

# Project Administration Manual

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Loan Number:  
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People's Republic of China: Jiangxi Ganzhou Rural  
Vitalization and Comprehensive Environment  
Improvement Project

## ABBREVIATIONS

ADB	–	Asian Development Bank
AP	–	affected person
BOF	–	Bureau of Finance
BTP	–	biodata technical proposal
CQS	–	consultants qualifications selection
CSC	–	construction supervision company
DMF	–	design and monitoring framework
DMS	–	detailed measurement survey
EHS	–	environmental, health, and safety
EIA	–	environment impact assessment
EMP	–	environmental management plan
ESMS	–	environmental and social management system
EURIBOR	–	EURO-interbank offered rate
FCUP	–	Foreign Capital Utilization Plan
FGD	–	focused group discussion
FIL	–	financial intermediation loan
FMA	–	financial management assessment
FSR	–	feasibility study report
FTP	–	full technical proposal
GAP	–	gender action plan
GMG	–	Ganzhou Municipal Government
GRM	–	grievance redress mechanism
HD	–	house demolishing
ICS	–	individual consultant selection
IEE	–	initial environmental examination
LAR	–	land acquisition and resettlement
LIEC	–	loan implementation environment consultant
LURT	–	land use Right transfer
MIS	–	management information system
MOF	–	Ministry of Finance
NDRC	–	National Development and Reform Commission
OCB	–	open competitive bidding
O&M	–	operation and maintenance
OP	–	Operational Priorities
PAM	–	project administration manual
PLG	–	project leading group
PMO	–	project management office
PPMS	–	project performance management system
PRC	–	People's Republic of China
QBS	–	quality-based selection
QCBS	–	quality and cost-based selection
RF	–	retroactive financing
RP	–	resettlement plan
RWW	–	rural wastewater
PFI	–	project financial intermediary
PIA	–	project impacted area
PRC	–	People's Republic of China
SDAP	–	social development action plan
SGE	–	some gender element

SOE	–	statement of expenditure
STP	–	simplified technical proposal
TA	–	technical assistance
TPA	–	targeted poverty alleviation
YREB	–	Yangtze River Economic Belt
1S1E	–	single-stage one-envelope



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### **Project Administration Manual Purpose and Process**

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

The Ganzhou Municipal Government (GMG), as the executing agency, and the Nankang District Government (NDG), Yudu County Government (YCG), Ningdu County Government (NCG), Chongyi County Government (CCG), Shangyou County Government (SYCG), Dayu County Government (DCG), Huichang County Government (HCG), Shicheng County Government (SCCG), and Agricultural Bank of China (ABC), as the implementing agencies are wholly responsible for the implementation of ADB-financed projects, as agreed jointly between the borrower and ADB, and in accordance with the policies and procedures of the government and ADB. ADB staff is responsible for supporting implementation including compliance by GMG, NDG, YCG, NCG, CCG, SYCG, DCG, HCG, SCCG, and ABC of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

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

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





## I. PROJECT DESCRIPTION

1. The proposed project will advance rural vitalization and ecological protection in Ganzhou Municipality (Ganzhou) in Jiangxi Province (Jiangxi) by (i) enhancing the regional and local ecological and environmental management capacities; (ii) promoting rural transformation and the region's transition to green development; (iii) developing the rural environmental infrastructure to address degradation from economic development; and (iv) improving ecosystem protection of the area to improve livability. The project's experiences and best practices of relieving climate change and ecological pressures can be replicated in the rest of the Yangtze River Economic Belt (YREB), other parts of the People's Republic of China (PRC), and developing member countries of the Asian Development Bank (ADB). The project area includes Ganzhou's Nankang District and eight counties: Chongyi, Dayu, Huichang, Ningdu, Shangyou, Shicheng, Xingguo, and Yudu, benefiting 578,138 residents (285,651 women).

### A. Rationale

2. The YREB is one of the three key economic growth engines in the PRC. Its nine provinces and two directly administered municipalities account for more than 40% of the population, 40% of freshwater resources, and about 45% of the country's economic output. While the YREB has benefited from extensive development since the 1980s, economic growth in the middle and upper reaches of the Yangtze River basin lags that of the coastal areas. The basin faces significant challenges because of (i) weak institutional coordination for strategic planning; (ii) increasing pollution and pressure on natural resources; (iii) slow transition to green development; and (iv) limited integration of waterways, ports, and intermodal logistics. To manage these challenges, the Government of the PRC formulated the YREB Development Plan, 2016–2030.<sup>1</sup> ADB and the government also agreed to adopt a systematic approach that prioritizes (i) institutional strengthening and policy reforms; (ii) ecosystem restoration, environmental protection, and management of water resources; (iii) inclusive green development; and (iv) construction of an integrated multimodal transport corridor. The project is included in the YREB framework.<sup>2</sup>

3. Rural transformation has lagged urban development in the YREB. As a result, income inequality persists in rural areas of the less-developed middle and upper reaches of the Yangtze River basin. Rural wastewater and solid waste in most rural areas are directly discharged into the water bodies without treatment or safe disposal. In 2020, only 29% of villages had appropriate sanitation facilities and 75% had solid waste collection and disposal services, both contributing to poor environmental conditions.<sup>3</sup> As the rural economy expands, proper regulatory, administrative, and environmental management will require stronger institutional capacity. To help respond, ADB supports the PRC's rural vitalization strategy of promoting rural development, green and inclusive growth, wastewater and waste management, and ecosystem protection.<sup>4</sup>

4. Gan River, one of the major branches of the Yangtze River basin, originates in the mountains of Ganzhou. The watershed area that lies within Ganzhou covers 36,400 square kilometers, or 44.8% of the total watershed area. Gan River, 766 is running through the province from south to north. Gan River is the largest tributary of Poyang Lake, through which it connects to Yangtze River. Poyang Lake is heavily affected by high levels of nutrient pollution loads from Gan

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<sup>1</sup> Government of the PRC. 2016. *Outline of the Yangtze River Economic Belt Development Plan, 2016–2030*. Beijing.

<sup>2</sup> ADB. 2018. *Framework for the Asian Development Bank's Assistance for the Yangtze River Economic Belt Initiative: 2018–2020*. Manila.

<sup>3</sup> The National Thirteenth Five-Year Plan mandated that sanitation systems be installed in 70% of the rural villages.

<sup>4</sup> Government of the PRC. 2018. *National Strategic Plan for Rural Vitalization, 2018–2022*. Beijing.

River, which also accelerate the environmental and ecological degradation of the rural areas along the river.

5. Ganzhou is a large agricultural prefecture-level municipality in the south of Jiangxi. It lies in the middle reaches of the Yangtze River and on the upper Gan River, and is part of the YREB. It had an estimated population of 9.8 million in 2020 and a land area of 39,380 square kilometers.<sup>5</sup> Ganzhou was selected for the project because it has high rural–urban inequalities with nearly three times on the average disposable income and weak institutional capacity for environmental management. It lags other municipalities in Jiangxi in economic development.<sup>6</sup> Ganzhou also suffers from repeated heavy rains and floods. It has a pressing need to improve the livability, health, and livelihood outcomes of its local communities. The State Council of the PRC chose Ganzhou as a demonstration area because it is relatively rural, has substantial agricultural and forestry potential, has a growing tourism industry<sup>7</sup> and lies in Jiangxi, a national ecological pilot zone with unique tourism resources and environmental advantages.

6. **Weak institutional capacity for ecological and environmental management.** The regulatory, institutional, and technical capacities for environmental management and flood protection are inadequate at all administrative levels of Ganzhou. The systems for environmental monitoring, environmental information management, river water quality monitoring, and air pollution control are all weak or outdated and require urgent upgrades.<sup>8</sup> Gan River has only a few automated water quality monitoring stations, and the testing equipment is insufficient. Ganzhou also lacks effective environmental management information system, poor environmental enforcement system, inadequate advocacy on environmental behaviors, and weak financial management systems and capacity. Regulatory enforcement is weak, as is effective information sharing between districts and counties, or the advocacy of and public participation in environmental problem-solving.

7. **Absence of viable green development and financing mechanisms.** As a lagging municipality, Ganzhou lacks sustainable green development and green financing mechanisms to invest in water pollution control and rural livelihood improvements. Green agriculture technologies and practices to reduce nonpoint source pollution for green development are not widely applied.<sup>9</sup> Unsustainable farming practices and poor farm waste management persist. Ganzhou offers no incentives for private sector investments to accelerate green development through village-based eco-friendly business development (e.g., ecotourism) and integrated urban–rural economic development. SMEs and agriculture cooperatives have limited access to commercial funding sources, and sustainable green financing mechanisms are not fully established.

8. **Inadequate environmental infrastructure in towns and villages.** The ecological environment of Gan River faces many challenges. Point and nonpoint source pollution from urban and rural sewage and agricultural activities degrade the water quality, which is currently rated Class III.<sup>10</sup> In 2019, 53,731 tons of chemical oxygen demand and 4,761 tons of ammonia nitrogen were

<sup>5</sup> More than 70% of the land area is forested, and more than 80% is mountainous. Its altitude is 300–500 meters above sea level.

<sup>6</sup> In 2019, Ganzhou was ranked 9th of 11 municipalities (gross domestic product per capita: CNY39,900).

<sup>7</sup> Ganzhou is a historical city with lots of scenic spots and tourist attractions. The tourism sector is growing rapidly and now accounts for 4% of its GDP.

<sup>8</sup> Ganzhou had an average concentration of particulate matter less than 2.5 micrometer in diameter of 39 milligram per cubic meter (mg/m<sup>3</sup>) in 2018; that of particulate matter less than 10 micrometer in diameter was 63 mg/m<sup>3</sup>.

<sup>9</sup> In 2015, the average consumption of agricultural chemicals was 641.30 kilograms of chemical fertilizers and 41.10 kilograms of pesticides per hectare of farmland in Ganzhou, both well above national and provincial averages.

<sup>10</sup> Based on the 2019 Ganzhou Municipal Environmental Quality Annual Report, 6.8% of the water quality at county boundaries was not in compliance with the Class III standard. The major pollutants are chemical oxygen demand, ammonia nitrate, and mercury.

discharged into water bodies from point pollution sources in Ganzhou. While progress was made in urban wastewater treatment, rural sanitation coverage is still limited, and 70% of rural sewage remains untreated. Public toilets in townships and rural areas are inadequate, and it is common practice to dump solid waste into rivers and water bodies. The sewage treatment facilities and solid waste management systems that do exist are unable to meet the water quality and environmental requirements of the growing tourism industry. They are also poorly maintained because of a lack of government funding and limited community engagement. Rural access to water supply does not meet national standards either.

9. **Water-related disaster risks and degraded ecosystems.** Flood infrastructure and management systems are inadequate along Gan River, and flood control standards in rural areas need upgrading. In 2019, a major flood event in Ganzhou inundated 128,600 hectares of farmland, destroyed 472 houses, and caused damages totaling CNY3.38 billion. Continuous and intensive precipitation during the rainy season routinely triggers severe flooding in low-lying urban and rural areas. Flood control is hampered by insufficient river embankments and inadequate nonstructural protection measures. Weak forest management undermines the forests' capacity to control and attenuate soil erosion and water runoff, and thus impairs the resilience of the riverine ecosystem. Ganzhou's soil erosion area was 7,142.3 square kilometers in 2018 (18.14% of total area), which is above the national average. Some wetland areas do not function effectively and have no productive use.<sup>11</sup>

10. **Green financing mechanism through FIL.** The local enterprises in Ganzhou have limited access to financial services in green development and rural revitalization. The commercial banks and nonbank financial institutions cannot meet the growing financing needs of SMEs, agriculture cooperatives and eco-friendly enterprises in the region due to their limited operational and risk management capabilities. A green financing mechanism adopting a financial intermediation loan (FIL) modality will involve cooperation with a local commercial bank that prioritizes funding for business and activities that promote green agriculture, sustainable forest management, environmental protection, and climate change adaptation and mitigation measures.

11. **COVID-19 pandemic.** The coronavirus disease (COVID-19) pandemic has amplified the links between biodiversity, ecosystem degradation, public health, and livelihoods. COVID-19 has had a widespread impact, resulting in social and economic disruption, threatening PRC's urban and rural communities. The pandemic remains a risk, particularly for the country's rural areas. With recognition of the need to prevent the spread of diseases, rural vitalization is key to recovery from COVID-19.

## **B. Impact and Outcome**

12. The project is aligned with the following impact: rural vitalization in the YREB realized (footnotes 1 and 4). The project will have the following outcome: living environment of rural areas along upper reaches of Gan River improved.

## **C. Outputs**

13. **Output 1: Institutional capacity and knowledge for environmental management enhanced.** The project will expand the institutional capacity and knowhow of the Ganzhou Municipal Government (GMG) for managing the environment, natural resources, and projects with

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<sup>11</sup> Wetlands' productive uses include nutrient retention for better water quality, biodiversity enhancement, flood risk reduction, and irrigation reservoirs.

smart information technology applications. The output consists of (i) improving the monitoring of water quality within the Gan River watershed; (ii) developing an air quality management platform with technical support for analysis; (iii) building the capacity for environmental protection, ecological rehabilitation, ecological and environmental monitoring, water and soil conservation, forest management, and project management; (iv) conducting an advocacy campaign on environmental behavior; (v) carrying out studies on rural vitalization, biodiversity protection, and vegetable greenhouse waste management; (vi) piloting a China Certified Emission Reduction carbon sink trading program; and (vii) sharing knowledge about nature-based solutions and rural vitalization.<sup>12</sup> This output is expected to benefit 20,850 individuals, including 44% women.

14. **Output 2: Green development and financing mechanisms piloted.** The project team will install water-saving irrigation systems and promote the reduction of nutrient pollution in agricultural production. Climate change mitigation and adaptation will be implemented through the green financing mechanism. The project will encourage green development and green financing by (i) piloting a tracing system for organic products; (ii) developing a vegetable demonstration area that uses green farming technologies; (iii) promoting eco-friendly businesses, including village-based ecotourism infrastructure;<sup>13</sup> (iv) renovating the drainage ditches in Chongyi Hakkas terrace to showcase green development and agricultural heritage protection; and (v) providing subloans to SMEs and agriculture cooperatives through a financial intermediary, Agricultural Bank of China (ABC). This output is expected to benefit 101,852 individuals, including 48% women.

15. **Output 3: Rural waste and sanitation management improved.** The project will improve the living environment of residents by solving wastewater, sanitation, and solid waste problems in selected townships and administrative villages; this involves adopting low-energy, low-skilled treatment processes in rural wastewater treatment plants. The project will (i) promote inclusive sanitation management across counties and increase access to safely managed wastewater treatment plants through innovative technologies and service delivery methods; (ii) improve rural infrastructure for the treatment of domestic solid waste and raise public awareness of proper sanitation; and (iii) strengthen rural water supply. This output is expected to benefit 186,548 individuals, including 47% women.

16. **Output 4: Water and soil conservation practices improved.** The project will introduce nature-based solutions to water and soil conservation in Ganzhou. The output consists of (i) river rehabilitation and flood prevention through structural, nonstructural, and natural measures;<sup>14</sup> (ii) wetland rehabilitation to protect biodiversity by (a) planting aquatic and terrestrial plants, (b) restoring sand quarries, (c) intercepting solid waste, and (d) creating a management platform; (iii) restoration of collapsed bare slopes to strengthen water and soil conservation;<sup>15</sup> (iv) better infrastructure for forest protection; (v) increased agroforestry benefits by expanding the cultivation zones for non-wood economic trees; and (vi) reforestation and forest conservation by (a) removing dead trees and planting new ones, and (b) increasing pest control and forest fire protection. This output is expected to benefit 268,888 individuals, including 52% women.

17. **FIL component.** The FIL component is planned under the output 2: green development and financing mechanisms piloted. It aims to pilot a green financing mechanism by providing credit to SMEs and agriculture cooperatives engaged in green agricultural development and rural

<sup>12</sup> Project Innovation and Knowledge Dissemination (accessible from Appendix 2 of the report and recommendation of the President [RRP]).

<sup>13</sup> Ganzhou, a historical city with tourist attractions, generated CNY140.85 billion in tourism revenues (4% of its gross domestic product).

<sup>14</sup> Renovation of drainage ditches, ecological restoration, and revetment rehabilitation (green trail and ecological strips).

<sup>15</sup> Includes building drainage canals, reducing slope gradients, greening grass areas, and restoring terraces.

revitalization. Specifically, the ADB FI loan equivalent to \$50 million is expected to leverage \$50 million in counterpart funding from the ABC, which will significantly expand the project's green finance and development impact. The selection of ABC as the project financial intermediary (PFI) is based on the entity's: (i) business focus on agricultural and rural development; (ii) extensive local network of farmers and farms; (iii) overall financial strength, being one of the world's major banks; (iv) sound governance (e.g., a listed company in Shanghai and Hong Kong); (v) substantive in-house expertise in financing the agriculture sector; and (vi) willingness to engage with GMG on the project.

## II. IMPLEMENTATION PLANS

### A. Project Readiness Activities

**Table 1: Project Readiness Activities**

Indicative Activities	2021						2022						Responsible Unit
	7	8	9	10	11	12	1	2	3	4	5	6	
ADB Staff Review Meeting													ADB
Establish project implementation arrangements													GMG, IAs
Engagement of Procurement Agency													GEPC
Approval for Loan Negotiations by MOF													MOF
Loan Negotiation													ADB, GMG, MOF
ADB Board approval													ADB
Advance contracting actions													GMG, IAs
Retroactive financing actions													GMG, IAs
Loan signing													ADB, GMG, MOF
Government legal opinion provided													GMG, MOF
Government budget inclusion													GMG
Loan effectiveness													ADB, GMG, MOF

ADB = Asian Development Bank; IA = implementing agency; GEPC = Ganzhou Ecological Protection Center for Mountains, Rivers, Forests, Farmlands, and Lakes; GMG = Ganzhou Municipal Government; MOF = Ministry of Finance. Source: Asian Development Bank.

### Table 2: Project Implementation Plan

[illegible]

	2021				2022				2023				2024				2025				2026				2027				2028	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Activity 3.1 Conduct stakeholder consultations, including gender focus group discussions and women's groups																														
Activity 3.2 Develop designs and bidding documents, conduct tenders, and award all contracts for rural infrastructures																														
Activity 3.3 Carry out construction of sanitation and wastewater systems in rural towns and villages																														
Activity 3.4 Build gender-friendly and gender-safe public toilets in rural towns and villages or convert existing ones to the same standards																														
Activity 3.5 Carry out construction of solid waste management facilities in rural areas																														
<b>Output 4. Water and soil conservation practices improved</b>																														
Activity 4.1 Conduct stakeholder consultations																														
Activity 4.2 Prepare designs and bidding documents, conduct tenders, and award all contracts for river rehabilitation, water, and soil conservation measures																														
Activity 4.3 Promote environmentally friendly behaviors and practices																														
Activity 4.4 Implement afforestation, reforestation, and sustainable forest management																														
<b>Management Activities</b>																														
Engage project management consultants																														
Design a project management, monitoring, and reporting system																														
Implement social activities based on GAP and SDAP																														
Implement safeguard activities based on EMP																														
Conduct annual and midterm review																														
Submit the project completion report																														

DMF = design and monitoring framework, EA = executing agency, EMP = environmental management plan, GAP = gender action plan, IA = implementing agency, SDAP = social development action plan.

Source: Asian Development Bank.

