the bonsai garden, the flower market and the two service stations.

12. *Weighted average cost of capital (WACC)* of the project for Huainan municipality was estimated at around 6.7 percent assuming an average cost of IBRD loan at 4 percent and cost of municipal equity contribution at 10 percent. Inflation was assumed at 3 percent per annum. With an initial investment cost of RMB 98 million and annual O&M cost of RMB 97 million, the business activities under the project will yield an estimated revenue of RMB 112 million a year. At a WACC of 6.7 percent, these activities will yield an NPV of RMB 48.6 million, and an FIRR of 13.8 percent over the lifetime of the project.

III. Fiscal and Debt Analysis

13. Huainan has around 2.4 million inhabitants and is an important producer of good quality coal and electricity. The municipality supplies electricity for the city of Nanjing, and one-fourth of Shanghai. Fiscal revenues of Huainan have been relying heavily on the performance of the coal sector. From 2009 through 2012, Huainan benefited from a boom in the coal demand and prices, and enjoyed a double digit growth in fiscal revenues. Unfortunately, the coal price dropped by about half in 2014. Moreover, with real estate industry cooling down and economic slowdown, Huainan's fiscal revenues declined over the last year, but are expected to rise in the coming years, but this will largely depend on increasing demand and price of coal.

14. The rapid fiscal revenue growth before 2013 led Huainan Municipal Government to launch an ambitious infrastructure investment program. Some of the municipality infrastructure projects were financed through debt financing via the urban development investment company (UDIC). The projects that started recently include construction of two main bridges and an ADB financed urban drainage rehabilitation project.

15. With those major infrastructure projects, the city's outstanding debt level has grown and the debt amortization will peak in 2016. The new budget law is also imposing debt ceilings which will limit Huainan's access to finance for new projects. The analysis shows that Huainan's fiscal resource, like many other cities in China, is likely to be under stress to finance new activities in next two years.

16. In order to address the above issue and create borrowing space for high priority development projects such as the proposed project, the Huainan Government together with National and Provincial level authorities has taken various measures to raise revenue and ensure there is enough fiscal space to co-finance the project, while ensuring the ongoing expenditures and commitments are covered. The national government and provincial government will issue bonds on behalf of the local government to support the local debt restructuring and counterpart financing for the Project. The designs of two new large bridges in Huainan have been rationalized. Finally, HMG is also actively discussing with interested private companies to explore possibilities for private co-financing of redevelopment activities included in the Project. This could potentially enhance HMG's capacity of providing counterpart funding.

Annex 7. Map of the Project Area

CHINA: Huainan Mining Area Rehabilitation Project