### III. PROJECT MANAGEMENT ARRANGEMENTS

#### A. Project Implementation Organizations: Roles and Responsibilities

**Table 3: Organizations and their roles and responsibilities**

<b>Project Implementation Organizations</b>	<b>Management Roles and Responsibilities</b>
<b>Executing agency</b> Ganzhou Municipal Government (GMG)	<ul style="list-style-type: none"> <li>• Take overall responsibility for project implementation</li> <li>• Provide counterpart funding for direct investment projects</li> </ul>
Jiangxi Provincial Department of Finance	<ul style="list-style-type: none"> <li>• Relending the loan to GMG</li> <li>• Manage the advance account</li> </ul>
Ganzhou Project Leading Group (GPLG)	<ul style="list-style-type: none"> <li>• Oversee the preparation and implementation of the overall project and provide overall guidance</li> <li>• Meet regularly, discuss, and take actions, if necessary, to ensure smooth overall project implementation</li> </ul>
Ganzhou Ecological Protection Center for Mountains, Rivers, Forests, Farmlands, and Lakes (GEPC)	<ul style="list-style-type: none"> <li>• Take overall responsibility for the implementation of the subprojects for all outputs, with responsibility for outputs 1 and 2</li> <li>• Supervise day-to-day activities of the project and provide coordination support for the preparation and implementation of project components of each project implementing agency</li> <li>• Ensure that the sub-lending under the FIL component meets the selection criteria pre-stipulated by the government and ADB by regular monitoring of ABC's lending pipeline under FIL</li> <li>• Report progress of project implementation and compliance monitoring to ADB</li> <li>• Submit required annual audit reports and financial statements of project account of GMG and project implementing agencies to ADB</li> <li>• Engage project management consulting services</li> <li>• Take overall responsibility for the project environment safeguards including implementation of the project EMP and oversight of the project ESMS</li> <li>• Engage the LIEC, and EMP for external environmental monitoring</li> <li>• Assign 1 PMO Environment Officer and 1 PMO Social Officer</li> <li>• Implement and monitor social and safeguard plans and submit monitoring reports</li> <li>• Implement Output 1 in collaboration with the concerned line agencies, as applicable</li> <li>• Engage external environmental and resettlement monitors</li> <li>• Submit bidding documents, bid evaluation reports, and other necessary documentation to ADB for necessary approval</li> <li>• Submit withdrawal applications</li> </ul>
<b>Implementing Agencies 1–9</b> Nankang District Government Yudu County Government Ningdu County Government Chongyi County Government Shangyou County Government Dayu County Government	<ul style="list-style-type: none"> <li>• Provide counterpart funding for direct investment projects for the county/district</li> <li>• Take overall responsibility for the implementation of the subprojects for outputs 1 to 4, including provision of counterpart funding and repayment of the loan</li> <li>• Implement subproject and be a focal point for liaison with the GEPC</li> <li>• Recruit design, construction supervision, and required monitoring institutes</li> </ul>



<b>Project Implementation Organizations</b>	<b>Management Roles and Responsibilities</b>
Huichang County Government Shicheng County Government Xingguo County Government	<ul style="list-style-type: none"> <li>• Conduct procurement and contract management with the support of the procurement agent</li> <li>• Implement capacity building activities for implementing agencies</li> <li>• Project accounting and financial management</li> <li>• Ensure quality in project activities necessary to meet objectives</li> <li>• Coordinate EMP implementation relating to their subproject</li> <li>• Incorporate EMP into bidding documents</li> <li>• Supervise and monitor EMP implementation</li> <li>• Participate in capacity building and training programs</li> <li>• Construction supervision and quality control</li> <li>• Prepare withdrawal applications for submission to the local finance department and GEPC</li> <li>• Take actions as needed to implement social safeguards</li> <li>• Take actions as needed to implement the agreed gender and social action plans</li> <li>• Establish and maintain implementing agencies level project monitoring systems and reporting to GEPC</li> <li>• Arrange necessary counterpart funding</li> </ul>
<b>Implementing Agency 10</b>  Agricultural Bank of China (ABC) – Ganzhou Branch	<ul style="list-style-type: none"> <li>• Take overall responsibility for the implementation of the subprojects for output 2(i), including provision of counterpart funding and repayment of the loan</li> <li>• For the first batch of subloans, screen subborrowers in the long list from the government, and identify candidate subprojects to supplement the long list for the first batch of subloans</li> <li>• Develop a qualified subproject pipeline based on the ADB eligibility criteria and other requirements in this PAM</li> <li>• Provide counterpart funds for the project as agreed</li> <li>• Establish, manage, and implement the financial intermediation loan and ESMS</li> <li>• Prepare semiannual environment monitoring reports to PMO, for consolidation within progress reports by PMO to ADB</li> <li>• Ensure adequate capacity prior to the first drawdown of the ADB funds</li> <li>• Select, review, approve, and monitor eligible subprojects in accordance with this PAM, the loan agreement, and the project agreement. Ensure that ADB-financed subprojects will be (i) financially sound, (ii) technically viable, and (iii) compliant with the ESMS, among others</li> <li>• Ensure that no subprojects with an ADB safeguard category “A” are financed under the Project</li> <li>• Submit subloan appraisal and safeguard documents to ADB through the GEPC for those that need ADB prior review and approval</li> <li>• Recycle all principal of the onlent ADB loan proceeds and FIL counterpart funding that are repaid by subborrowers to finance the subsequent subloans</li> <li>• Appoint dedicated financial and accounting officers to ensure that the project financial management complies with the ADB Project Financial Reporting and Auditing</li> </ul>

Project Implementation Organizations	Management Roles and Responsibilities
	<ul style="list-style-type: none"> <li>• Prepare annual environment and social safeguard monitoring reports</li> <li>• Conduct quarterly reviews by following the ADB PPMS, including compliance (e.g., safeguard, gender, procurement, ADB prohibited investment activities, and others) and implementation (e.g., subborrowers, other subloan details, sectors, repayments, and asset quality), reflecting the design and monitoring framework performance target indicators, and report the same to ADB and Ganzhou Provincial Government</li> <li>• Work closely with GEPC to implement the GRM</li> <li>• Establish a separate ledger account to track the receipt and use of the ADB loan proceeds, as well as interest payments and principal repayments from the subborrowers; maintain the required project accounting and implementation records; prepare annual statement of utilization of funds</li> <li>• Conduct periodic review and audit on ADB subproject finance, including timely submission of AFS and APFS, as required by ADB, and report to ADB on the utilization of funds</li> <li>• Prepare annual statements of utilization of funds</li> <li>• Report to the GEPC through progress reports and ESMS progress reports on subloans</li> <li>• Prepare a project completion report to ADB within 6 months from project closing date</li> </ul>
<b>County/district-level project management offices (CPMO):</b> Nankang District DRC Yudu County DRC Ningdu County DRC Chongyi County DRC Shangyou County DRC Dayu County DRC Huichang County DRC Shicheng County DRC Xingguo County DRC	<ul style="list-style-type: none"> <li>• Responsible for project coordination and implementation of each subproject (see IA output responsibility)</li> <li>• Overall financial supervision of the subproject within their jurisdiction</li> <li>• Supervise day-to-day activities of the subproject within the county/district and provide coordination support for the preparation and implementation of subproject components within the jurisdiction</li> <li>• Report the progress of project implementation and compliance monitoring to ADB via GEPC</li> <li>• Submit required annual audit reports and financial statements of project account of the county/district and project implementing agencies to ADB via GEPC</li> <li>• Engage project management consulting services if any</li> <li>• Implement and monitor social and safeguard plans and submit monitoring reports</li> <li>• Implement output 1 in collaboration with the concerned line agencies, as applicable</li> <li>• Engage external environmental and resettlement monitors as applicable</li> <li>• Submit bidding documents, bid evaluation reports, and other necessary documentation to ADB via GEPC for necessary approval as applicable</li> <li>• Submit withdrawal applications via GEPC</li> </ul>
Project Facility Operators – Chongyi Urban Administration Bureau, Shicheng Urban	<ul style="list-style-type: none"> <li>• Commission the constructed facilities.</li> </ul>

Project Implementation Organizations	Management Roles and Responsibilities
Administration Bureau, Shangyou Urban Administration Bureau, Qingtang Water Supply Company, Ningdu Water Supply Company, qualified third parties commissioned by local governments	<ul style="list-style-type: none"> <li>• Operate and maintain the completed facilities, including environmental management, monitoring, and reporting responsibilities.</li> </ul>
Asian Development Bank	<ul style="list-style-type: none"> <li>• Support the executing and implementing agencies, GEPC, and CPMOs to learn about ADB's policies, including procurement guidelines, financial management, loan disbursement, safeguards, and preparation of progress reports</li> <li>• Provide guidance to ensure compliance with loan and project agreements</li> <li>• Conduct inception mission, annual loan review missions, a midterm review mission, and a project completion review mission</li> <li>• Review and/or approve procurement actions for the ADB-financed contract packages</li> <li>• Process withdrawal applications and release loan funds</li> <li>• Monitor project implementation progress</li> <li>• Review annual audit reports and follow-up on audit recommendations</li> <li>• Regularly update the project performance review reports with the assistance of the executing and implementing agencies</li> <li>• Regularly update the project information documents for public disclosure at ADB website, including safeguard documents</li> <li>• Monitor implementation of ADB's anticorruption policies</li> </ul>

ABC = Agricultural Bank of China, ADB = Asian Development Bank, AFS = Audited Financial Statement, APFS = Audited Project Financial Statement, CPMO = county/district project management office, EMP = environmental management plan, ESMS = environmental and social management system, FIL = financial intermediation loan, GDRC = Ganzhou Municipal Development and Reform Commission, GEPC = Ganzhou Environmental Protection Center, GMG = Ganzhou Municipal Government, GPLG = Ganzhou Project Leading Group, GRM = grievance redress mechanism, LIEC = loan implementation environment consultant, PAM = project administration manual.

Source: Asian Development Bank.

## B. Key Persons Involved in Implementation

### Executing Agency

Ganzhou Municipal Government

Officer's Name: Mr. Zhang Yi

Position: Deputy Mayor

Telephone No.: 07978991713

Email address: sslthbgs@163.com

Office address: Changzheng Road No. 8, Ganzhou Municipality, Jiangxi Province

Ganzhou Municipal Bureau of Finance (GBOF)

Officer's Name: Ms. Yang Bei

Position: Deputy Chief of Financial Supervision Section

Telephone No.: 07978123301

Email address: gzcsczjrk@qq.com

Office address: Wenming Road No. 34, Ganzhou Municipality, Jiangxi Province

Ganzhou Municipal Development  
and Reform Commission (GDRC)

Officer's Name: Mr. Tang Jian  
Position: Chief of Foreign Capital Section  
Telephone No.: 07978991260  
Email address: fgwwzk@qq.com  
Office address: Changzheng Road No. 8, Ganzhou  
Municipality, Jiangxi Province

Ganzhou Municipal Project  
Management Office (GEPC)

Officer's Name: Mr. Wu Liangcan  
Position: Director of GEPC  
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Email address: sslthbgs@163.com  
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Municipality, Jiangxi Province

Officer's Name: Mr. He Xiang  
Position: Deputy Director of GEPC  
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Email address: sslthbgs@163.com  
Office address: Changzheng Road No. 8, Ganzhou  
Municipality, Jiangxi Province

### **Implementing Agencies**

Nankang District Bureau of Finance

Officer's Name: Shiyi Xing  
Position: Deputy Director of Nankang District DRC  
Telephone No.: +86 13870755065  
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Building, Ganzhou Municipality, Jiangxi Province

Yudu County Development and  
Reform Commission

Officer's Name: Zhonghui Yuan  
Position: Deputy Director of Yudu County DRC  
Telephone No.: +86 13361775661  
Email address: dxfgw@163.com  
Office address: Office Building of Yudu County  
Development and Reform Commission, Ganzhou  
Municipality, Jiangxi Province

Ningdu County Development and  
Reform Commission

Officer's Name: Jinming Liao  
Position: Deputy Director of Ningdu County DRC  
Telephone No.: +86 13607073925  
Email address: 804257971@qq.com  
Office address: Room 331, Government Building of  
Ningdu County, Ganzhou Municipality, Jiangxi Province

Chongyi County Development and  
Reform Commission

Officer's Name: Longpu Chen  
Position: Officer of Chongyi County DRC  
Telephone No.: +86 13207970107  
Email address: cyfgwxmb@163.com  
Office address: Third floor of Chongyi County Office  
Building, Ganzhou Municipality, Jiangxi Province

Shangyou County Development  
and Reform Commission

Officer's Name: Chengzhen Luo  
Position: Section Head of Shangyou County DRC  
Telephone No.: +86 15920123045  
Email address: syfgw2018@163.com

Dayu County Development and Reform Commission	<p>Office address: Room 409, Administrative Center of Shangyou County, Ganzhou Municipality, Jiangxi Province</p> <p>Officer's Name: Yinping Li</p> <p>Position: Deputy Director of Dayu County DRC</p> <p>Telephone No.: +86 180 4669 0559</p> <p>Email address: dyxfgw8722819@163.com</p>
Huichang County Development and Reform Commission	<p>Office address: Third floor of Office Building in Jinlian Mountain Road, Ganzhou Municipality, Jiangxi Province</p> <p>Officer's Name: Jingwei Deng</p> <p>Position: Section Head of Huichang County DRC</p> <p>Telephone No.: +86 18178988008</p> <p>Email address: 350894806@qq.com</p>
Shicheng County Development and Reform Commission	<p>Office address: Room 302, Moon Bay Administration Center, Huichang County, Ganzhou Municipality, Jiangxi Province</p> <p>Officer's Name: Jiansheng Li</p> <p>Position: Deputy Director of Shicheng County DRC</p> <p>Telephone No.: +86 13970757692</p> <p>Email address: sc_fgw@ganzhou.gov.cn</p>
Xingguo County Development and Reform Commission	<p>Office address: Third floor of Shicheng County Administration Center, Ganzhou Municipality, Jiangxi Province</p> <p>Officer's Name: Sumei Li</p> <p>Position: Deputy Director of Xingguo County DRC</p> <p>Telephone No.: +86 13361778800</p> <p>Email address: xgfgw@163.com</p>
Ganzhou Branch of Agriculture Bank of China	<p>Office address: Room 408, Xingguo County Government Building, Ganzhou Municipality, Jiangxi Province</p> <p>Officer's Name: Mr. Tao Zeng</p> <p>Position: Manager of Agricultural and Rural Business Finance Department, Ganzhou Branch, Agricultural Bank of China</p> <p>Telephone No.: +86 13970137182</p> <p>Email address: qncyb@126.com</p> <p>Office address: 18 Hongqi Avenue, Zhanggong District, Ganzhou Municipality, Jiangxi Province</p>

### **Asian Development Bank**

East Asia Department Environment, Natural Resources, and Agriculture Division	<p>Staff Name: Thomas Panella</p> <p>Position: Director</p> <p>Telephone No.: +63 2 8632 6769</p> <p>Fax No.: +63 2 8636 2534/2444</p> <p>Email address: <a href="mailto:tpanella@adb.org">tpanella@adb.org</a></p>
Mission Leader	<p>Staff Name: Mingyuan Fan</p> <p>Position: Principal Water Resources Specialist</p> <p>Telephone No.: +86 10 8573 0811</p> <p>Fax No.: +86 10 8573 0808</p> <p>Email address: <a href="mailto:mfan@adb.org">mfan@adb.org</a></p>

### **C. Project Organization Structure**

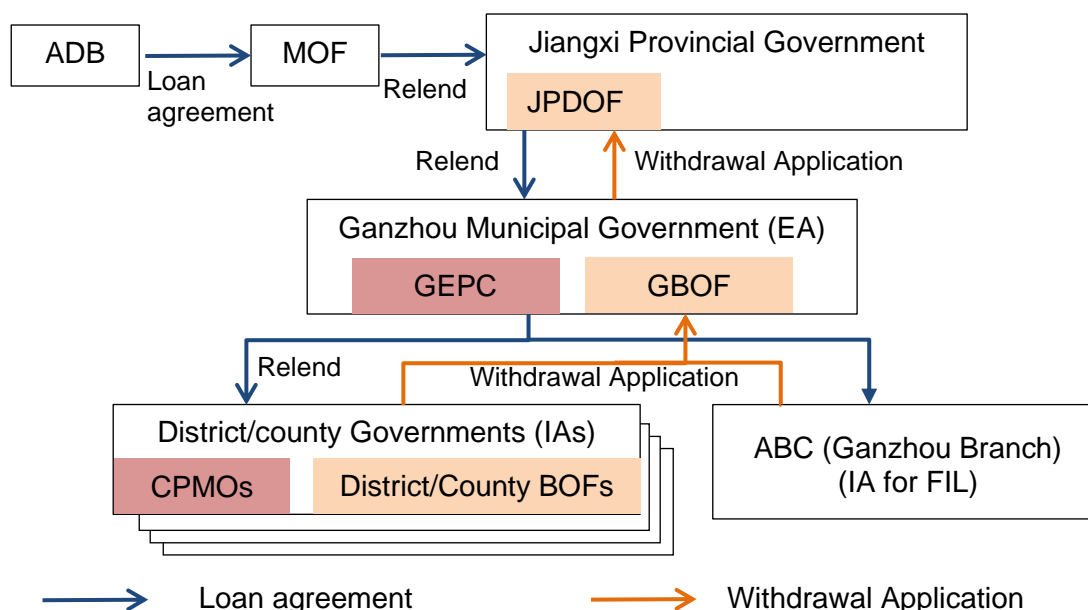
19. The loan agreements will be signed between ADB and the Ministry of Finance (MOF), PRC. The MOF will relend the proceeds to Jiangxi Provincial Government (JPG) on the same terms and conditions. JPG will onlend the proceeds to the GMG. The GMG will then lend to the implementing agencies through the finance bureaus at the district or county-level (i) for the direct investment loan component and (ii) to the PFI — Agricultural Bank of China (ABC)— for the financial intermediation loan component.

20. Upon effectiveness of the loan, withdrawal applications will be initiated from the city/district/county-level Bureau of Finance (BOF) and PFI based on ADB's share of the estimated expenditures for the next six months and send to Jiangxi Provincial Department of Finance (JPDOF) through Ganzhou Municipal BOF. The loan proceeds disbursement and fund flow are described in greater detail in Section I.

21. GMG, as the executing agency, has established a project leading group and has appointed the Ganzhou Environmental Protection Center (GEPC) as the project management office (PMO) at municipal level.<sup>16</sup> The participating district and county governments, as implementing agencies, will implement the project through their respective district- or county-level PMOs under the PMO's leadership. For the green financing component under output 2, Ganzhou Branch of ABC will be the implementing agency. The detailed implementation arrangement and procedures for FIL are elaborated in the following section.

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<sup>16</sup> Chaired by the Executive Vice Mayor of GMG and comprised of officers from Ganzhou Municipal Development and Reform Commission, Ganzhou Finance Bureau, and other counties/districts bureaus.

**Figure 1: Project Organization Structure**

ABC = Agricultural Bank of China, ADB = Asian Development Bank, BOF = Bureau of Finance, CPMO = County/District Project Management Office, EA = executing agency, FIL = financial intermediation loan, GBOF = Ganzhou Municipal Bureau of Finance, GEPC = Ganzhou Environmental Protection Center, IA = implementing agency, JPDOF = Jiangxi Provincial Department of Finance, MOF = Ministry of Finance.

Source: Asian Development Bank.

## **D. Implementation Arrangement and Procedures of FIL**

### **1. General**

22. The FIL consisting of a \$50 million (equivalent) ADB loan and \$50 million (equivalent) counterpart funds from the PFI (i.e., ABC) will support increased lending to green agriculture development and rural revitalization in Ganzhou. The borrowers of the FIL from ABC will include new business entities, agriculture or forestry-related SMEs, agriculture cooperatives and other eco-friendly enterprises in the areas of rural revitalization, green agriculture development, and climate change adaptation/mitigation that meet ADB's eligibility criteria.

23. Allocation of FIL proceeds are as follows:

- (i) ADB will enter into a loan agreement with the PRC, acting through the MOF; MOF will relend the ADB loan to JPG; JPG will onlend the ADB loan to GMG; IAs will enter an onlending agreement with ABC, and all the onlending will be arranged on the same terms as the loan from ADB to the PRC.
- (ii) ABC will establish a separate account (separate ledgers for counties/districts) for the operation of FIL, which will be in Chinese Yuan (CNY).
- (iii) ABC will put funds from both ADB (via GMG) and counterpart funds into the account and will onlend the funds to eligible subborrowers.
- (iv) Repayments to the lending from the FIL will be revolved for new lending to qualified borrowers.

24. Relending from ABC will be at an interest rate that considers the cost of the ADB loan plus a spread (i.e., to cover operational costs, costs to cover credit and exchange risk, and a reasonable profit margin) which shall not exceed the current loan prime rate (LPR). Individual lending to a qualified subborrower should not exceed the amount of CNY20 million.

## **2. Investment Selection and Approval**

25. ABC is responsible to identify potential subloans/subborrowers with the government's recommendation, conduct due diligence and make investment decision based on its assessment of the subborrowers' creditworthiness and in compliance with ADB eligibility criteria, including results and safeguards requirements. The PFI is also responsible to recycle all principal of the subloan repaid to finance additional subloans.

26. **Eligibility Criteria of Subborrower and Subproject.** The following criteria will apply to selecting and approving subborrowers and subprojects under the FIL:

- (i) Subborrower are legally registered in local government agencies and engaged in commercially oriented business in the project area.
- (ii) Subproject and enterprises that receive subloans must meet PFI's financing standards for financial, commercial, and technical feasibilities. This includes meeting credit requirements of sound business plan, adequate collateral, equity contribution, third party guarantee, and/or counterpart financing.
- (iii) Subborrowers may not be related parties of the PFI's board or senior management.
- (iv) Subborrowers have adequate capacity to manage and carry out activities to implement the subprojects proposed.
- (v) At least 70% of total investments must be provided to SMEs, i.e., the enterprises (parent company and any subsidiaries) with annual turnover under CNY200 million or less than 300 employees).
- (vi) At least 20% of the number of subloans must be onlent to subborrowers that are owned or led by women. (i.e., women-owned can be defined as at least 50% of enterprise ownership is controlled by women, at least 50% of senior managers are women, or at least 50% of board are women).

27. Project-specific eligibility criteria as follows:

- (i) Subprojects that support the activities in the following categories: (i) green development (green/organic agriculture, ecotourism business, sustainable forestry development); (ii) environmental protection (rural sanitation and sewage treatment, rural solid waste utilization, ecological restoration, and water and soil conservation); and (iii) climate change adaptation/mitigation (rural climate resilient infrastructures, and renewable energy in the rural areas).
- (ii) Subproject meets the screening criteria set up in environmental and social management system (ESMS).
- (iii) Baseline for benefits to be achieved shall be established before the subprojects are implemented. Benefits produced by the subproject after implementation shall be monitored and recorded.
- (iv) All subprojects must use commercially available technologies/techniques with reliable, measurable, and verifiable results that will contribute to the benefits achieved from the subprojects.
- (v) Any proposed technologies to be used shall be the advanced available technologies, where feasible.



- (vi) All subprojects shall comply with government policies and regulations of the subproject's location. Preference will be given to subprojects that belong to prioritized sectors of the national/local government's list/plan, local key supported projects or pilot project identified by the national/local government.
- (vii) All subprojects shall contribute to at least one of the output indicators set in the results framework for FIL. (Table 4)
- (viii) All subprojects must be located geographically in Ganzhou Municipality.

**Table 4: Results Framework for FIL**

<b>R1. Green Development</b> Area of farmland turned into green/organic farming Rural jobs created in the green economy Eco-friendly enterprises supported Number of additional eco-tourist attracted to Ganzhou
<b>R2. Environmental protection</b> Reduction of pollutants (SS, COD, NH <sub>3</sub> -N) discharge to water bodies Reduction of chemical fertilizer and pesticides to farmlands Reduction of solid waste production Area of afforestation or reforestation
<b>R3. Climate change adaptation/mitigation</b> Area of lands made more resilient to climate change Reduction of greenhouse gas emission

COD = chemical oxygen demand, NH<sub>3</sub>-N = nitrogen, ammonia, SS = suspended solids.

Source: Asian Development Bank.

28. For the first batch of subloans under FIL, ABC will screen and decide on the subprojects to finance according to its due diligence results. The government may provide candidate subprojects for ABC to consider. The government will regularly update the list of potential subprojects within the loan implementation period until the loan proceeds from ADB are fully disbursed. The following steps will be applied to the first batch of subloans' selection, approval, and disbursement:

- (i) ABC performs due diligence on candidate subprojects and check projects for compliance to the ESMS, based on its own potential client pool and candidate projects list provided by the government.
- (ii) ABC submits the first three subprojects to ADB for financial, technical, and safeguard clearance irrespective of the subproject size and must not be retroactively financed. ADB will also verify that ABC has conducted the subproject environmental and social safeguard reviews in compliance with the project ESMS.
- (iii) Upon successful completion of the review by ADB, the ABC will submit withdrawal application to ADB via counties/districts level PMO, counties/districts level Finance Bureau, GEPC, Ganzhou BOF, and Jiangxi DOF in turn.
- (iv) ADB will then disburse the funds through the advance account to PFI.
- (v) ABC disburses the individual subloans to the subborrowers.

29. In any unlikely event that the subproject is reviewed and deemed ineligible for ADB financing, ABC must return such amount of unqualified subprojects to the advance account. ABC will bear the foreign exchange rate risk, if any.

30. **ABC Counterpart Financing.** ABC will provide \$50 million equivalent counterpart finance to double the ADB finance support. The counterpart financing may be blended with the ADB funds to finance the same Qualified Subprojects, or ABC may make subloans to other qualified subborrowers or enterprises to finance other qualified subprojects. A loan made by ABC will not count toward fulfillment of this counterpart finance requirement unless it qualifies as a subloan to an eligible subborrower for eligible subproject, as all such terms are defined in the ADB Loan Agreement.

31. **Revolving Funds.** ABC will recycle the ADB funds both before and after the closing date of the Loan until the moneys are repaid to ADB. ABC shall commit to this condition of proper use of ADB funds. ABC will continue maintaining separate ledgers to monitor the funds and the subprojects.

#### IV. COSTS AND FINANCING

32. The project is estimated to cost €387.10 million (\$453.91 million).<sup>17</sup> The project investment costs include (i) goods, works, and consulting and training services to improve the technical and management capabilities of the local authorities; (ii) a green financing component to invest in local companies implementing subprojects supporting the green agenda of Ganzhou Municipality Government; and (iii) project management.

33. Ganzhou government has requested a regular loan of €170.56 million (\$200 million equivalent) from ADB's ordinary capital resources to help finance the project. The ADB loan will have a 25-year term, including a grace period of six years; an annual interest rate determined in accordance with ADB's London interbank offered rate LIBOR-based lending facility; a commitment charge of 0.15% per year, such charge shall accrue on the full amount of the Loan (less amounts withdrawn from time to time), and such other terms and conditions set forth in the loan and project agreements. Based on the straight-line repayment method, the average maturity is 15.75 years, and the maturity premium payable to ADB is 0.30% per year. A project loan modality combined with FIL (for the green financing mechanism under output 2) will be used. The project loan component and the FIL component will have the same financial terms and conditions.

34. The government through Jiangxi Provincial Government will make the loan proceeds available to GMG and GMG will make a portion of the proceeds of the loan to the implementing agencies on the same terms and conditions as apply to the loan. GMG and project implementing agencies will bear the foreign exchange and interest rate variation risk relating to the respective portion of the loan proceeds.

35. The ADB loan will finance 44.0% of the total project costs, including expenditures relating to civil works, goods, and consulting services, trainings, financial charges during implementation for eligible ADB-financed expenditures including the green financing component. The municipal government and PFI will contribute 44.5% and 11.5% of the total project costs, including contingencies, respectively.

##### A. Cost Estimates Preparation and Revisions

36. **Preparation.** The cost estimates were prepared jointly by the design institute, GEPC, district and county government agencies, and ADB, with support from the transaction technical assistance (TA) consultants. The sources and basis of cost estimates were reviewed during

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<sup>17</sup> €0.8528 = \$1.00 as of 23 September 2021.

project preparation and confirmed by related parties. The process was facilitated by a model prepared in Excel software which enables easy updating or revision, if necessary.

37. **Revision.** Revision of cost estimates will be conducted, when deemed necessary, during implementation. The GEPC will be responsible in proposing and drafting the revision, which will be subject to ADB's approval.

## **B. Key Assumptions**

38. The following key assumptions underpin the cost estimates and financing plan:

- (i) Exchange rate: €1.00 = CNY7.5821, \$1.00 = CNY6.4661 (as of 23 Sep 2021).
- (ii) Price contingencies based on expected cumulative inflation over the implementation period are as follows:

**Table 5: Escalation Rates for Price Contingency Calculation**

<b>Item</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>Average</b>
Foreign rate of price inflation	1.70%	1.70%	1.80%	1.80%	1.80%	1.80%	1.77%
Domestic rate of price inflation	2.30%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%

Source: Asian Development Bank estimates.

### C. Detailed Cost Estimates by Expenditure Category

**Table 6: Detailed Cost Estimates by Expenditure Category**

Item	(CNY million)			(\$ million)			(€ million)			% of Base Cost
	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange	Local Exchange	Total Cost	
<b>A. Investment Costs</b>										
1 Civil works	-	1,629.11	1,629.11	-	251.95	251.95	-	214.86	214.86	61.0%
2 Mechanical and equipment	-	108.10	108.10	-	16.72	16.72	-	14.26	14.26	4.0%
3 Research and capacity development	60.76	-	60.76	9.40	-	9.40	8.01	-	8.01	2.3%
4 Land acquisition and resettlement	-	27.66	27.66	-	4.28	4.28	-	3.65	3.65	1.0%
5 Environmental and social mitigation	2.70	1.82	4.52	0.42	0.28	0.70	0.36	0.24	0.60	0.2%
6 Survey, design, and project management	12.16	175.99	188.15	1.88	27.22	29.10	1.60	23.21	24.82	7.0%
7 Green Finance	-	646.61	646.61	-	100.00	100.00	-	85.28	85.28	24.2%
<b>Subtotal (A)</b>	<b>75.62</b>	<b>2,589.29</b>	<b>2,664.91</b>	<b>11.69</b>	<b>400.44</b>	<b>412.13</b>	<b>9.97</b>	<b>341.50</b>	<b>351.47</b>	<b>99.8%</b>
<b>B. Recurrent Costs</b>										
1 Equipment operation and maintenance	-	4.63	4.63	-	0.72	0.72	-	0.61	0.61	0.2%
<b>Subtotal (B)</b>	<b>-</b>	<b>4.63</b>	<b>4.63</b>	<b>-</b>	<b>0.72</b>	<b>0.72</b>	<b>-</b>	<b>0.61</b>	<b>0.61</b>	<b>0.2%</b>
<b>Total Base Cost</b>	<b>75.62</b>	<b>2,593.92</b>	<b>2,669.53</b>	<b>11.69</b>	<b>401.16</b>	<b>412.85</b>	<b>9.97</b>	<b>342.11</b>	<b>352.08</b>	<b>100.0%</b>
<b>C. Contingences</b>										
1 Physical contingency	-	156.38	156.38	-	24.18	24.18	-	20.62	20.62	5.9%
2 Price contingency	-	71.49	71.49	-	11.06	11.06	-	9.43	9.43	2.7%
<b>Subtotal (C)</b>	<b>-</b>	<b>227.87</b>	<b>227.87</b>	<b>-</b>	<b>35.24</b>	<b>35.24</b>	<b>-</b>	<b>30.05</b>	<b>30.05</b>	<b>8.5%</b>
<b>D. Financial Charges During Implementation</b>										
1 Interest during implementation	-	34.64	34.64	-	5.36	5.36	-	4.57	4.57	1.3%
2 Commitment charges	-	3.01	3.01	-	0.47	0.47	-	0.40	0.40	0.1%
<b>Subtotal (D)</b>	<b>-</b>	<b>37.65</b>	<b>37.65</b>	<b>-</b>	<b>5.82</b>	<b>5.82</b>	<b>-</b>	<b>4.97</b>	<b>4.97</b>	<b>1.4%</b>
<b>Total Project Cost (A+B+C+D)</b>	<b>75.62</b>	<b>2,859.43</b>	<b>2,935.05</b>	<b>11.69</b>	<b>442.22</b>	<b>453.91</b>	<b>9.97</b>	<b>377.13</b>	<b>387.10</b>	<b>109.9%</b>

Note: Numbers may not sum precisely because of rounding.

Source: Asian Development Bank estimates.

## D. Allocation and Withdrawal of Loan Proceeds

**Table 7: Allocation and Withdrawal of Loan Proceeds (Summary)**

Category		ADB Financing	
No.	Item	Total Amount Allocated for ADB Financing (€)	Percentage and Basis for Withdrawal from the Loan Account
1	Civil Works	105,282,000	49% of total expenditure claimed
2	Goods, Services, and Nonconsulting service	21,856,000	100% of total expenditure claimed
3	Financial intermediation loan	42,640,000	50% of total expenditure claimed
4	Contingency	783,000	100% of total expenditure claimed
<b>Total</b>		<b>170,561,000</b>	

ADB = Asian Development Bank.

Notes:

1. Conditions for withdrawal include (i) the executing and implementing agencies' timely and successful ring-fence of fiscal budget of the corresponding amounts for the project implementation years; (ii) the executing agency, the implementing agencies and the implementation unit have adopted financial management risk mitigation strategies as detailed in the financial management action plan set out in the project administration manual for the investment loan component; and (iii) satisfaction of preconditions for operationalizing the financial intermediation loan (FIL) including: (a) no withdrawals shall be made from the Loan Account for the purposes of the FIL Component until the Borrower, through Ganzhou Municipal Government, has caused the financial intermediary to establish the environmental and social management system, in a manner acceptable to ADB.
2. Based on the ADB share of disbursement on contracts and interest during implementation, there is a remaining €0.78 million ADB fund. This balance is currently allocated to partially finance the contingency, while the overall ADB financing will remain at \$200 million (€170.56 million).

Source: Asian Development Bank estimates.

## E. Detailed Cost Estimates by Financier

**Table 8: Cost Estimates by Financier**  
(€ million)

		Asian Development Bank		Agriculture Bank of China		Government		Total Cost
Item		Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	
<b>A.</b>	<b>Investment Costs</b>							
1	Civil works	105.28	49.00%	-	0.00%	109.58	51.00%	214.86
2	Mechanical and equipment <sup>a</sup>	11.88	83.35%	-	0.00%	2.37	16.65%	14.26
3	Research and capacity development <sup>a</sup>	8.01	100.00%	-	0.00%	-	0.00%	8.01
4	Land acquisition and resettlement	-	0.00%	-	0.00%	3.65	100.00%	3.65
5	Environmental and social mitigation <sup>a</sup>	0.36	59.78%	-	0.00%	0.24	40.22%	0.60
6	Survey, design, and project management <sup>a</sup>	1.60	6.46%	-	0.00%	23.21	93.54%	24.82
7	Green Finance	42.64	50.00%	42.64	50.00%	-	0.00%	85.28
	<b>Subtotal (A)</b>	<b>169.78</b>	<b>48.31%</b>	<b>42.64</b>	<b>12.13%</b>	<b>139.05</b>	<b>39.56%</b>	<b>351.47</b>
<b>B.</b>	<b>Recurrent Costs</b>							
1	Equipment operation and maintenance	-	0.00%	-	0.00%	0.61	100.00%	0.61
	<b>Subtotal (B)</b>	<b>-</b>	<b>0.00%</b>	<b>-</b>	<b>0.00%</b>	<b>0.61</b>	<b>100.00%</b>	<b>0.61</b>
	<b>Total Base Cost</b>	<b>169.78</b>	<b>48.22%</b>	<b>42.64</b>	<b>12.11%</b>	<b>139.66</b>	<b>39.67%</b>	<b>352.08</b>
<b>C.</b>	<b>Contingences</b>							
1	Physical contingency	0.78	3.66%	-	0.00%	20.62	96.34%	21.41
2	Price contingency	-	0.00%	0.38	4.07%	9.04	95.93%	9.43
	<b>Subtotal (C)</b>	<b>0.78</b>	<b>2.60%</b>	<b>0.38</b>	<b>1.28%</b>	<b>28.89</b>	<b>96.12%</b>	<b>30.05</b>
<b>D.</b>	<b>Financial Charges During Implementation</b>							
1	Interest during implementation	-	0.00%	1.37	29.98%	3.20	70.02%	4.57
2	Commitment charges	-	0.00%	0.04	11.27%	0.35	88.73%	0.40
	<b>Subtotal (D)</b>	<b>-</b>	<b>0.00%</b>	<b>1.41</b>	<b>28.48%</b>	<b>3.55</b>	<b>71.52%</b>	<b>4.97</b>
	<b>Total Project Cost (A+B+C+D)</b>	<b>170.56</b>	<b>44.06%</b>	<b>44.44</b>	<b>11.48%</b>	<b>172.10</b>	<b>44.46%</b>	<b>387.10</b>
	<b>% of Total Project Cost</b>		<b>44.06%</b>		<b>11.48%</b>		<b>44.46%</b>	

Based on the ADB share of disbursement on contracts and interest during implementation, there is a remaining €0.78 million ADB fund. This balance is currently allocated to partially finance contingency, while the overall ADB financing will remain \$200 million.

<sup>a</sup> Some contracts of goods, services and non-consulting works in the project are non-ADB financed contracts and will be only financed by government's own funds. The percentage and basis for withdrawal in the Table 7 is only applicable to the contracts financed by ADB loan. Please see detailed contract information in the procurement plan.

Note: Numbers may not sum precisely because of rounding.

Source: Asian Development Bank estimates.

## F. Detailed Cost Estimates by Outputs and/or Components

**Table 9: Detailed Cost Estimates by Outputs**  
(€ million)

Item	Total Cost	Output 1		Output 2		Output 3		Output 4	
		Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category
<b>A. Investment Costs</b>									
1 Civil works	214.86	-	0.00%	41.26	19.20%	51.12	23.79%	122.48	57.00%
2 Mechanical and equipment	14.26	1.19	8.38%	0.50	3.49%	9.53	66.85%	3.03	21.28%
3 Research and capacity development	8.01	7.04	87.82%	0.18	2.30%	0.79	9.88%	-	0.00%
4 Land acquisition and resettlement	3.65	0.03	0.74%	-	0.00%	1.00	27.48%	2.62	71.78%
5 Environmental and social mitigation	0.60	0.36	60.05%	0.04	6.84%	0.06	10.67%	0.13	22.45%
6 Survey, design, and project management	24.82	1.73	6.96%	4.34	17.50%	5.92	23.87%	12.82	51.68%
7 Green Finance	85.28	-	0.00%	85.28	100.00%	-	0.00%	-	0.00%
<b>Subtotal (A)</b>	<b>351.47</b>	<b>10.34</b>	<b>2.94%</b>	<b>131.61</b>	<b>37.45%</b>	<b>68.43</b>	<b>19.47%</b>	<b>141.09</b>	<b>40.14%</b>
<b>B. Recurrent Costs</b>									
1 Equipment operation and maintenance	0.61	-	0.00%	-	0.00%	0.61	100.00%	-	0.00%
<b>Subtotal (B)</b>	<b>0.61</b>	<b>-</b>	<b>0.00%</b>	<b>-</b>	<b>0.00%</b>	<b>0.61</b>	<b>100.00%</b>	<b>-</b>	<b>0.00%</b>
<b>Total Base Cost</b>	<b>352.08</b>	<b>10.34</b>	<b>2.94%</b>	<b>131.61</b>	<b>37.38%</b>	<b>69.04</b>	<b>19.61%</b>	<b>141.09</b>	<b>40.07%</b>
<b>C. Contingences</b>									
1 Physical contingency	20.62	0.11	0.07%	3.71	2.37%	5.52	3.53%	11.29	7.22%
2 Price contingency	9.43	0.41	0.58%	1.37	1.92%	2.40	3.36%	5.24	7.33%
<b>Subtotal (C)</b>	<b>30.05</b>	<b>0.52</b>	<b>0.23%</b>	<b>5.08</b>	<b>2.23%</b>	<b>7.93</b>	<b>3.48%</b>	<b>16.53</b>	<b>7.25%</b>
<b>D. Financial Charges During Implementation</b>									
1 Interest during implementation	4.57	0.23	0.67%	1.98	5.70%	0.83	2.40%	1.53	4.42%
2 Commitment charges	0.40	0.03	1.14%	0.08	2.76%	0.09	3.03%	0.19	6.26%
<b>Subtotal (D)</b>	<b>4.97</b>	<b>0.27</b>	<b>0.71%</b>	<b>2.06</b>	<b>5.47%</b>	<b>0.92</b>	<b>2.45%</b>	<b>1.72</b>	<b>4.57%</b>
<b>Total Project Cost (A+B+C+D)</b>	<b>387.10</b>	<b>11.13</b>	<b>2.88%</b>	<b>138.74</b>	<b>35.84%</b>	<b>77.89</b>	<b>20.12%</b>	<b>159.34</b>	<b>41.16%</b>

Note: Numbers may not sum precisely because of rounding.  
Source: Asian Development Bank.

**G. Detailed Cost Estimates by Year****Table 10: Cost Estimates by Year**  
(€ million)

Item	Total Cost	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>A. Investment Costs</b>							
1 Civil works	214.86	41.80	97.49	60.93	14.29	0.35	-
2 Mechanical and equipment	14.26	1.05	3.92	5.52	2.82	0.55	0.40
3 Research and capacity development	8.01	1.32	1.79	1.53	1.68	1.49	0.21
4 Land acquisition and resettlement	3.65	3.65	-	-	-	-	-
5 Environmental and social mitigation	0.60	0.28	0.07	0.07	0.07	0.07	0.04
6 Survey, design, and project management	24.82	4.41	4.13	4.13	4.13	4.00	4.00
7 Green Finance	85.28	68.22	17.06	-	-	-	-
<b>Subtotal A</b>	<b>351.47</b>	<b>120.72</b>	<b>124.46</b>	<b>72.19</b>	<b>22.99</b>	<b>6.45</b>	<b>4.65</b>
<b>B. Recurrent Costs</b>	0.61	-	-	0.15	0.15	0.15	0.15
<b>Total Base Cost</b>	<b>352.08</b>	<b>120.72</b>	<b>124.46</b>	<b>72.35</b>	<b>23.15</b>	<b>6.61</b>	<b>4.80</b>
<b>C. Contingences</b>	30.05	4.05	11.41	9.15	3.42	1.07	0.95
<b>D. Financial Charges During Implementation</b>	4.97	0.38	0.66	0.88	0.99	1.02	1.03
<b>Total Project Cost (A+B+C+D)</b>	<b>387.10</b>	<b>125.16</b>	<b>136.53</b>	<b>82.38</b>	<b>27.56</b>	<b>8.70</b>	<b>6.78</b>
<b>% Total Project Cost</b>	<b>100.0%</b>	<b>32.3%</b>	<b>35.3%</b>	<b>21.3%</b>	<b>7.1%</b>	<b>2.2%</b>	<b>1.8%</b>

Note: Numbers may not sum precisely because of rounding.

Source: Asian Development Bank.



## H. Contract and Disbursement S-Curve

Figure 2: Contract and Disbursement S-Curve

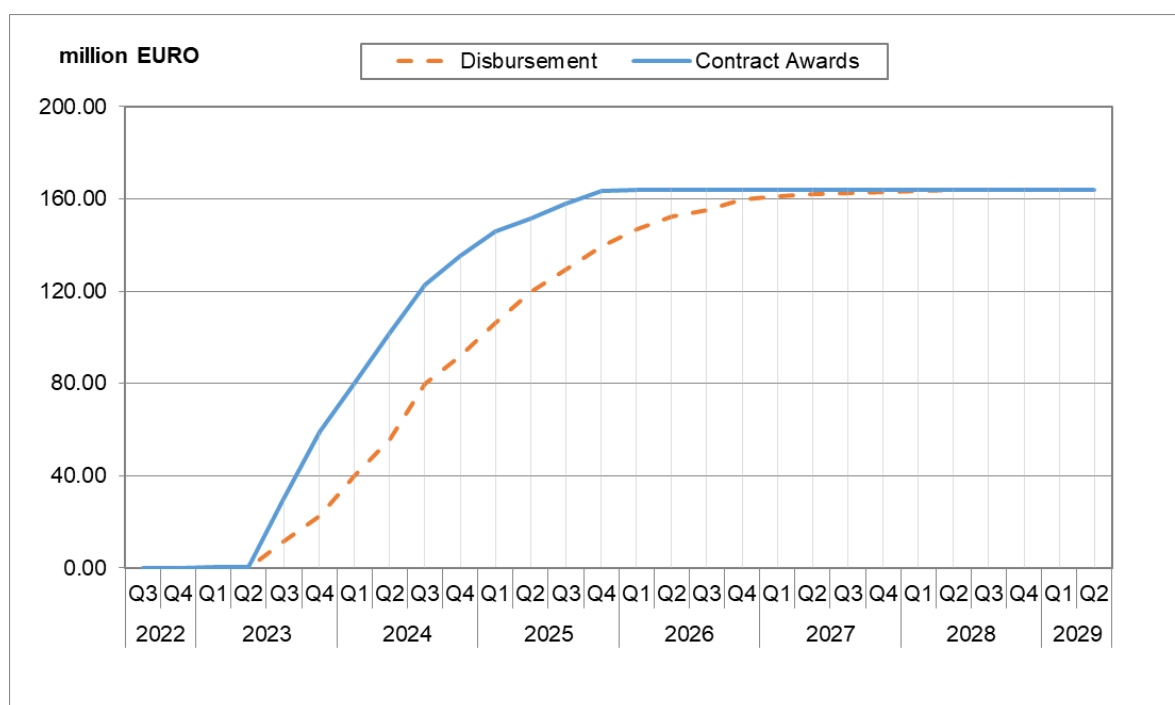


Table 11: Contract Award and Disbursement Projections  
(€ million)

Year	Projected Contract Awards					Projected Disbursement				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
2022	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	0.14	0.13	30.54	30.21	61.02	0.00	0.00	11.87	11.59	23.46
2024	21.94	22.73	21.32	12.77	78.76	18.32	15.85	24.96	12.54	71.67
2025	11.43	5.61	6.71	5.77	29.51	14.95	13.73	10.14	10.22	49.05
2026	0.40	0.00	0.00	0.00	0.40	7.97	5.61	3.03	4.45	21.07
2027	0.09	0.00	0.00	0.00	0.09	1.28	1.30	0.27	0.65	3.50
2028	0.00	0.00	0.00	0.00	0.00	0.12	0.55	0.10	0.10	0.86
2029	0.00	0.00	0.00	0.00	0.00	0.08	0.08	0.00	0.00	0.17
<b>Total</b>					<b>169.78</b>					<b>169.78</b>

Q = quarter.

Source: Asian Development Bank.

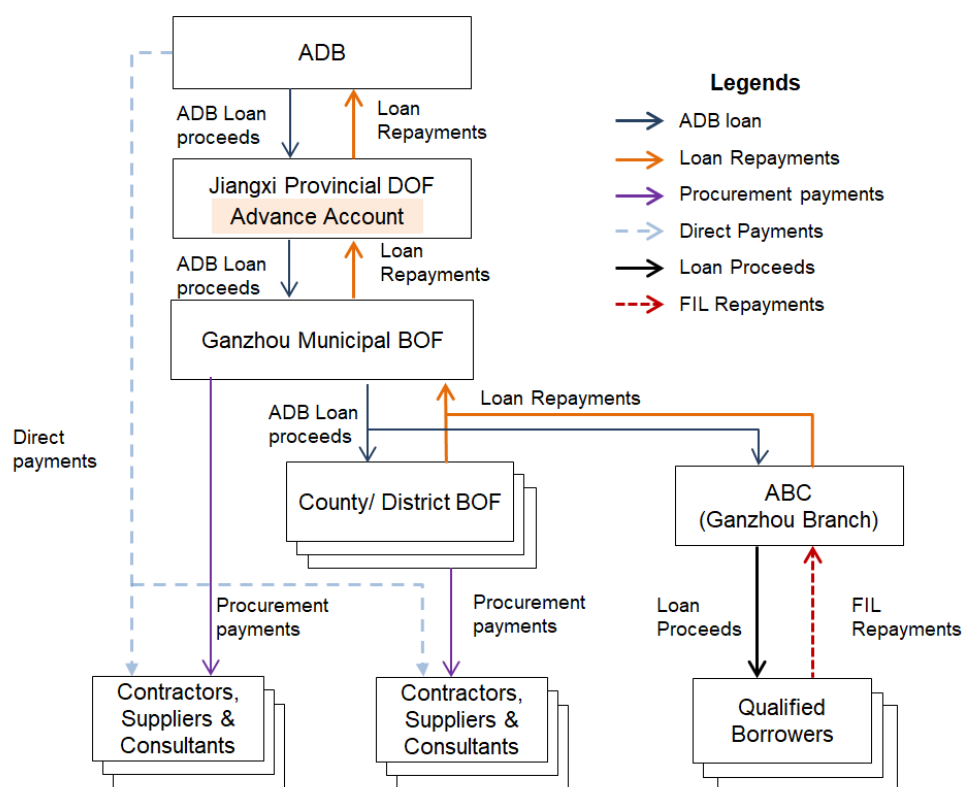
## H. Fund Flow Diagram

39. The loan agreements will be signed between ADB and the PRC through the Ministry of Finance (MOF). MOF is the borrower of the ADB loan for financing the project. MOF will relend the loan to Jiangxi Provincial Department of Finance (JPDOF) of the Jiangxi Provincial Government on the same terms and conditions, which will then onlend the loan to Ganzhou Municipal Bureau of Finance (GMBOF). The municipal finance bureau will then lend a portion of the loan to the IAs through the finance bureaus at the district or county-level for the direct

investment loan component and to the intermediary bank for the financial intermediation loan component.

40. ADB loan proceeds will go to the advance account at the Jiangxi Provincial Department of Finance (JPDOF). The JPDOF will then transfer the funds to Ganzhou Municipal Bureau of Finance. The loan proceeds will then be split and sent to (i) corresponding district/county BOFs for payments to be made to contractors by district/county PMOs; (ii) contractors for procurements for subprojects at municipal level that are directly administered by GEPC; and (iii) ABC (Ganzhou Branch) for contribution to the FIL component. Repayments funds will flow in the opposite direction from the district/county BOFs and ABC (Ganzhou Branch), and Ganzhou Municipal BOF, back to ADB through the Jiangxi Provincial DOF.

**Figure 3: Fund Flow Chart of the Project**



ABC = Agricultural Bank of China, ADB = Asian Development Bank, DOF = Department of Finance, BOF = Bureau of Finance.

Source: Asian Development Bank.

41. Jiangxi Provincial Department of Finance (JPDOF), on behalf of JPG, will establish an advance account denominated in Euro to receive loan proceeds from ADB.

42. The FIL will be treated as a new loan product within ABC's internal system, and subject to the regular approval, disbursement, monitoring, and risk control processes typical to well-established commercial banks. The entire loan initiation, processing, approval, disbursement, repaying, monitoring, risk control, and evaluation process will take place via a custom-tailored

computerized network system, which is universally used by ABC and monitored by the China Banking & Insurance Regulatory Commission.

## V. FINANCIAL MANAGEMENT

### A. Financial Management Assessment

43. The financial management assessment (FMA) of the executing agency (EA), the implementing agencies (IAs) and the financial performance appraisal of the financial intermediary for implementing the FIL have been carried out in accordance with the *Asian Development Bank (ADB) Financial Management Technical Guidance Note (2015)*, Financial Management Assessment and the *ADB Financial Due Diligence for Financial Intermediaries (2018)*.<sup>18</sup> This FMA is also based on (i) reviews of the country system of the People's Republic of China (the PRC) through the updated Country Governance Risk Assessment (CGRA); (ii) ABC Annual Reports, available public information, and internal documents and interviews with ABC (Ganzhou) staff, (iii) questionnaire to the public FMA (Appendix 1); and (iv) other relevant documentation including integrity and anti-money laundering due diligence.

44. The FMA considered the financial management capacity of the Ganzhou Municipal Government (GMG) as the project executing agency (EA), and the nine county governments as the implementing agencies (IAs) for the investment loan component. The GMG has selected Ganzhou Ecological Protection Center for Mountains, Water, Forests, Fields, and Lakes (Ganzhou Ecological Protection Center, GEPC) as the PMO at city level. The Chongyi County Development & Reform Commission (DRC), Ningdu County DRC, Shangyou County DRC, Dayu County DRC, Huichang County DRC, Nankang District Ecological Protection Center, Yudu County DRC, Shicheng County DRC, and Xingguo County DRC are the relevant PMOs at the county/district level.

45. The identified key financial management risks include:

- (i) Lack of clarity in assigning of roles and responsibilities across as well as within individual government agencies in terms of approval, financial management, procurement, and records maintenance;
- (ii) Uncertainty in availability and adequacy of counterpart funds;
- (iii) Weak financial management systems which do not meet national and ADB requirements for public funding management and regulatory compliance;
- (iv) Lack of experience with ADB project implementation and lack of awareness of ADB guidelines including disbursement procedures and loan proceeds use; and
- (v) Weak accounting systems and inadequate charts of accounts for matching costs to the projects/subprojects costs categories and activities.

46. It is concluded that the overall pre-mitigation financial management risk of the executing agency and implementing agencies is high. Both advance fund and statement of expenditures (SOE) procedures is proposed. Executing agencies and implementing agencies' overall financial management capacity, including the capacity of managing advance fund and SOE procedures, needs to be enhanced. The MOF, GMG, and the county/district governments have agreed to implement an action plan as key measures to address the deficiencies.

47. **FMA Results for FI.** Financial due diligence was conducted on ABC as the financial intermediary of the FI loan covering, among others, areas of corporate governance and risk management. The systems of financial accounting, assets management (loan books and

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<sup>18</sup> ADB. 2015. *Financial Management Technical Guidance Note*. Manila; and ADB. 2018. *Financial Due Diligence for Financial Intermediaries*. Manila.

nonperforming assets), credit management, liquidity and treasury management, financial reporting, internal controls, and internal and external audits are adequate for its extensive and diversified banking operations. The financial reporting and regulatory requirements of ABC follows more stringent requirements as one of PRC's "big four banks" and a global systemically important bank (G-SIB). ABC is required to hold higher capital buffers by national authorities in accordance with international standards; meet the total loss-absorbing capacity standard, alongside the regulatory capital requirements set out in the Basel III framework, and is subject to higher supervisory expectations from supervisory bodies for risk management functions, risk data aggregation capabilities, risk governance and internal controls. During the project implementation, ABC is committed to maintain required prudential norms including on (i) minimum capital ratios, (ii) liquidity, (iii) total loss-absorbing capacity, and (iv) complies with the relevant requirements of the Guidelines for the Disclosure of Indicators for Assessing Global Systemic Importance of Commercial Banks promulgated by the China Banking and Insurance Regulatory Commission and the Instructions for G-SIB Assessment Exercise issued by the Basel Committee on Banking Supervision. While ABC has international operations outside of the PRC, ABC has not implemented international development assistance projects from ADB and other development partners and are not familiar with ADB's reporting requirements, project financial management procedures, project monitoring, and audit requirements. During implementation, trainings will be provided to all IAs, including ABC to ensure understanding and compliance to ADB reporting requirements (if any) related to audit, safeguards, and procurement. Nevertheless, pre-mitigation financial management and control risks are low given the adequate financial management capacity of ABC to carry out the FI loan.

48. The financial management action plan is provided in Table 12.

**Table 12: Proposed Financial Management Action Plan**

<b>Risk</b>	<b>Mitigation Action</b>	<b>Responsibility</b>	<b>Timeframe</b>
Lack of clarity in roles and responsibilities across as well as within individual government agencies	<p>Roles and responsibilities of the government agencies and individuals involved in the project should be clearly defined and documented. This includes:</p> <ol style="list-style-type: none"> <li>1. Development of reporting structure and job descriptions for ADB project management<sup>a</sup> and ensure key positions are occupied including director, deputy director, accounting manager, procurement manager, and administrative manager for the ADB project.</li> <li>2. Approval matrixes with authorization limits defined for financial transactions, procurement, and other project approval requirements.</li> <li>3. Members of Project Leading Group and the divisions they represent should be identified</li> <li>4. Formal communication of the finalized roles and responsibilities to staff to familiarize them</li> </ol>	GMG, PMOs at city/county/district levels, ABC (Ganzhou Branch)	Before Board approval
Weak financial management systems for management of public and ADB funds	<p>Financial management strengthening strategies to be implemented as follows:</p> <ol style="list-style-type: none"> <li>1. Training sessions to be conducted which shall include but not be limited to, project activity planning, budget preparation and</li> </ol>	EA, GABC, ADB, Key staff from PMOs at city/county levels	1. Starting within 3 months of loan effectiveness and

Risk	Mitigation Action	Responsibility	Timeframe
	<p>monitoring, procurement management, contract management, payment tracking, recording of project revenue and expenses, record maintenance, and project monitoring and evaluation.</p> <p>2. Development of financial management manuals and training of same for relevant staff</p> <p>3. Develop detailed investment manual/handbook for FIL to include compliance requirements and standards in terms of qualified investments' selection, approval, due diligence, safeguards, and monitoring</p>		<p>throughout the first 2 years of project implementation</p> <p>2, and 3. – Within 3 months of loan effectiveness</p>
Inadequate charts of accounts for matching costs to the projects/ subprojects costs categories and activities	Develop and improve the Charts of Accounts for the PMOs at both city and district/county levels to meet ADB project needs and in line with best practices and conduct training on same for related staff from the EA and IAs	City/county PMOs financial management staff for the investment loan component, related consultants	Within 3 months of loan effectiveness
Lack of experience with ADB project implementation and awareness of ADB guidelines including disbursement procedures and loan proceeds use;	Conduct training on ADB's requirements relevant to project implementation, financial management, accounting, reporting, record maintenance, preparation and submission, project monitoring, loan disbursement, foreign exchange risk management and work ethics for all staff related to the ADB project from the EA and IAs	PMOs at city/county levels, ADB, related consultants	Within 3 months of loan effectiveness
Foreign exchange rate and interest rate risks, to be borne by the related municipality, counties, district, and the financial intermediary	Consult with related government offices, external professionals, and financial services providers on interest rate and foreign exchange risk management	PMOs at city/county levels, ADB	During first year of project implementation

ADB = Asian Development Bank, APFS = Audited Project Financial Statement, EA = executing agency, IA = implementing agency, GMG = Ganzhou Municipal Government, ABC (Ganzhou Branch) = Ganzhou Branch of Agriculture Bank of China

Source: Asian Development Bank.

<sup>a</sup> Where PMOs at city/county levels are existing government agencies with functions and responsibilities much bigger and broader than administering the ADB project, as a minimal requirement, a small group of staff must be appointed with clearly defined functions as the "director of the project," "deputy director of the project," "accounting manager of the project," "procurement manager of the project," and "administrative manager of the project."

49. Inherent risk is the susceptibility of the project financial management system to factors arising from the environment in which it operates, such as country rules and regulations and entity working environment. Table 13 provides summary of inherent risk assessment.

**Table 13: Inherent Risk Assessment**

<b>Risk type</b>	<b>Risk Description</b>	<b>Risk Assessment</b>	<b>Mitigation Measures</b>
Country-Specific Risks	Lack of adequate skills to implement the updated Accounting and Budget Law	L	ADB will work on the recommendations made in the CPS by encouraging the consistent use of IFRS in all projects
Entity-specific risks	Division of roles and responsibilities across the authorities are not clearly defined	H	Clearly define and segregate the roles and responsibilities among the various government agencies involved in written form, and the arrangements circulated to all staff involved
	Uncertainty in counterpart funding provision	H	Clearly define the responsibility of counterpart funding provision, and add legal caveats to assure counterpart funds in municipal/county/district budgets approved each year prior to ADB disbursement
	Potential lack of fiscal resources for counterpart funding and repayments	H	Proper fiscal forecasting and planning through the official budget process to secure sufficient funding
	Potential noncompliance or misuse of project funds	H	Early engagement of experienced consultants to provide continuous training and educate them on financial management, accountability, legal affairs, and other related topics
	Loosely defined approval procedurals and internal control measures for disbursement and expenses	H	Clearly define the project governance structure detailing primary, secondary, or tertiary (as appropriate) reporting lines for various key functions
	Low capacity in financial management in terms of public funds management and regulatory compliance to meet both national and ADB requirements	H	Establish designated accounts for fund use, annual auditing for project implementation and financial management
	Inadequate awareness of compliance for the use of ADB loan proceeds, especially on disbursement procedures and requirements, and ADB financial management requirements	H	Early engagement of experienced consultants to provide training on ADB financial management requirements, including disbursement, accounting, and auditing. Recruitment of financial management consultant to support project implementation
	Foreign exchange rate and interest rate risks, which to be borne by the related municipality, counties, district, and the financial intermediary	H	Consult within related government offices, external professionals, and financial services providers on interest rate and foreign exchange risk management
<b>Overall Inherent Risk</b>		<b>H</b>	

ADB = Asian Development Bank, CPS = Country Partnership Strategy, H = high, IFRS = international financial report system, L = low, M = moderate.

Source: Asian Development Bank.

50. Control risk is the risk that the project's accounting and internal control framework are inadequate to ensure project funds are used economically and efficiently and for the purpose intended, and that the use of funds is properly reported. Table 14 provides the summary of control risk assessment.

**Table 14: Control Risk Assessment**

<b>Risk type</b>	<b>Risk Description</b>	<b>Risk Assessment</b>	<b>Mitigation Measures</b>
1. EA and IAs	Noncompliance in fiscal, budget, fund, accounting, and construction management	H	Early engagement of experienced consultants to provide systematic and continuous training to improve levels of awareness and skills in accountability, compliance, financial and other regulatory requirements.
	No experience and knowledge of ADB's project financial management requirements and procedures	H	The project will adopt the generally accepted accounting principles in the PRC, specifically the "Accounting Methods for Projects Financed by the World Bank" issued by the Ministry of Finance as a basis for project financial management.
	Inadequate awareness of compliance for the use of ADB loan proceeds, especially on disbursement procedures and requirements, and ADB financial reporting and monitoring requirements	H	Early engagement of experienced consultants to provide training on ADB financial management requirements, including disbursement, accounting, and auditing. Recruitment of financial management consultant to support project implementation.
	Inadequate emphasis on compliance, integrity, and accountability	H	Early engagement of experienced consultants to provide systematic and continuous training to improve levels of awareness and skills in accountability, compliance, financial and other regulatory requirements.
2. Project funding	Risks in loan repayment and counterpart funding provision due to inadequate fiscal capacity or improper projection of funding requirements in the annual fiscal budgeting process	M	Proper fiscal forecasting and planning through the official budget process to secure sufficient funding.
3. Funds Flow	Entities involved have different understanding and expectations of the fund flow according to their advantages	H	Build consensus on a clearly defined fund flow with matching duties and responsibilities of each authority involved.
	No experience and knowledge with ADB disbursement requirements and procedures		Training will be conducted before loan effectiveness to ensure concerned staff acquires required knowledge.
4. Staffing	Ambiguity in authorization and designation of key responsibilities within the organizations involved	H	Clearly define and divide the roles and responsibilities according to functions within each organization to avoid ambiguous accountability.
	Staff lack of experience in implementing ADB or other IFI loan	H	Procedures and training on ADB loan management policies and procedures including procurement, disbursement and repayment policy will be conducted.



<b>Risk type</b>	<b>Risk Description</b>	<b>Risk Assessment</b>	<b>Mitigation Measures</b>
5. Policies and Procedures	Clearly defined general policies and procedure not implemented properly	H	Early engagement of experienced consultants to provide work ethics and regulation training to all relevant incumbents; establish written responsibility systematically with clear consequences of performance failure and clarify the final responsible person for the EA and IAs; conduct close monitoring of the project financial status.
	Loosely defined or undefined policies and procedures regarding ADB project implementation	H	Approval process, level of authorization, processing procedure, and documentation and records retaining required under various circumstances with different thresholds and conditions clearly defined for the ADB project.
6. Internal Audit	Ganzhou city and each county/district have audit office, who conducts annual audit and report to the higher-level government	M	The project accounts at municipal and district/county levels will be subject to routine internal audit.
7. External Audit	Audited by Jiangxi Provincial Audit Bureau or authorized audit firms on an annual basis in accordance with the PRC Basic Government Auditing Standard	L	The project accounts at municipal and district/county levels will be subject to annual external audit.
8. Reporting and Monitoring	Inaccurate budgets and final settlement of accounts	H	Early engagement of experienced consultants to conduct systematic and continuous training sessions on general financial and project management; clearly state the consequences in misconduct and negligence; conduct close monitoring of the project financial status.
9. Information Systems	The financial statements are generated by the computer system	L	
Overall Risk		H	

ADB = Asian Development Bank, H = high, L = low, M = moderate, MOF = Ministry of Finance, PRC = People's Republic of China.

Source: Financial Management Assessment Questionnaires.

51. No significant country-level financial management issues are identified. Overall post mitigation inherent risk and control risk are assessed as high.

## B. Disbursement

### 1. Disbursement Arrangements for ADB Funds

52. The loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2017, as amended from time to time),<sup>19</sup> and detailed arrangements agreed upon between the government and ADB. Online training for project staff on disbursement policies and procedures is available.<sup>20</sup> Project staff are encouraged to avail of this training to help ensure efficient disbursement and fiduciary control. Project staff shall avail themselves to this training to assure compliant disbursement and adequate fiduciary control.

53. PMO will (i) prepare withdrawal applications and submit them to ADB through JPDOF; and (ii) collect and retain all supporting documents. At the end of each year, PMO will prepare realistic projections of contract awards and disbursements for the following year and submit them to ADB.

54. For the disbursement of the financial intermediary, the withdrawal application will follow the procedures for financial intermediation loans as specified in the *Loan Disbursement Handbook* (footnote 14). The basis of disbursement will be the signed subloan agreement. The withdrawal application should include a statement from the FI and PMO that all listed subloans satisfy the terms and conditions in the relending agreements between the government and ABC (Ganzhou Branch).

55. **Advance fund procedure.** Advance fund procedure in Euro is permitted under the project. The advance account shall be used exclusively for ADB's share of eligible expenditures. An advance account in Euro will be set up for the project by JPDOF in a commercial bank. JPDOF shall be responsible for the proper use of advance account and will be responsible for the management, monitoring, and reconciliation of the advance account.

56. The total outstanding advance to the advance account should not exceed the estimate of ADB's share of expenditures to be paid through the advance account for the forthcoming six months. JPDOF, on behalf of JPG, may request for initial and additional advances to the advance account based on an Estimate of Expenditure Sheet<sup>21</sup> setting out the estimated expenditures to be financed through the account(s) for the forthcoming six months. Supporting documents should be submitted to ADB or retained by GMG or district/county governments and ABC (Ganzhou Branch) in accordance with ADB's *Loan Disbursement Handbook* (2017, as amended from time to time) when liquidating or replenishing the advance account. The advance account will be for the overall project including the implementation of FIL. The executing agency and implementing agencies will be responsible for the disbursement arrangement for each of the subprojects and lending.

57. **Direct payment procedure.** Direct payment may also be made to the bank account of the contractors, suppliers and consultants, as confirmed by GMG and project county governments.

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<sup>19</sup> The handbook is available electronically from the ADB website (<https://www.adb.org/documents/loan-disbursement-handbook>).

<sup>20</sup> Disbursement eLearning. [http://wpqr4.adb.org/disbursement\\_elearning](http://wpqr4.adb.org/disbursement_elearning).

<sup>21</sup> Estimate of expenditure sheet is available in Appendix 8A of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time).

58. **Statement of expenditure procedure.**<sup>22</sup> The statement of expenditure (SOE) procedure may be used for reimbursement of eligible expenditures or liquidation of advances to the advance account. Due to the nature of the FIL, in which many small subprojects will be funded, the SOE for the FIL procedure is necessary to reduce ADB administrative burden. After eligible expenditures are incurred and paid from the advance account, the BOFs/ABC (Ganzhou Branch) requests liquidation of the advance account by submitting an SOE for the direct investment loan or the FIL in accordance with ADB's *Loan Disbursement Handbook* (2017, as amended from time to time). The withdrawal application should include a statement from BOFs/ABC (Ganzhou Branch) that all listed lending satisfies the terms and conditions specified in the relending agreements among the DOF, BOFs, and the financial intermediary. Supporting documents and records for the expenditures claimed under the SOE will be maintained and made readily available for review by ADB's disbursement and review missions, upon ADB's request for submission of supporting documents on a sampling basis, and for project-level audits.<sup>23</sup> This enables ADB to satisfy itself on the quality of the financial intermediary's appraisal of subprojects.

59. Where ADB subsequently finds any payment made under the SOE procedure to be insufficiently supported or ineligible for ADB financing, ADB may offset the amount of the unjustified or ineligible payment against subsequent withdrawals for reimbursement of request the borrower to refund the same amount to the loan account, or to the advance account if the payment was made from the advance account. Reimbursement and liquidation of individual payments more than the SOE ceiling shall be supported by full documentation when submitting the withdrawal application to ADB.

60. **Other Disbursement Matters.** Before the submission of the first withdrawal application, the Ministry of Finance shall submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the government, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is stipulated in the *Loan Disbursement Handbook* (2017, as amended from time to time). Individual payments below such amount should be paid (i) by the executing agency and subsequently claimed to ADB through reimbursement, or (ii) through the advance fund procedure, unless otherwise accepted by ADB. The borrower should ensure sufficient category and contract balances before requesting disbursements. Use of ADB's Client Portal for Disbursements (CPD) system is encouraged for submission of WAs to ADB.<sup>24</sup>

61. **Conditions for withdrawals for project loan.** To secure timely and adequate provision of counterpart funding, the withdrawal of ADB funds will be conditioned on the EA's and IAs' timely and successful ring-fence of fiscal budget of the corresponding amounts for the project implementation years.

62. **Conditions for withdrawals for FIL.** The withdrawal shall not be made until, (i) ABC has provided counterpart or match-up funds, (ii) screen and approve the qualified recipient in compliance with the foregoing requirements, (iii) the designated revolving account has been opened at the ABC, and (iv) the ESMS for the project has been endorsed and adopted by the ABC and has retained appropriately qualified and experienced staff to manage implementation of the ESMS.

<sup>22</sup> SOE forms are available in Appendix 7B and 7D of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time).

<sup>23</sup> Checklist for SOE procedures and format are available at relevant sections of the ADB's [Loan Disbursement Handbook](#)

<sup>24</sup> The CPD facilitates online submission of WA to ADB, resulting in faster disbursement. The forms to be completed by the Borrower are available online at <https://www.adb.org/documents/client-portal-disbursements-guide>.

## **2. Disbursement Arrangements for Counterpart Fund**

63. The PMOs at city/district/county levels will be responsible for (i) preparing disbursement projections, and (ii) requesting budgetary allocations for counterpart funds in annual government budgets, which is to be reviewed by the city government and approved by the municipal/district/county government and approved by the municipal/district/county people's congresses. Based on actual incurrence of costs, the GEPC and the district/county PMOs will initiate disbursement requests to their relevant finance bureaus. Upon confirmation of the eligibility of the payments, the finance bureaus will disburse directly to the contractors. Currently the EA and the IAs need to confirm the commitment on counterpart funding provision, as well as issue official statements to assure that the above-stated process will be honored. The counterpart funding for FIL is readily available for ABC. Upon confirmation of the project, ABC (Ganzhou Branch) will be able to allocate the counterpart funding as determined in the project documents.

### **C. Accounting**

64. The EA and IAs will maintain, or cause to be maintained, separate books and records by funding source for all expenditures incurred on the project, following the accrual-based accounting system in accordance with the PRC national accounting standards, and the policies and procedures for government fiscal revenues and expenditures issued by PRC Ministry of Finance. These accounting policies and procedures are also used to record and report the receipts and payments of fiscal revenues and expenditures through computerized systems with the ability to generate financial statements. The GMG shall ensure that project financial statements are prepared by implementing agencies in accordance with the government's accounting laws and regulations which are consistent with international accounting principles and practices.

65. ABC will prepare consolidated statement of utilization of funds (SUF), in lieu of project financial statements, in accordance with the government's accounting laws and regulations which are consistent with international accounting principles and practices. In this case, audited SUF will indicate: (i) accounts opening balances, (ii) details of subloans, (iii) closing balances, (iv) comparative figures for prior year, and (v) cumulative amounts to date. In addition, SUF will include withdrawal application reconciliation between amounts reported and disbursements appearing in the Loan Financial Information (LFIS) of ADB. LFIS can be accessed online and ADB will provide LFIS access to project staff on request. Sample SUF can be obtained from the ADB project officer upon request.

### **D. Auditing and Public Disclosure**

#### **1. General**

66. The GMG will cause the detailed project financial statements prepared by GEPC and the district/county PMOs to be audited to be audited in accordance with equivalent national standards and by an independent auditor both acceptable to ADB. The audited project financial statements together with the auditor's opinion will be collected from the city/district/counties and presented in the English language to ADB within 6 months from the end of the fiscal year by the GEPC.

67. For entities preparing independent entity financial statements, the audited entity financial statements, together with the auditor's report and management letter, will be submitted in the English language to ADB within six months from the end of the fiscal year to which they relate.

68. The audit report for the project financial statements will include a management letter and auditor's opinions, which cover (i) whether the project financial statements present an accurate and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting standards; (ii) whether the proceeds of the loan were used only for the purpose of the project; and (iii) whether the borrower or executing agency was in compliance with the financial covenants contained in the legal agreements (where applicable).

69. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision, and followed up regularly with all concerned, including the external auditor.

70. The government, GMG, and the implementing agencies have been made aware of ADB's approach to delayed submission, and the requirements for satisfactory and acceptable quality of the audited project financial statements.<sup>25</sup> ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the borrower), or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

71. Public disclosure of the audited project financial statements, including the auditor's opinion on the project financial statements, will be guided by ADB's Access to Information Policy 2018.<sup>26</sup> After the review, ADB will disclose the audited project financial statements and the opinion of the auditors on the project financial statements no later than 14 days of ADB's confirmation of their acceptability by posting them on ADB's website. The management letter, additional auditor's opinions, and audited entity financial statements will not be disclosed.<sup>27</sup>

## 2. For the FIL

72. ABC shall ensure that the respective equivalent of: (i) \$50 million ADB financing; and (ii) \$50 million ABC's counterpart financing is audited. For the ADB-financed component, the audited SUF could be submitted. ABC will cause the annual consolidated SUF to be audited by a reputable auditing firm in, in accordance with auditing standards acceptable to ADB. The audited SUF will be accompanied by adequate explanatory notes which will include the basis of preparation, reporting currencies, undrawn amount, and details of subloans such as ADB approvals, amounts committed, disbursement up to the previous year, disbursement during the current reporting period, cumulative disbursement, undisbursed commitments, percentage of loan utilized etc. The SUF will include a management letter (which sets out the deficiencies in the

<sup>25</sup> ADB's approach and procedures regarding delayed submission of audited project financial statements:

- (i) When audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (a) the audit documents are overdue; and (b) if they are not received within the next 6 months, requests for new contract awards and disbursement such as new replenishment of advance account, processing of new reimbursement, and issuance of new commitment letters will not be processed.
- (ii) When audited project financial statements are not received within 6 months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of advance account, processing of new reimbursement, and issuance of new commitment letters. ADB will (a) inform the executing agency of ADB's actions; and (b) advise that the loan may be suspended if the audit documents are not received within the next 6 months.
- (iii) When audited project financial statements are not received within 12 months after the due date, ADB may suspend the loan.

<sup>26</sup> Access to Information Policy 2018: <https://www.adb.org/documents/access-information-policy>.

<sup>27</sup> This type of information would generally fall under access to information policy exceptions to disclosure. ADB. 2018. *Access to Information Policy*. para. 17.

internal control that were identified in the course of the audit, if any) and auditor's opinions, which cover (i) whether the project financial statements present an accurate and fair view or are presented fairly, in all material aspects, in accordance with the applicable financial reporting standards; (ii) whether the proceeds of the loan were used only for the purposes of the project; and (iii) whether ABC was in compliance with the financial covenants and regulatory requirements contained in the legal agreements.

73. The audited SUF together with the auditor's report, will be presented in the English language to ADB within 6 months from the end of the fiscal year by ABC or no later than 1 month after approval by the relevant authority. The utilization of the equivalent \$50 million counterpart financing and equivalent leveraged \$100 million commercial financing shall also be clearly traceable. ADB may require audited financial statement to demonstrate the accurate use of these counterpart finance when requested.

74. The Audited Entity Financial Statement of ABC, together with the auditor's report and management letter, will be submitted in the English language to ADB within 6 months from the end of the fiscal year or one month after approval by the relevant authority.

## **VI. PROCUREMENT AND CONSULTING SERVICES**

### **A. Advance Contracting and Retroactive Financing**

75. All advance contracting and retroactive financing will be undertaken in conformity with ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time).<sup>28</sup> The issuance of invitations to bid under advance contracting and retroactive financing will be subject to ADB approval. The borrower, executing agency and implementing agencies have been advised that approval of advance contracting and retroactive financing does not commit ADB to finance the project.

76. **Advance action and retroactive financing.** Advance contracting will be undertaken for procurement of individual start-up consultants and the consulting services for establishment of management information system and project implementation support (PIC). Retroactive financing of up to 20% of the loan amount for eligible expenditures incurred prior to loan effectiveness, but not more than 12 months prior to loan signing. There is no advance contracting or retroactive financing under the FIL.

77. Withdrawals from the Loan Account may be made to finance eligible expenditures incurred under the Project before the Effective Date, but not earlier than 12 months before the date of this Loan Agreement in connection with items to be retroactively financed, subject to a maximum amount equivalent to 20% of the Loan amount

### **B. Procurement of Goods, Works, and Consulting Services**

78. All procurement of goods and works will be undertaken in accordance with ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time).

79. Open competitive bidding (OCB) with national advertisement will be used for the major contracts of civil works and goods supply. Design, supply and installation (Plant) contracts, and

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<sup>28</sup> Available at: <https://www.adb.org/documents/procurement-regulations-adb-borrowers>.

performance based technical specifications should be considered for the rural water and wastewater system packages to ensure least variations for contract implementation. Request for quotations (RFQ) is proposed for the procurement of small-size and simple civil works, goods supply, and nonconsulting services. Quality and cost-based selection (QCBS) through internationally advertised OCB is adopted for complex consultancy services. Consultants' qualification selection (CQS) is adopted for small-size and simple consultancy services. Start-up individual consultants will be engaged by individual consultant selection (ICS) method.

80. **Use of e-procurement tools.** Use of the local e-procurement platform - Jiangxi Provincial Public Procurement System Platform will be limited to the publication of procurement notices and results such as IFBs, contract award information etc. (for e-publication only) unless specifically approved by ADB for its full use (for e-bidding). Procurement notices and results shall be posted as well at the national e-procurement platform - China Tendering and Bidding Public Service Platform (<http://cebpubservice.com/>), simultaneously with the posting on the local platform. ADB's online system - Consultant Management System (CMS) will be used for advertising consulting services contracts except for selection of national individual consultants.

81. **ADB Review.** Prior review is applied to the first contract of works and goods with similar nature undertaken by each IA and all consulting service contracts. Other civil works and goods supply contracts will be subject to post review (sampling) and post procurement audits. The following procedure should be followed: (i) ADB's review is not required for invitation for bids and bidding document however the first bidding document reviewed and confirmed by ADB if relevant should be used as a model without substantial modification; (ii) procurement process will be conducted without ADB's prior approval; and (iii) only a copy of the signed contract needs to be submitted to ADB for records. PMOs will maintain all documents related to the procurement of these contracts (procurement file) for ADB post reviews and other supervision process including compliant handling, including but not limited to: invitation for bids, bidding documents and amendments (if any), bid evaluation reports, bids submitted by the bidders, minutes/records, contract award letters and signed contracts etc. Post review will be conducted on a sampling basis by ADB annual review mission and/or by third party authorized by the ADB as a procurement audit.

82. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages and national competitive bidding guidelines is in Section D.

83. All consultants will be recruited according to ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time)<sup>29</sup> The terms of reference for all consulting services are detailed in Section D.

84. An estimated 558 person-months (81 international, 477 national) of consulting services are required to (i) facilitate project management and implementation, (ii) strengthen the institutional and operational capacity of the executing agency, and (iii) conduct studies and research on the topics related to the project implementation. Consulting firms will be engaged using the quality- and cost-based selection (QCBS) method with a standard quality-cost ratio of 90:10 or consultants' qualifications selection method.

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<sup>29</sup> Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>

## C. Procurement under FIL

85. ADB expects that the procurement is undertaken by the respective loan beneficiaries in accordance with established private sector or commercial practices that ensure value for money, and which are acceptable to ADB. To provide guidance to ABC to monitor the procurement activities undertaken by qualified enterprises, a project-specific procurement manual has been prepared and included in Appendix 5.

## D. Procurement Plan

### 1. BASIC DATA

<b>Project Name:</b> Jiangxi Ganzhou Rural Vitalization and Comprehensive Environment Improvement Project		
<b>Project Number:</b> 53049-001	<b>Approval Number:</b> XXX	
<b>Country:</b> People's Republic of China	<b>Executing Agency:</b> Ganzhou Municipal Government	
<b>Project Procurement Classification:</b> B	<b>Implementing Agency:</b> 10 IAs: Nankang District Government, Yudu County Government, Ningdu County Government, Chongyi County Government, Shangyou County Government, Dayu County Government, Huichang County Government, Shicheng County Government, Xingguo County and Agricultural Bank of China	
<b>Procurement Risk:</b> High		
<b>Project Financing Amount:</b> €387.10 million (\$ 453.91 million)  <b>ADB Financing:</b> €170.56 million (\$200.00 million)  <b>Counterpart Financing:</b> €216.54 million (\$253.91 million)	<b>Project Closing Date:</b> 31 December 2028	
<b>Date of First Procurement Plan:</b> 30 April 2021	<b>Date of this Procurement Plan:</b> 24 September 2021	
<b>Procurement Plan Duration:</b> 18 months	<b>Advance contracting:</b> Yes	<b>e-GP:</b> Partial use (for e-publication only)

ADB = Asian Development Bank, IAs = implementing agencies, e-GP = e-Government Procurement.

Source: Asian Development Bank.

### 2. Methods, Review and Procurement Plan

86. Except as ADB may otherwise agree, the following process shall apply to procurement of goods, works, nonconsulting services, and consulting services:

#### Procurement of Goods, Works, and Nonconsulting Services

Method	Comments
Open competitive bidding advertised nationally	The procurement assessment examined potential for attracting enough qualified bidders to ensure contract is delivered on time, to requisite quality and exhibit value for money. It was concluded that no works and goods contracts would require international advertising to attract enough qualified bidders. Works and goods contracts can therefore be advertised nationally following OCB procedures.



Method	Comments
Request for quotations	RFQ will be used for the procurement of small-size and simple civil works, goods supply, and nonconsulting services.

OCB = open competitive bidding, RFQ = request for quotation

Source: Asian Development Bank.

### Consulting Services

Method	Comments
Quality- and cost-based selection (QCBS)	The following submissions are required for prior review and approval by ADB: Submission 1 (Preparing Cost Estimates, Shortlist, and Request for Proposals), Submission 2 (Opening and Evaluating Technical Proposals and Preparing Evaluation Report), Submission 3 (Opening and Evaluating the Financial Proposal(s), Ranking the Proposals, and Recommending Contract Award). Quality and cost ratio – 90:10
Consultant qualification Selection (CQS)	CQS is adopted for small-size and simple consultancy services.
Individual consultant selection (ICS)	Start-up individual consultants will be engaged by individual consultant selection method.

Source: Asian Development Bank.

### 3. List of Indicative Packages (Contracts) Financed by ADB

**Table 15: Goods, Works, and Nonconsulting Services**

Package No.	General Description	Estimated Value			Procurement Method	Review	Bidding Procedure	Advertisement Date	Comments
		CNY million	USD million	Euro million					
ND-Works-1	Green vegetable industry development project in Ningdu County - civil works	39.04	6.04	5.15	OCB Natl	Prior	1S1E	2022 Q3	First civil works contract for the IA
ND-Works-2	Rural water supply improvement in Qingtang Township and Shishang Township of Ningdu County	90.07	13.93	11.88	OCB Natl	Post (Sampling)	1S1E	2023 Q1	
ND-Works-3	River rehabilitation project in Qingtang Town, Ningdu County	41.00	6.34	5.41	OCB Natl	Post (Sampling)	1S1E	2023 Q3	
SC-Works-1	Rural ecotourism demonstration project in Shicheng County	67.94	10.51	8.96	OCB Natl	Prior	1S1E	2022 Q2	First civil works contract for the IA
SC-Works-2	River rehabilitation project in Qinjiang River Basin, Shicheng County	95.91	14.83	12.65	OCB Natl	Post (Sampling)	1S1E	2023 Q1	
SC-Works-3	Rural solid waste management project in Shicheng County - Goods and works for transfer stations	3.85	0.60	0.51	OCB Natl	Post (Sampling)	1S1E	2023 Q4	
XG-Works-1	River rehabilitation project in Yishui River Basin	115.05	17.79	15.17	OCB Natl	Prior	1S1E	2022 Q3	First civil works contract for the IA
XG-Works-2	River rehabilitation project in Fangtai Village	12.57	1.94	1.66	OCB Natl	Post (Sampling)	1S1E	2023 Q2	
XG-Works-3	Clean small watershed project in Xingguo County	40.63	6.28	5.36	OCB Natl	Post (Sampling)	1S1E	2024 Q2	
NK-Works-1	Water environment management in Nankang district	50.45	7.80	6.65	OCB Natl	Prior	1S1E	2022 Q3	First civil works contract for the IA

Package No.	General Description	Estimated Value			Procurement Method	Review	Bidding Procedure	Advertisement Date	Comments
		CNY million	USD million	Euro million					
NK-Works-2	water and soil conservation in Nankang District	58.75	9.09	7.75	OCB Natl	Post (Sampling)	1S1E	2023 Q3	
NK-Works-3	Afforestation and forest health management in Nankang District	67.89	10.50	8.95	OCB Natl	Post (Sampling)	1S1E	2024 Q3	
HC-Works-1	Wetland restoration and protection in Xiangjiang Wetland Park	97.39	15.06	12.85	OCB Natl	Prior	1S1E	2022 Q3	First civil works contract for the IA
HC-Works-2	Scientific center of the natural protection zone in Huichang County	5.27	0.82	0.70	OCB Natl	Post (Sampling)	1S1E	2022 Q4	
HC-Works-3	Forest quality improvement and fruit forest base construction project in Huichang County	33.13	5.12	4.37	OCB Natl	Post (Sampling)	1S1E	2023 Q3	
YD-Works-1	Rural wastewater management in Yudu County	85.78	13.27	11.31	OCB Natl	Prior	1S1E	2023 Q2	First civil works contract for the IA
YD-Works-2	Water and soil conservation in Yudu County	64.92	10.04	8.56	OCB Natl	Post (Sampling)	1S1E	2024 Q1	
DY-Works-1	Rural ecotourism project in Dayu County	20.95	3.24	2.76	OCB Natl	Prior	1S1E	2022 Q3	First civil works contract for the IA
DY-Works-2	Wastewater treatment plant in Xinzhen Township	19.43	3.00	2.56	OCB Natl	Post (Sampling)	1S1E	2023 Q1	
DY-Works-3	Wastewater pipe system along Zhangjiang River	25.29	3.91	3.34	OCB Natl	Post (Sampling)	1S1E	2023 Q3	
DY-Works-4	Wastewater pipe system in Fujiang Village	7.35	1.14	0.97	OCB Natl	Post (Sampling)	1S1E	2024 Q1	
DY-Works-5	Rural water supply improvement in Fujiang Township	3.28	0.51	0.43	OCB Natl	Post (Sampling)	1S1E	2024 Q3	
DY-Works-6	River rehabilitation and environment improvement project in Zhangjiang River	152.76	23.62	20.15	OCB Natl	Post (Sampling)	1S1E	2023 Q3	

Package No.	General Description	Estimated Value			Procurement Method	Review	Bidding Procedure	Advertisement Date	Comments
		CNY million	USD million	Euro million					
CY-Works-1	Agriculture irrigation system renovation of Shangbao Terrace in Chongyi County	122.43	18.93	16.15	OCB Natl	Prior	1S1E	2022 Q2	First civil works contract for the IA
CY-Works-2	Rural greening and landscape improvement in Chongyi County	62.5	9.67	8.24	OCB Natl	Post (Sampling)	1S1E	2022 Q4	
CY-Works-3	Rural solid waste treatment center in Chongyi County	36.99	5.72	4.88	OCB Natl	Post (Sampling)	1S1E	2023 Q3	
CY-Works-4	Rural solid waste transfer system improvement in Chongyi County	20.04	3.10	2.64	OCB Natl	Post (Sampling)	1S1E	2023 Q4	
CY-Works-5	Afforestation and forest health management in Chongyi County	16	2.47	2.11	OCB Natl	Post (Sampling)	1S1E	2022 Q3	
SY-Works-1	Rural wastewater management project in Shangyou County	33.05	5.11	4.36	OCB Natl	Prior	1S1E	2022 Q2	First civil works contract for the IA
SY-Works-2	Ecological revetment restoration project on the north bank of Nanhe Lake in Shangyou County	112.92	17.46	14.89	OCB Natl	Post (Sampling)	1S1E	2022 Q4	
SY-Works-4	Forest disease control and fire protection project in Shangyou County	14.48	2.24	1.91	OCB Natl	Post (Sampling)	1S1E	2024 Q1	
SY-Works-3	Rural solid waste management project in Shangyou County - Works contract	12.00	1.86	1.58	OCB Natl	Post (Sampling)	1S1E	2024 Q3	
ND-Goods-2	Rural solid waste management project in Ningdu County - Waste compression and transfer truck	27.00	4.18	3.56	OCB Natl	Prior	1S1E	2023 Q2	First goods contract for the IA
ND-Goods-1	QR Code Printing Machine	0.07	0.01	0.01	RFQ	Post (Sampling)	1S1E	2023 Q4	

Package No.	General Description	Estimated Value			Procurement Method	Review	Bidding Procedure	Advertisement Date	Comments
		CNY million	USD million	Euro million					
SC-Goods-1	Rural solid waste management project - Solid waste separation and transportation equipment	7.97	1.23	1.05	OCB Natl	Prior	1S1E	2024 Q2	First goods contract for the IA
HC-Goods-1	Environment protection project in Huichang Forest Park	23.00	3.56	3.03	OCB Natl	Prior	1S1E	2024 Q2	First goods contract for the IA
SY-Goods-1	Establishment of agricultural product quality and safety traceability system in Shangyu County	3.70	0.57	0.49	OCB Natl	Prior	1S1E	2023 Q2	First goods contract for the IA
SY-Goods-2	Rural solid waste management project in Shangyou County - Goods contract	19.30	2.98	2.55	OCB Natl	Post (Sampling)	1S1E	2023 Q3	
YD-Goods-1	Water quality monitoring capacity improvement in Yudu County	9.06	1.40	1.19	OCB Natl	Prior	1S1E	2022 Q4	First goods contract for the IA
GZ-NC Serv-1	Capacity training on environmental enforce	0.70	0.11	0.09	RFQ	Prior	1S1E	2022 Q1	
GZ-NC Serv-2	Capacity training on ecological rehabilitation	1.60	0.25	0.21	RFQ	Prior	1S1E	2022 Q1	
GZ-NC Serv-3	Capacity training on watershed management	1.60	0.25	0.21	RFQ	Prior	1S1E	2022 Q1	
GZ-NC Serv-4	Capacity training on hydrological monitoring	0.50	0.08	0.07	RFQ	Prior	1S1E	2022 Q1	
GZ-NC Serv-5	Capacity training on water conservancy	1.60	0.25	0.21	RFQ	Prior	1S1E	2022 Q1	
GZ-NC Serv-6	Capacity training on water and soil conservation	1.06	0.16	0.14	RFQ	Prior	1S1E	2022 Q1	
GZ-NC Serv-7	Capacity training on forestry technology	1.60	0.25	0.21	RFQ	Prior	1S1E	2022 Q1	
GZ-NC Serv-8	Capacity training on forest quality improvement	1.00	0.15	0.13	RFQ	Prior	1S1E	2022 Q1	

Package No.	General Description	Estimated Value			Procurement Method	Review	Bidding Procedure	Advertisement Date	Comments
		CNY million	USD million	Euro million					
GZ-NC Serv-9	Knowledge sharing products and activities	0.70	0.11	0.09	RFQ	Post (Sampling)	1S1E	2025 Q1	
ND-NC Serv-1	Capacity training on vegetable farming and business	1.40	0.22	0.18	RFQ	Post (Sampling)	1S1E	2022 Q4	
ND-NC Serv-2	Rural solid waste management project in Ningdu County - Promotion and training	3.00	0.46	0.40	RFQ	Post (Sampling)	1S1E	2024 Q3	
SC-NC Serv-1	Rural solid waste management project in Shicheng County - Promotion and training	3.00	0.46	0.40	RFQ	Post (Sampling)	1S1E	2024 Q4	

### Consulting Services

Package No.	General Description	Estimated Value			Procurement Method	Review	Bidding Procedure	Advertisement Date	Comments
		CNY million	USD million	Euro million					
GZ-Serv-1	Management capacity strengthened in air pollution prevention and control	35.00	5.41	4.62	QCBS	Prior	FTP	2022 Q3	
GZ-Serv-2	Study on Ganzhou Vegetable Greenhouse Waste Management	2.00	0.31	0.26	CQS	Prior	BTP	2023 Q1	
GZ-Serv-3	Establishment of management information system	1.00	0.15	0.13	CQS	Prior	BTP	2022 Q1	Advance Contracting
GZ-Serv-4	Project Implementation Support Consultancy	10.08	1.56	1.33	QCBS	Prior	FTP	2022 Q2	Advance Contracting
GZ-Serv-5	External environmental monitoring	1.80	0.28	0.24	CQS	Prior	STP	2022 Q4	
GZ-Serv-6	External social and resettlement monitoring	0.90	0.14	0.12	CQS	Prior	BTP	2022 Q4	

Package No.	General Description	Estimated Value			Procurement Method	Review	Bidding Procedure	Advertisement Date	Comments
		CNY million	USD million	Euro million					
GZ-Serv-7	Individual consultant in the inception stage - Procurement Management Specialist	0.27	0.04	0.04	ICS	Prior		2022 Q1	Advance Contracting
GZ-Serv-8	Individual consultant in the inception stage - Financial Management Specialist	0.27	0.04	0.04	ICS	Prior		2022 Q1	Advance Contracting
GZ-Serv-9	Individual consultant in the inception stage - Environmental Management Specialist	0.27	0.04	0.04	ICS	Prior		2022 Q1	Advance Contracting
GZ-Serv-10	Individual consultant in the inception stage - Social and gender specialist	0.27	0.04	0.04	ICS	Prior		2022 Q1	Advance Contracting
HC-Serv-1	Huichang Xiangjiang Watershed Ecological Investigation and Environmental Management Study	5.00	0.77	0.66	QCBS	Prior	STP	2023 Q1	
CY-Serv-1	CCER Forestry Carbon Trade Pilot Program	1.00	0.15	0.13	CQS	Prior	BTP	2022 Q3	

1S1E =single-stage one-envelope, AC = advanced contracting, ADB = Asian Development Bank, BTP = biodata technical proposal, CCER = Chinese Certified Emission Reduction, CQS = consultants' qualifications selection, FTP = full technical proposal, ICS = individual consultant selection, OCB Natl = open competitive bidding advertised nationally, Q = quarter, QCBS = quality- and cost-based selection, RF = retroactive financing, RFQ = request for quotation, STP = simplified technical proposal.

Exchange rate: \$1 = €0.8528 = CNY 6.4661 (as of 23 Sep 2021)

Source: Asian Development Bank estimates.

87. The following table lists goods, works, and consulting services contracts over the life of the project, financed by non-ADB sources.

**Table 16: Goods, Works, and Consulting Services Contracts**

General Description	Estimated Value		Estimated Number of Contracts	Procurement /Selection Method
	CNY million	\$ million		
Engineering Supervision Consulting Service	34.71	5.37	9	Domestic procedure
Feasibility study consulting service	4.27	0.66	1	Domestic procedure
Environmental impact assessment consulting service	1.82	0.28	1	Domestic procedure
Engineering Design	48.93	7.57	9	Domestic procedure
Engineering Survey	12.08	1.87	9	Domestic procedure
Blueprint budget service	1.21	0.19	9	Domestic procedure
Blueprint review service	13.91	2.15	9	Domestic procedure
Engineering insurance	5.02	0.78	9	Domestic procedure
Cost consultant service	21.21	3.28	9	Domestic procedure
Procurement agent	4.89	0.76	1	Domestic procedure
Rural solid waste management project in Ningdu County - Trash Can	18.00	2.78	1	Goods contract - OCB National

OCB = open competitive bidding.

Source: Asian Development Bank estimates.

### **E. Consultant's Terms of Reference**

88. The outline terms of reference for the consulting services packages are detailed in Appendix 2 of the PAM. The training plan of the nonconsulting services for capacity development is presented in Appendix 3.



## VII. SAFEGUARDS

### A. Environment

89. **Institutional arrangements for the project environmental safeguards.** The project is classified by ADB as Category B for environment. The project environmental safeguard assessments and documents comprise: (i) initial environmental examination (IEE) including an environmental management plan (EMP). The IEE and EMP cover all project components except one, a financial intermediation loan (under output 2), which will be implemented by Ganzhou Branch of Agricultural Bank of China (ABC); and (ii) an environmental and social management system (ESMS), for safeguard management for the financial intermediation loan (FIL). The IEE, EMP and ESMS have been prepared in compliance with ADB's Safeguard Policy Statement (2009). For all project matters relating to environmental safeguards, the IEE, EMP and ESMS form the basis of the official loan agreement between ADB and the executing agency.

90. **Content of the EMP.** The EMP (provided in Appendix 1 of the IEE) describes (i) the project environmental safeguard objectives; (ii) roles and responsibilities for EMP implementation, (iii) mitigation measures; (iv) inspection, monitoring, and reporting arrangements; (v) training and institutional strengthening; (vi) a project-specific grievance redress mechanism; (vii) public consultation during project implementation; and (viii) a feedback and adjustment mechanism. The EMP identifies specific roles and responsibilities for all agencies that will be involved in EMP implementation, including the GMG, implementing agencies, contractors, construction supervision companies, and operators of project facilities. The mitigation measures are tailored to the project-specific conditions and risks identified in the IEE. The scope and content of the EMP comply with ADB's SPS for environmental safeguards and the PRC's environmental laws and regulations. All project agencies are required to comply with the EMP.

91. **EMP implementation.** The EMP will be implemented in all phases of the project: design, pre-construction, construction, and operation. The GMG will be responsible for ensuring that the project will be designed, constructed, decommissioned, and operated in accordance with (i) the national and local government environmental, health, and safety laws, regulations, procedures, and guidelines; (ii) the SPS, and (iii) the IEE including the EMP. The executing agency, through the PMO, holds final responsibility for implementation of and compliance with the EMP.

92. For finalization of the preliminary engineering designs, and preparation of the detailed engineering designs for the project, the PMO will forward the EMP to the engineering and environmental design institutes. The PMO and implementing agency environment officers and start-up environment safeguard specialist will work with the design institutes to ensure that safeguard risks identified in the EMP are considered in the detailed designs and avoided, minimized, or mitigated. The EMP will be updated at the end of the detailed design, as needed. To ensure that bidders will respond to the EMPs provisions, the PMO and implementing agencies will prepare and provide the following specification clauses for incorporation into the bidding documents: (i) a list of environmental management requirements to be budgeted by the bidders in their proposals; (ii) environmental clauses for contractual terms and conditions; and (iii) domestic EIAs, and the project IEE including updated EMP for compliance. All tenders involving civil works will be required to include and fully address the EMP requirements, especially the mitigation and monitoring measures.

93. **Personnel.** The EMP will be coordinated by the following personnel: (i) one full-time and qualified PMO environment officer, who will be appointed by the GMG. The officer will be responsible for overall coordination of the EMP; (ii) nine full-time implementing agency

environment officers (one per project county or district), who will be appointed by the county and district implementing agencies. These officers will lead the daily coordination of the EMP at the site level and will coordinate closely with the PMO environment officer. The PMO and implementing agency environment officers will be supported in their roles by environmental safeguard specialists engaged under the loan consulting services, as follows: (i) an environmental safeguard specialist as part of the start-up consulting services, to provide interim support to the PMO before the loan implementation consultants are recruited; and (ii) a loan implementation environment consultant (LIEC), as part of the loan consulting services. These consultants will support the PMO and implementing agency environment officers to establish and implement the EMP, including to: assess whether the detailed engineering designs are consistent with the scope of the preliminary designs and EMP or whether new safeguard assessments are required; integrate the EMP within the project bidding documents; visit work sites and liaise with contractors and construction supervision companies; and, support the preparation of safeguard progress reports. Terms of reference for all environment safeguard positions for the project are provided in the Appendix 1 of the EMP.

94. **Capacity building.** The implementing agencies have no previous experience with ADB-funded projects or safeguard requirements. To ensure effective implementation of the EMP, a capacity building program is included in the EMP for training of project agencies in EMP implementation, mitigation measures, supervision, monitoring, reporting, and the grievance redress mechanism. Training will be provided by the loan consultants for safeguards and other specialists in the loan consulting teams. Trainees will include the staff of the PMO, implementing agencies, contractors, and construction supervision companies.

95. **Procedures for feedback and adjustment of the EMP, including in the event of noncompliance.** Based on site inspections and monitoring reports, the PMO shall decide, in consultation with the LIEC, whether (i) further mitigation measures are required as corrective actions, or (ii) improvements are required for environmental management practices. The effectiveness of mitigation measures and monitoring plans will be evaluated by a feedback reporting system. Adjustment to the EMP will be made, if necessary. The PMO and implementing agency environment officers, start-up environment safeguard specialist, and LIEC will play critical roles in the feedback and adjustment mechanism. If during inspection and monitoring, substantial deviation from the EMP is observed, or any changes are made to the project that may cause substantial adverse environmental impacts or increase the number of affected people, then the PMO will immediately consult with ADB and form an environmental assessment team to conduct additional environmental assessment. If necessary, further public consultation will be undertaken. A new or updated domestic environmental assessment, and IEE (including an EMP) will be prepared and submitted to ADB for review, appraisal, and public disclosure. The revised EMP will be passed to the contractors, construction supervision companies, and operators of the project facilities, for implementation.

96. **Environmental assurances.** Project-specific environmental safeguard conditions are included in the loan and project agreements and include the need for all project agencies to comply with the EMP.

97. **Institutional arrangements for FIL environmental safeguards.** In compliance with ADB's SPS (2009), environmental and social safeguards for all activities supported under FIL will be subject to an ESMS. The Ganzhou Branch of Agricultural Bank of China (ABC) is the implementing agency for FIL and will be responsible for establishment and implementation of the ESMS. An advanced draft ESMS template has been prepared and is publicly available as a separate linked document to the ADB report and recommendations of the President to the Board

of Directors. This will form the basis for the final draft ESMS document to be prepared by ABC. The final draft ESMS will be subject to review and endorsement by the GMG and ADB. The steps for ESMS establishment and implementation are summarized in Section D below.

## **B. Land Acquisition and Involuntary Resettlement**

98. **Category and impacts.** The project is classified as category B for involuntary resettlement. The project will occupy 61,379.04 *mu* land, including use of 54,656.5 *mu* existing state-owned land, permanent acquisition of 469.53 *mu* collective-owned land, and use of 6,253.01 *mu* collective land through voluntary agreements or land leases. The project will also temporarily occupy 369.38 *mu* land during the construction. The land acquisition will impact 292 households with 1,141 persons in 34 villages of 29 towns of six project counties/district. Among them, 51 households with 191 persons will be significantly affected. The due diligence for state-owned land and associated facilities confirmed that there are no outstanding or legacy issues of land acquisition and resettlement; and it will be reconfirmed after the final design before approval of civil works contracts.

99. **Resettlement plan.** A resettlement plan (RP) has been prepared in accordance with ADB's Safeguard Policy Statement (2009) and relevant laws and regulations of the PRC. The RP includes adequate measures of compensation, resettlement, and rehabilitation for affected people. Surveys and consultations were undertaken with affected people in preparation of the RP during project preparation. Affected people will be further consulted for updating and implementation of the RP during the project implementation. A grievance redress mechanism has been established and incorporated into the RP. The RP also includes capacity building measures for the project executing and implementing agencies to implement RP in compliance with ADB requirements. The financial intermediary component will support only category C subprojects on involuntary resettlement. Necessary measures to screen and avoid involuntary resettlement impacts are included in the ESMS.

100. **Updating resettlement plan.** The resettlement plan will be (i) updated based on the final design, detailed measurement survey, and census of affected persons; (ii) disclosed to affected persons; and (iii) submitted to ADB for review and approval prior to the award of civil works contract and commencement of land acquisition and resettlement.

101. **Institutional arrangement for implementation of the resettlement plan.** GMG will be the executing agency and will supervise, coordinate, and manage the implementation of the resettlement plan. A project leading group (PLG) has been established in GMG, and a PMO has been established under the PLG in GMG. Implementing agencies will be the local governments of the nine districts and counties. Local Natural Resources Bureaus are responsible for land acquisition, compensation, and resettlement. The affected township governments and village committees will participate in and support the land acquisition and resettlement activities.

102. **Capacity Building for implementation of the resettlement plan in compliance with ADB requirements.** The executing and implementing agencies have the capacity to implement domestically funded projects. Their capacity will be strengthened to implement the resettlement plan in compliance with ADB requirements through several measures, including: (i) executing and implementing agencies will each appoint focal social safeguard staff, (ii) project implementation support consultants will include social safeguard specialists, (iii) staff of executing and implementing agencies will be trained on social safeguard measures, (iv) a resettlement start-up consultant will provide training on ADB's relevant policy requirements and will assist the

implementing agencies to update and finalize the resettlement plan, and (iv) an external monitoring agency will be recruited for external monitoring.

103. **Resettlement plan implementation schedule.** According to the project construction schedule, the resettlement implementation plan has been prepared and included in the resettlement plan. The specific implementation time may be properly adjusted due to the deviation of the overall project progress.

104. **Monitoring and reporting of resettlement plan implementation.** Provisions of both internal and external monitoring are included in the RP. With assistance of project management support consultants, the PMO will include progress on RP in progress reports to ADB. Furthermore, PMO will employ an external resettlement monitoring institute or firm to (i) monitor and evaluate resettlement progress and results; and (ii) submit semiannual monitoring reports to ADB during resettlement implementation.

### **C. Ethnic Minorities/Indigenous Peoples Safeguard**

105. **Ethnic Minorities (EM)/indigenous peoples (IP).** The project will involve six ethnic minority concentrated villages, and the ethnic minority population comprises mostly She people. The ethnic minority villages will benefit from the project through training and capacity building, jobs, sanitation services, ecotourism and improved environment and living conditions. An assessment of potential impacts of the project on ethnic minorities was conducted during the project preparation and an ethnic minority development plan has been prepared. The project executing and implementing agencies will implement the ethnic minority development plan and will submit monitoring reports to ADB. For the FIL component, necessary measures for ethnic minority are included in the ESMS.

### **D. Environmental and Social Management System for FIL component**

106. An ESMS has been prepared for the FIL (under output 2 of the project) by the PMO and ABC, supported by the TA consultants and ADB team. The ESMS is publicly available as a separate linked document to the *ADB Report and Recommendations of the President to the Board of Directors*. The FIL will not fund any activities that are listed in the ADB Prohibited Investment Activity List (ESMS-Appendix 2). PMO and ABC committed that the requirements will be met during the screening of identified subprojects in accordance with the procedures stipulated in the ESMS; and adequate resources will be allocated to ensure the implementation, monitoring and reporting of ESMS for the FIL.

107. **Content of the ESMS and safeguards selection criteria.** The ESMS describes (i) institutional framework of the ESMS, including legislative and policy framework, roles and responsibilities of each specified position, and subproject selection criteria; (ii) activities that the FIL will or will not support (including activities listed under ADB's prohibited investment activity list); (iii) implementation steps for the ESMS; (iv) integration of the ESMS into existing business procedures in ABC; (v) establishment and implementation of a grievance redress mechanism; and (vi) capacity building and training for ABC to implement the ESMS. For environment safeguards, activities that will not be supported by the FIL include: (i) activities which may cause significant and irreversible impacts to the environment i.e., meet the definition of ADB "Category A" for environment; (ii) are located in or next to a designated water source protection zone, protected area, cultural heritage site, or critical natural habitat; (iii) involve large-scale landscape alteration e.g., quarrying, or terracing on slopes greater than 25°. For social safeguards, activities that will not be supported by GIF include: (i) involve involuntary land acquisition impacts; (ii)

involve demolition of residential or private commercial buildings; (iii) involve involuntary resettlement which meet the definition of ADB “Category A” or “Category B” for resettlement safeguards; and (iv) have adverse impacts on vulnerable ethnic minorities (“Category A” or “Category B” for indigenous peoples safeguards). For any subprojects which involve the expansion of, or links with, existing activities by the subborrower, the new subproject will only be supported if the existing activities follow domestic safeguard regulations.

108. **Establishment of the ESMS.** Prior to the transfer of any loan proceeds to ABC, ABC shall issue a formal Presidential Directive to integrate the ESMS into ABC business procedures and submit this directive to GMG and ADB at least three months prior to establishing the financial intermediation loan fund. ABC shall adhere to the guidelines in the ESMS and ensure that all screening, categorization, and assessment of subloan applications specified in the ESMS is conducted before final approval of any investments. GMG and ABC will ensure that all participating applicants receiving funds from FIL will follow the requirements listed in the ESMS.

109. **ESMS personnel.** ABC will recruit at least one qualified environment officer and one qualified social officer. These officers will lead the establishment of the ESMS and work closely with the ABC financial officers, applicants, and qualified end-borrowers, to integrate the ESMS into existing business procedures and for daily implementation of the ESMS procedures for the safeguard screening, categorization, and management of approved equity investments. Draft terms of reference for the ABC environment officer and social officer positions are in the Appendix 6 of ESMS.

110. **ESMS Implementation procedures.** ABC will ensure that each Qualified Project meets the requirements of the ESMS i.e., screening procedures have been completed; the proposed activities meet the ESMS criteria; and the proposed designs seek to maximize environmental and social benefits. To support the design process, the ABC environmental officer and social officer and applicant will consult with relevant government bureaus. The ABC environment officer and/or social officer will also work with the PMO environmental officer and social officer, and loan implementation consultants as necessary, for technical feedback and support. All Qualified Projects shall comply with ADB's Safeguards Policy Statement. The ABC and qualified end-borrowers shall submit to PMO, ADB, and/or ABC all records, and documents as may be requested from time to time.

## **E. Grievance Redress Mechanisms**

111. Two project-specific grievance redress mechanisms (GRM) have been developed in compliance with SPS requirements: one for environmental safeguards and one for social safeguards. The GRMs complement and builds upon existing PRC mechanisms for environmental and social complaints respectively, including the national environmental complaint hotline. The GRMs are designed to achieve the following objectives: (i) provide channels of communication for communities to raise concerns about environmental and/or social related grievances which might result from the project; (ii) prevent and mitigate adverse environmental and/or social impacts to communities caused by project construction and operation; and (iii) build trust and respect and promote productive relationships between the project agencies and local villages and communities. The GRMs are accessible to all members of the villages and communities, including women, youth, minorities and poverty-stricken villagers and residents. Multiple points of entry are available, including face-to-face meetings, written complaints, telephone conversations, email, and social media. The details of the GRM, including a time-bound flow chart of procedures, are described in the EMP, RP, EMDP, and ESMS.

112. Specific GRM procedures have been incorporated into the EMP, resettlement plan, EMDP and ESMS. The complaint channels are slightly different for environmental and social issues, but the PMO will maintain an integrated reporting system to document, follow-up, and report on all cases. Before construction, the PMO and CPMOs will notify the project design and impacts to the affected person(s). The environment and social officers of the PMO and nine CPMOs in the one district and eight counties will be the lead coordinators for GRM implementation. At the beginning of construction, the PMO and CPMOs will determine the project site, floor area, etc. with the affected village committees during a field visit. For issues of great public concern (if any), the PMO and CPMOs will further improve the project design. All project agencies and staff will be trained in the GRM and will take an active role in supporting these officers when necessary.

#### **F. Other**

113. **Prohibited investment activities.** Pursuant to ADB's Safeguard Policy Statement (2009), ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the Safeguard Policy Statement (2009). ABC, the financial institution, will ensure that its investments follow applicable national laws and regulations and will apply the prohibited investment activities list (provided in the Appendix 4 of the PAM) to subprojects financed by ADB.

## VIII. POVERTY, SOCIAL AND GENDER DIMENSIONS

### A. General

114. **Gender.** A gender assessment has been conducted during project preparation and a gender action plan (GAP) (Table 17) has been prepared. It is estimated 285,651 (50%) women will directly benefit from the project. Most women (over 85%) are living in rural areas. Women between 15-49 years old migrate to work in urban areas on a long-term basis, but the percentage is about 30% lower than men. The rest stay working as seasonal workers and taking care of children, seniors, and the land. Over 40% female respondents in the survey are farmers, seasonal workers, and homemakers. Double incomes are common, while in 76% of sampled households, men earn more than women. Wives and husbands make decisions together on important family issues.

115. In the sample, 85% of the female respondents indicated being responsible for the disposal of wastewater and domestic waste. Also, 87% of female indicated that improving farming infrastructure and production modes can reduce their vulnerability to natural disasters and market risks, while possibly increasing their income. The focus group discussions (FGDs) indicate women business owners, women seeking seasonal jobs and homemakers indicated their interest in participating in skills trainings in e-commerce and green finance, learn good practices from others in starting small businesses and finding jobs in project related activities. In Ganzhou, women also play a role in rural vitalization. Over 4,000 women leaders have been on board to lead the rural campaign of "Clean home and village." The social survey further confirmed women are the main project group and significant agent of change to achieve the project goals.

116. Women in the project area show high willingness to participate in project consultations (96.67%). The social survey had 270 (49.82%) female respondents. Eighteen female FGDs were organized and women representatives of business owners, farmers, homemakers, workers, civil servants participated in the discussions and their views, concerns and recommendations have been recorded and reflected in the gender analysis. Women's consultation and participation will be continued throughout the project cycle to ensure a focus on gender equality. The focus of the GAP is on (i) increasing access to safely managed wastewater treatment plants; (ii) promotion of women's participation in eco-friendly businesses, including village-based ecotourism infrastructure; (iii) quotas for women in skill trainings, (iv) engaging women in leading environment protection initiatives, (v) access to jobs; and (vi) quotas for women to access subloans.

117. **GAP monitoring and reporting.** A gender specialist (national, 8 person-months) will be engaged to provide guidance to the implementing agencies and PMOs in implementing the GAP, to monitor implementation progress and to report on the monitoring results. GAP monitoring information and progress toward achievement of targets will be included in the semiannual monitoring reports which will be submitted to ADB for review as well as midterm and project completion reports.

118. **Poverty and Social.** The project is classified as general intervention for poverty reduction. A poverty and social analysis were undertaken based on stakeholder consultations and socioeconomic surveys. It indicates that the project will provide socioeconomic development and poverty reduction opportunities for residents including the poor and low-income people by increasing their access to (i) jobs during project construction and operation; (ii) new jobs in green enterprises; and (iii) a better living environment. A total of 578,138 residents will directly benefit from the project outputs. Other residents in Ganzhou will also benefit indirectly from the improved environment and economic opportunities. The project will create 1,241 jobs during construction

and 1,584 jobs during operation. GMG prepared a social development action plan, which includes specific measures for the poor and low-income people. Consultations were undertaken with residents and other stakeholders during the project preparation. A consultation and participation plan for project implementation stage has been included in the PAM. The executing and implementing agencies will ensure implementation, monitoring, and reporting on social and poverty measures. A social development action plan (SDAP) (Table 18) has been prepared, which include specific actions and targets for low-income or poor people.

## **B. For FIL Component**

119. ABC shall require the consultants to ensure that contractors and service providers engaged in subprojects under green financing component will implement relevant provisions of gender action plan and social development action plan, including: (i) give equal pay for equal work regardless of gender, ethnicity or social group; (ii) give priority to women in the employment and training opportunities generated under the subprojects; (iii) maximize the employment of local people who meet the job and efficiency requirements for subproject construction, operation and maintenance; (iv) provide workers with adequate on-the-job and safety training; (v) disseminate information on sexually transmitted diseases (including HIV/AIDS) to subcontractors/employees and local communities surrounding the subproject construction sites; (vi) implement HIV/AIDS awareness and prevention training for subcontractors/employees; (vii) provide necessary measures to ensure the safety and health of its subcontractors/employees; and (viii) observe local customs concerning acceptable behavior toward the local population.

120. ABC shall require the consultants to ensure that the core labor standards and the PRC's applicable laws and regulations are complied with during subproject implementation and that specific provisions are included in bidding documents and contracts financed by the ADB Loan under green financing component requiring that the contractors, among other things: (i) comply with the PRC's applicable labor law and regulations and incorporate applicable workplace occupational safety norms; (ii) do not use child labor; (iii) do not discriminate workers in respect of employment and occupation; (iv) do not use forced labor; and (v) do not restrict workers from developing any legally permissible means of expressing their grievances and protecting their rights regarding working conditions and terms of employment.



Table 17: Gender Action Plan

Proposed Action	Target/Indicator	Responsible agencies	Time	Budget
<b>A. Output 1: Institutional capacity and knowledge for environmental management strengthened</b>				
<p>A.1. Women participate in public consultations on technical activities: rural waste treatment and classification, green economy strategy.</p> <p>A.2. Female GMG officials and EA/IA staff trained on water resource management, climate change mitigation and adaptation, environment monitoring.</p> <p>A.3. Women access jobs created by the project</p>	<p>A.1. 100 representatives from each project county/district, including 40% women, participate in public consultations on technical support activities. (Baseline: 30%)</p> <p>A.2.1. At least 15% of GMG officials provided with capacity building training and report improved knowledge on comprehensive environmental management (30% female). (Baseline for gender target: 24%)</p> <p>A.2.2. At least 800 EA/IAs' staff trained (8,000 person-days) and report improved knowledge in ecological and water resource management, water and environment monitoring and management, climate change mitigation and adaptation, and project management, with at least 30% women participation. (Baseline gender target: 24%)</p> <p>A.3.1. 110 skilled jobs created during construction and operation, including 30% for women (Baseline: 22%)</p> <p>A.3.1. 30 unskilled jobs created during construction and operation, including 40% for women. (Baseline: 30%)</p>	PMO, IAs and Contractor (assisted by WF, HRSSB, and social specialist)	2022–2028	Project budget, and local department budget
<b>B. Output 2: Green development and financing mechanisms piloted</b>				
<p>B.1. Women participate in consultations on the design of green development and finance support measures.</p> <p>B.2. Ensure women participate in green finance initiatives and benefit from the sub loans of FIL.</p> <p>B.3. Ensure women's access to jobs during</p>	<p>B.1. At least 200 beneficiary representatives in each project county/district, of which 40% women, participate in consultations on the design of the green development and finance support. (Baseline: 30%)</p> <p>B.2. At least 20% (36 loans) are lent to subborrowers that are owned/led by women (i.e., women-owned can be defined as at least 50% of enterprise ownership is controlled by women, at least 50% of senior managers are women, or at least 50% of board are women) (2021 baseline: 0)<sup>a</sup></p> <p>B.3.1. 500 skilled jobs created during construction and operation, including 30% for women (Baseline: 22%)</p> <p>B.3.2. 600 unskilled jobs created during construction and operation, including 40% for women (Baseline: 30%).</p>	PMO, IAs (including GABC) and contractors (by WF, HRSSB, set counting the hospital and society consultant support)	2022–2028 2022–2048 for FIL	Project budget, and local department budget

Proposed Action	Target/Indicator	Responsible agencies	Time	Budget
<p>construction and operation.</p> <p>B.4. Successful women farmers and green business owners share good practices to the women in project area.</p> <p>B.5. Women participate in newly established green agricultural cooperatives in project areas.</p> <p>B.6. Women participate in pilot village-based tourism business initiative</p>	<p>B.4. Women account for at least 40% of attendants of the workshops and/or trainings on green finance loan, experience sharing, green finance loan application and e-commerce organized in all project counties/district. (Baseline: 30%)</p> <p>B.5. Women account for at least 40% of members of newly established green agricultural cooperatives in project areas (Baseline: 30%) and at least 30% of the leadership positions of cooperatives. (Baseline: 20%)<sup>b</sup></p> <p>B.4. 20 village-based tourism initiatives established, including 30% women-led (2021 baseline: 0%)<sup>c</sup></p>			
<b>C. Output 3: Rural waste and sanitation management improved</b>				
<p>C.1 Provide public awareness raising and education activities to local women on waste management and sewage collection/treatment.</p> <p>C.2 Women access jobs created by the project</p>	<p>C.1 300 beneficiary representatives from each project county/district, including 40% women, participate in public awareness education on waste management and sewage collection/treatment. (Baseline: 30%)</p> <p>C.2. 1. 153 skilled jobs created during construction and operation, including 30% for women (Baseline: 22%)</p> <p>C.2. 1. 275 unskilled jobs created during construction and operation, including 40% for women (Baseline: 30%).</p>	PMO, IAs and contractors (assisted by WF, HRSSB, and social specialist)	2022–2028	The project budget
<b>D. Output 4: Water and soil conservation practices improved</b>				
<p>D.1 Women are represented at consultations on the detail design of project components</p> <p>D.2 Local women are trained on water conservation and river protection.</p> <p>D.3 Women access jobs created by the project</p>	<p>D.1. At least 600 beneficiary representatives in each project county/district, including at least 40% women, attend consultations on the detail design of project components (Baseline: 30%)</p> <p>D.2. 300 beneficiary representatives from each project county/district, including 40% women, participate in public awareness education on water conservation, water and soil conservation, and water/river protection. (Baseline: 30%)</p> <p>D.3.1. 280 skilled jobs created during construction and operation, including 30% for women (Baseline: 22%)</p> <p>D.3.2. 440 unskilled jobs created during construction and</p>	PMO, IAs and contracting Shang (assisted by the township government and village committees, HRSSB, WF and social specialist)	2022–2028	The project budget

Proposed Action	Target/Indicator	Responsible agencies	Time	Budget
	operation, including 40% for women (Baseline: 30%)			

EA = executing agency, FIL = financial intermediation loan, GAP = gender action plan, GBAC = Ganzhou Branch of Agricultural Bank of China, GMG = Ganzhou Municipal Government, HRSSB = human resources and social security bureau, IA = implementing agency, PMO = project management office, WF = women's federation

Source: Asian Development Bank.

<sup>a</sup> 10% of women entrepreneurs get financing from the Agricultural Bank of China in the project sites. However, financing for green initiatives is new and no specific data is available. For this reason, the e baseline for this indicator has been set at 0. Source: FI, the Agricultural Bank of China, Ganzhou Branch.

<sup>b</sup> Source: Findings of social survey conducted by TA team.

<sup>c</sup> Source: Findings of social survey conducted by TA team.

Institutional Table 18: Social Development Action Plan

Proposed Action	Targets/Indicators	Responsible Agencies	Timeline	Budget Source
A. Output 1: capacity and knowledge for environmental management enhanced.				
A.1. Ensure public participation in consultation for the design, construction and operation of monitoring and management systems, including intelligent water management systems, intelligent environmental monitoring systems, etc.	A.1. At least 100 beneficiaries in each project county/district participate in consultation for the design, construction and operation of the environment monitoring systems, including 20% of the poor and/or low-income population	PMO, IAs and contractors (supported by WF, HRSSB, DI and social specialist)	2022–2028	Project budget, and local government budget
A.2. Ensure the disclosure and regular updating of air and water quality monitoring result to public on information board or official media in languages and technical terms which residents can understand	A.2. At least 80% of the sampled respondents know well about the disclosed air and water quality monitoring results			
A.3. Ensure local labors access to jobs during construction and operation	A.3. 30 jobs (10 skilled and 20 unskilled) provided during construction and 175 jobs (145 skilled and 30 unskilled) during operation, of which 20% will be given priority to poor or low-income people			
A.4. Ensure public awareness on ecological and water resources management raised through training, education, information disclosure and knowledge sharing	A.4. At least 80% of the sampled respondents report their awareness on ecological and water resources management enhanced			
	Baseline: 0			
B. Output 2: Green development and financing mechanisms piloted.				
B.1. Ensure public representation in consultations on the detailed design of green finance activities	B.1. 200 representatives of beneficiaries (including 20% of the poor and/or low-income groups) from each project county/district participate in consultations on the detailed design of the green finance activities	PMO, IAs and contractors (supported by WF, HRSSB, DI and social specialist)	2022–2028	Project budget, and counterpart budget
B.2. Ensure that poor and/or low-income people participate in and benefit from green finance activities				
B.3. Ensure the jobs generated in agricultural infrastructure upgrading activities made first available to local labor during construction and	B.2. 500 representatives of beneficiaries from each project county/district (including 20% of the			

Proposed Action	Targets/Indicators	Responsible Agencies	Timeline	Budget Source
operation B.4. Ensure local farmers can equally access and adopt the technical supports and guidance	poor and/or low-income population) supported by green finance activities B.3. 300 job opportunities (100 skilled and 200 non-skilled) provided during construction and 800 (400 tech and 400 non-tech) provided in operation, of which 20% to poor or low-income people. B.4. 200 farmers from each project county/district trained on green agricultural technical knowledge and skills Baseline: 0			
<b>C. Output 3: Rural waste and sanitation management improved</b>				
C.1 Ensure that public representatives participate in consultations on the detailed design of rural waste and sanitation components, rural waste management, public hearing on tariff for wastewater and solid waste C.2 Ensure that the rural poor and/or low-income people have access to public assistance programs, i.e., partial exemption from increased tariff for wastewater and solid waste C.3 Ensure public awareness and knowledge on rural waste and sanitation management enhanced through publicity and education C.4 Ensure public access to jobs during the construction and operation	C.1 400 beneficiary representatives from each project county/district (including 20% of the poor and/or low-income population) participate in consultations on the detailed design of project components and public hearings on tariff for wastewater and solid waste C.2 All rural poor and/or low-income people enjoy public assistance programs for wastewater and solid waste tariff C.3 500 beneficiary representatives from each project county/district (including 20% of the poor and/or low-income population) participate in publicity and education activities on rural waste and sanitation management C.4 300 job opportunities (120 skilled and 180 non-skilled) provided	PMO, IAs and contractors (supported by WF, HRSSB, DI and social specialist)	2022–2028	project budget

Proposed Action	Targets/Indicators	Responsible Agencies	Timeline	Budget Source
	during construction and 500 (200 skilled and 300 non-skilled) provided in operation, of which at least 20% to the poor/low-income people Baseline: 0			
D.1 Ensure that public representatives participate in consultations on the detailed design of water and soil conservation components D.2 Engage local labor during construction and operation stages, with priority provided to the poor and/or low-income people D.3 Provide local public awareness education on water and soil conservation	D.1 300 beneficiary representatives from each project county/district (including 20% of the vulnerable and/or low-income population) participate in consultations on the detailed design of water and soil conservation components D.2 600 job opportunities (200 skilled and 400 unskilled) created during construction and 120 (80 skilled and 40 unskilled) in operation, of which at least 20% to the poor and/or low-income people. D.3 500 beneficiary representatives from each project county/district (including 20% of the poor and/or low-income population) participate in publicity and education activities on water and soil conservation Baseline: 0	PMO, IAs and contractors (supported by township governments and village committees, HRSSB, WF, DI and social specialist)	2022–2028	project budget
<b>E. All outputs: Compliance with labor laws and core labor standards</b>				
E.1. Ensure that contractors comply with Labor laws and core labor standards, including the absence of child labor, minimum wage, equal pay for equal work and occupational health and safety	E.1. 100% of -project contractors comply with relevant labor laws and standards	PMO, IAs, contractors, project-related towns, and other governmental departments (supported by WF and social specialist)	2022–2028	Project budget and local government budget

Proposed Action	Targets/Indicators	Responsible Agencies	Timeline	Budget Source
E.2. Ensure PPE during project construction - (helmets & fluorescent clothing & face masks) provided to construction workers Ensure workers provided with separate toilets and sanitation facilities	E.2. 100% contractors and workers trained on the prevention of infectious diseases E.3. 100% workers provided PPE E.4. 100% of workers have access to separate toilets and sanitation Baselines: 0			
<b>F: All outputs: project implementation management support</b>				
F.1. Ensure a social and gender specialist engaged in project implementation consulting team to guide the implementation of SDAP and to provide training to relevant staffs from PMOs, IAs and township governments F.2. Assign a focal person for social affairs in each PMO, IA and project town to ensure the effective implementation of SDAP F.3. Provide training to the PMOs and IAs on: (i) ADB social development policies; (ii) Implementation and monitoring requirements of SDAP; and (iii) social issues relating to pollution control, environment protection and green agriculture and the importance of social inclusion in all project components F.4. Establish effective grievance redress mechanisms and inform stakeholders	F.1. A social and gender specialist is recruited to guide and assist in the implementation of SDAP F.2. At least one social and gender focal person appointed in each PMO and IA to coordinate the implementation of SDAP F.3. All relevant staff from PMOs and IAs trained on social inclusion related knowledge or issues, and the requirements on SDAP implementation and monitoring F.4.1. Disaggregated data by income status collected during project implementation F.4.2. All local villages and/or residents know about the grievance redress mechanism Baseline: 0	PMO, IAs, contractors, project township/town government (supported by WF and social specialist)	2022–2028	Project budget and local government budget

ADB = Asian Development Bank, DI = design institute, HRSSB = human resources and social security bureau, IA = implement agency, PPE = personal protective equipment, PMO = project management office, SDAP = social development action plan, STI = sexually transmitted infection, WF = women's association.  
Source: Asian Development Bank estimates.

## IX. PERFORMANCE MONITORING, EVALUATION, REPORTING, AND COMMUNICATION

### A. Project Design and Monitoring Framework

Impact the Project is Aligned with Rural vitalization in the Yangtze River Economic Belt realized (Yangtze River Economic Belt Development Plan, 2016–2030; and National Strategic Plan for Rural Vitalization, 2018–2022) <sup>a</sup>			
Results Chain	Performance Indicators	Data Sources and Reporting Mechanisms	Risks and Critical Assumptions
<b>Outcome</b> Living environment of rural areas along upper reaches of Gan River improved	By June 2029: a. 187,956 people benefit from new or improved sewage, sanitation, and solid waste management services (2021 baseline: 0) <sup>b</sup> OP 1.3; OP 3.3; OP 5.1 b. \$110 million in climate finance mobilized (2021 baseline: 0) OP 3.1.1 c. Annual greenhouse gas emissions reduced by 100,000 tCO <sub>2</sub> e (2021 baseline: 0) OP 3.1 d. 216,914 people benefit from improved water and soil conservation, and natural resource management (2021 baseline: 0) OP 1.3; OP 3.3	a. Monitoring reports (quarterly and annual) by the GMG  a.–d. Executing agency's project completion report  a.–d. Project reports (annual)	R: The GMG changes its priorities with regard to ecological improvement and green development
<b>Outputs</b> 1. Institutional capacity and knowledge for environmental management enhanced	By 2028: 1a. One (1) air quality monitoring system in Ganzhou city upgraded and testing equipment upgraded and operational (2021 baseline: 1 outdated system) OP 3.3.1 1b. 13 water quality monitoring stations in Yudu County established and operational, and 30% of monitoring trainees are women (2021 baseline: 7 stations established) OP 3.3.1 1c. At least 50,000 people in two pilot counties (Shicheng and Ningdu) reached with information on solid waste segregation and good environmental behavior (2021 baseline: 0) OP 3.3.2 1d. At least 15% of GMG officials (30% of them women) received capacity building	1a.–1g. Project reports (quarterly, semiannual, annual)  1a.–1g. Ganzhou Environmental Protection Bureau's monitoring report (annual)  1a.–1g. Consultants' reports  1a.–1g. Executing agency's project completion report  1b. Monitoring reports on upper reaches of Gan	R: Unforeseen construction complexities (i.e., lack of materials)



Results Chain	Performance Indicators	Data Sources and Reporting Mechanisms	Risks and Critical Assumptions
	<p>training and report improved knowledge of comprehensive environmental management (2021 baseline: 0) OP 2.1.1; OP 6.1.1</p> <p>1e. At least 800 executing and implementing agency staff trained (8,000 person-days) and report improved knowledge of ecological and water resource management, water and environment monitoring and management, climate change mitigation and adaptation, and project management; at least 30% of participants are women (2021 baseline: 0) OP 1.1; OP 2.1.1; OP 6.1.1</p> <p>1f. CCER carbon sink program piloted in Chongyi county (2021 baseline: not applicable)</p> <p>1g. At least 500 stakeholders (at least 30% of them women) who participated in 2 international workshops and 5 national workshops report better knowledge of rural vitalization and environmental management (2021 baseline: 0) OP 7.3.4</p>	<p>River and its tributaries</p> <p>1g. Survey of workshop participants</p>	
2. Green development and financing mechanisms piloted	<p>By 2028:</p> <p>2a. Green standards and traceability systems for organic products established in Shangyou County (2021 baseline: not established) OP 3.1.5; OP 5.2.4</p> <p>2b. At least 4,000 water-saving irrigation systems installed, and reduction of nutrient pollution (e.g., better fertilizer dosage or fertigation) promoted in agricultural production (2021 baseline: 0) OP 3.1.5</p> <p>2c. 20 village-based tourism initiatives established, 30% led by women (2021 baseline: 0) OP 2.1; OP 3.3</p>	<p>2a.–2e. Project reports (quarterly, semiannual, annual)</p> <p>2a.–2e. Ganzhou Environmental Protection Bureau's monitoring report (annual)</p> <p>2a.–2e. Financial intermediary's audited statement of utilization of funds</p>	R: Weakened financial management and governance of small and medium-sized enterprises

<b>Results Chain</b>	<b>Performance Indicators</b>	<b>Data Sources and Reporting Mechanisms</b>	<b>Risks and Critical Assumptions</b>
	<p>2d. 100 loans provided to qualified sub-borrowers for green activities contributing to rural development, environmental protection, climate change mitigation or adaptation through green financing mechanism (2021 baseline: 0) OP 3.1.1; OP 3.3.4; OP 5.2.3</p> <p>2e. At least 20% (20 loans) of all loans to subborrowers go to firms owned or led by women (i.e., at least 50% of firm ownership is controlled by women, or at least 50% of senior managers are women, or at least 50% of board members are women) (2021 baseline: 0) OP 2.1.3</p>	<p>2a.–2e. Consultants' reports</p> <p>2a.–2e. Executing agency's project completion report</p>	
3. Rural waste and sanitation management improved	<p>By 2028:</p> <p>3a. 15 new rural wastewater systems in towns installed (2021 baseline: 0) OP 3.3.1; OP 5.1.1</p> <p>3b. 16 waste transfer stations or workshops are built or upgraded in Sicheng, Chongyi, and Shangyou counties (2021 baseline: 8 outdated waste transfer stations) OP 3.3.1; OP 5.1.1</p> <p>3c. Two rural water supply facilities installed and operational in Ningdu and Shangyou counties (2021 baseline: 0) OP 3.3.1; OP 5.1.1</p> <p>3d. 30% of employees during construction works are women, with technical training provided (2021 baseline: not applicable) OP 2.1</p>	<p>3a.–3d. Project reports (quarterly, semiannual, annual)</p> <p>3a.–3d. Executing agency's project completion report</p>	
4. Water and soil conservation practices improved	<p>By 2028:</p> <p>4a. 100 kilometers of ecological river embankment facilities constructed or rehabilitated (2021 baseline: 0) OP 3.3</p> <p>4b. 5,000 ha of forest areas afforested or reforested in Ganzhou (2021 baseline: 0) OP 3.3.3</p>	<p>4a.–4d. Project reports (quarterly, semiannual)</p> <p>4a.–4d. Executing agency's project completion report</p>	R: Adverse weather events beyond projected parameters adversely affect the new plantings (e.g., trees, shrubs, grasses)

Results Chain	Performance Indicators	Data Sources and Reporting Mechanisms	Risks and Critical Assumptions
	<p>4c. 2,000 ha of degraded wetland and mountain areas restored in Ganzhou (2021 baseline: 0) OP 3.3.3</p> <p>4d. 3,500 ha of forest in Chongyi County with quality improvement registered in Chinese certified emission reduction framework (2021 baseline: 0)</p>		
<b>Key Activities with Milestones</b>			
<p><b>1. Institutional capacity and knowledge for environmental management enhanced</b></p> <p>1.1 Recruit consultants to strengthen the capacity of executing and implementing agencies to implement the project (Q1 2022–Q4 2023).</p> <p>1.2 Install environmental management information system, with testing equipment, and innovative institutional mechanisms (Q4 2022–Q2 2026).</p> <p>1.3 Conduct capacity building programs and report improved knowledge of environmental enforcement and monitoring, water resource management, sustainable forestry management, and water and soil conservation (Q2 2022–Q2 2027).</p> <p>1.4 Conduct advocacy campaign in 2 pilot counties (Sicheng and Ningdu) on solid waste segregation and good environmental behavior (Q2 2022–Q2 2024).</p> <p>1.5 Pilot a CCER carbon sink trading program in Chongyi county (Q3 2022–Q3 2023).</p> <p>1.6 Share knowledge with other municipalities and developing member countries through training, technical meetings, workshops, working papers, project website, and non-consulting technical assistance (Q2 2024–Q2 2028).</p> <p><b>2. Green development and financing mechanisms piloted</b></p> <p>2.1 Design green standards and pilot traceability systems for organic products (Q2 2022–Q4 2024).</p> <p>2.2 Promote green farming with minimal use of chemicals and fertilizer through adoption of eco-friendly practices (Q3 2022–Q4 2025).</p> <p>2.3 Support infrastructure development for rural–urban integration and ecotourism (Q3 2022–Q2 2026).</p> <p>2.4 Pilot green financing mechanisms to leverage the cooperative bank’s credit lines for green agribusiness, environmental improvement, and climate mitigation and adaptation (Q3 2022–Q2 2028).</p> <p><b>3. Rural waste and sanitation management improved</b></p> <p>3.1 Conduct stakeholder consultations, including gender focus group discussions and women’s groups (Q1 2021–Q2 2022).</p> <p>3.2 Prepare designs and bidding documents, conduct tenders, and award all contracts for rural infrastructures (Q2 2021–Q4 2024).</p> <p>3.3 Build sanitation and wastewater systems in rural towns and villages (Q3 2022–Q4 2026).</p> <p>3.4 Build gender-friendly and gender-safe public toilets in rural towns and villages or convert existing ones to the same standards (Q3 2022–Q3 2025).</p> <p>3.5 Build solid waste management facilities in rural areas (Q3 2022–Q4 2026).</p> <p><b>4. Water and soil conservation practices improved</b></p> <p>4.1 Conduct stakeholder consultations (Q1 2021–Q3 2022).</p> <p>4.2 Prepare designs and bidding documents, conduct tenders, and award all contracts for river rehabilitation, and water and soil conservation measures (Q2 2021–Q4 2024).</p> <p>4.3 Promote environment-friendly behaviors and practices (Q3 2022–Q2 2027).</p> <p>4.4 Implement afforestation, reforestation, and sustainable forest management (Q3 2023–Q3 2027).</p>			

<b>Key Activities with Milestones</b>
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<b>Project Management Activities</b>
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<p>Ensure provision of overall support for the project's final design and implementation, including support for capacity development and training of staff (GMG, project management office, and district and county project implementation offices) on ADB's project management procedures, technical design and implementation, and safeguard supervision and monitoring. Ensure design and implementation of gender measures, including focus groups discussions and consultations with women, gender-awareness training, and monitoring of gender targets.</p>
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<b>Inputs</b>
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<p>ADB: €170.56 million (ordinary capital resources loan)</p>
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<p>Government: €172.10 million</p>
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<p>Agricultural Bank of China: €42.64 million</p>
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ADB = Asian Development Bank, CCER = China Certified Emission Reduction, GMG = Ganzhou Municipal Government, ha = hectare, OP = operational priority, Q = quarter, R = risk, tCO<sub>2e</sub> = tons of carbon dioxide equivalent.

<sup>a</sup> Government of the People's Republic of China (PRC). 2016. *Outline of the Yangtze River Economic Belt Development Plan, 2016–2030*. Beijing; and Government of the PRC. 2018. *National Strategic Plan for Rural Vitalization, 2018–2022*. Beijing.

<sup>b</sup> Contribution to ADB Results Framework Indicator 15 (people benefiting from increased rural investments).

**Contribution to Strategy 2030 Operational Priorities**

Expected values and methodology details for all OP indicators to which this operation will contribute results are detailed in Contribution to Strategy 2030 Operational Priorities (accessible from the list of linked documents in Appendix 2). In addition to the OP indicators tagged in the design and monitoring framework, this operation will contribute results for:

OP 2.3.1 Women with strengthened leadership capacities (number)

OP 3.1.3 Low-carbon infrastructure assets established or improved (number)

OP 5.3 Land with higher productivity (ha)

OP 7.3.4 Regional or subregional mechanisms created or operationalized to enhance coordination and cooperation among developing member countries on regional public goods (number)

Source: Asian Development Bank.

## C. Monitoring

### 1. Project performance monitoring

121. To monitor the progress of the project in achieving the planned outcome and outputs, PMO will establish a project performance management system (PPMS) before the project implementation starts (before the loan effectiveness) and will maintain it accordingly. The basis for project performance monitoring and reporting will be the DMF, which identifies performance targets for the outcomes and outputs of the project. It will be designed to permit adequate flexibility to adopt remedial action regarding project design, schedules, activities, and development impacts.

122. The PPMS will cover the following aspects of the project implementation: (i) project physical and financial progress; (ii) progress and results of capacity development; (iii) updating and implementation of the resettlement plan; (iv) implementation of the EMP; (v) implementation of SGAP; and (vi) compliance with loan covenants (policy, financial, economic, sector, and others).

123. With inputs from the IAs and other stakeholders, PMO will prepare semiannual project progress reports. Disaggregated baseline data for output and outcome indicators gathered during project preparation will be updated and reported in the quarterly reports and after each ADB review mission. At the start of project implementation, PMO, IAs, and ADB will develop integrated PPMS procedures to generate data systematically on the inputs and outputs, as well as the indicators to be used to measure the project's impact and outcome considering the project scope.

### 2. Compliance monitoring

124. During project implementation, ADB and PMO will closely monitor the compliance of all the covenants under the project and will take necessary remedial actions for any noncompliance. The compliance status will be reported in the quarterly progress reports by the PMO and will be reviewed during project review missions.

125. **Legal covenants.** GMG shall ensure that in the event of (i) any change in ownership or control of the project facilities; or (ii) any sale, transfer, or assignment of the shares of IAs is anticipated, GMG will consult with ADB at least 6 months prior to the implementation of such change. GMG shall cause IAs to further ensure that such changes are carried out in a lawful and transparent manner.

126. **Counterpart funding.** GMG shall provide the details of the sources of the counterpart funding as well as provide corresponding commitment letters. The total cost includes physical and price contingencies, and interest during construction.

127. **Financial management.** GMG shall establish and maintain sound financial management systems in accordance with ADB's guidelines on the financial management and analysis of projects, including the establishment of separate project accounts and the maintenance of minimum balances to ensure smooth cash flow and the timely settlement of project construction liabilities and future debt servicing.

### 3. Safeguards Monitoring

128. **Environmental safeguard monitoring.** The project monitoring program focuses on the environment in the project areas of influence. The environmental monitoring program is included in the project EMP, including parameters, time, and frequency, implementing and supervising agencies, and estimated costs. Three types of monitoring will be conducted in accordance with the EMP: (i) internal monitoring, to be conducted by the implementing agencies and construction supervision consultants (CSCs); (ii) external monitoring of air, water, noise, and soil standards, to be conducted by an external environment monitoring firm; and (iii) compliance monitoring to be conducted by the start-up environment safeguard specialist and continued by the loan implementation environment consultant (LIEC), to ensure the EMP and ESMS are being implemented. Monitoring shall comply with the PRC standards for environmental monitoring. ADB will oversee the compliance based on semiannual environmental monitoring reports provided by the PMO and review missions.

129. **Internal environmental monitoring.** During construction, the PMO environment officer, IA environment officers, and CSCs will be responsible for conducting internal environmental monitoring in accordance with the monitoring plan. Results will be reported through: (i) internal progress reports of the PMO and IA environment officers, based on their direct observations at work sites; and (ii) monthly reports by the CSCs, submitted to the implementing agencies and PMO.

130. **External monitoring.** External environmental monitoring will be conducted by the loan implementation consulting firm. The firm will have the relevant national certifications and capacity to undertake the external monitoring specified in the EMP or will subcontract this monitoring to another qualified firm. Monitoring will be conducted throughout construction and during the first year of operation. Semiannual monitoring reports will be prepared by the firm and submitted to the PMO and implementing agencies. The terms of reference for the firm are in Appendix 2.

131. **EMP compliance monitoring.** The LIEC will review the project progress and compliance with the EMP based on field visits, discussions with project agencies, and review of the progress reports provided by the CSCs and external environmental monitoring firm. The findings of the LIEC will be reported to ADB through the semiannual EMP monitoring reports.

132. **Environment safeguard reporting and disclosure.** The PMO will submit semiannual environmental monitoring reports to ADB. The reports will include: (i) progress made for EMP implementation, (ii) overall effectiveness of the EMP and ESMS implementation (including public and occupational health and safety), (iii) environmental monitoring and compliance, (iv) institutional strengthening and training, (v) public consultation (including GRM), and (vi) any problems encountered during construction and operation, and the relevant corrective actions undertaken. The Agricultural Bank of China will also prepare semiannual safeguard reports on compliance with and progress to implement the ESMS. These will be more detailed than the overall PMO semiannual environment monitoring to be submitted to ADB and will help inform the content of these reports. The LIEC will assist the PMO and Agricultural Bank of China safeguard teams to establish reporting formats, prepare the reports and submit them to ADB. ADB will review and disclose the reports on the ADB website.

133. **Environmental acceptance reporting.** Following the PRC Regulation on Project Completion Environmental Audit (Ministry of Environmental Protection, 2001), within three months after the completion of major subprojects, an environmental acceptance report for each subproject shall be (i) prepared by the implementing agencies or capable environmental

monitoring institute in accordance with the PRC Guideline on Project Completion Environmental Audit (2017); and (ii) finally reported to ADB through the semiannual EMP monitoring and progress reporting process. The environmental acceptance reports of the subproject completions will indicate the timing, extent, effectiveness of completed mitigation and of maintenance, and the needs for additional mitigation measures and monitoring during operations.

134. **Involuntary Resettlement.** Internal and external monitoring of resettlement plan implementation will be conducted. Monitoring methodologies are specified in the resettlement plan. The PMO and implementing agencies assisted by the project management consultants will carry out internal monitoring to ensure compliance with the provisions of the RP. The PMO, implementing agencies, and consultants for project management supports will develop a set of supervision milestones in accordance with the RP to ensure timely and effective implementation of resettlement activities. The PMO will include internal monitoring results in the progress reports to ADB.

135. An external social and resettlement monitoring agency acceptable to ADB will be engaged by the PMO prior to commencement of land acquisition. The external monitoring agency will conduct external M&E semiannually during the implementation of land acquisition and resettlement, and conduct follow-up evaluation semiannually for two years after the completion of land acquisition and resettlement. The cost of the external resettlement M&E will be funded from the ADB loan. External resettlement M&E reports will be submitted semiannually to ADB, and a resettlement completion report will be prepared at the end-of-project.

136. **Ethnic Minorities.** Monitoring and evaluation (M&E) of the EMDP is required to ensure the plan is implemented properly. The EMDP will be monitored and reported semiannually to ADB. The social consultants who will be hired during project implementation by Ganzhou PMO will set up an appropriate monitoring system and assist with reports. The consultant shall assist Ganzhou PMO and implementing agencies in implementing to ensure that the activities included in the EMDP are implemented. EMDP monitoring includes internal and external monitoring. Internal monitoring will be performed by Ganzhou PMO semiannually, with the assistance of a social specialist in the project implementation consultant team to be recruited by Ganzhou PMO during project implementation. External monitoring will be performed semiannually by an external agency (together with the external resettlement monitoring) until project completion. EMDP monitoring reports (together with the resettlement monitoring report) will be submitted semiannually to Ganzhou PMO and ADB.

#### 4. Gender and Social Dimensions Monitoring

137. Monitoring indicators for the GAP and SDAP will be incorporated into the PPMS. The PMOs and implementing agencies will be responsible for establishing and coordinating regular monitoring and evaluation.

138. The regular project progress reports to ADB will include, at least semiannually, reporting on GAP and SDAP progress. Assistance will be provided to the executing agency and implementing agencies by the project consultant who will help to set up effective monitoring systems and work with the focal points and implementing agencies to ensure implementation of the GAP and SDAP. The project's consultants will assist the PMO and implementing agencies to collect data to assess the effectiveness of the GAP and SDAP. This will include an end-of-project survey of a small number of sample beneficiaries and/or focus group discussions with beneficiaries to obtain qualitative information on the improvements to their lives because of the project.

## D. Evaluation

139. In addition to regular monitoring, ADB and GMG will jointly review project performance at least once a year. The review will assess implementation performance and achievement of project outcomes and outputs, assess financial progress, identify issues and constraints affecting implementation, and work out a time-bound action plan for resolution. ADB and GMG will undertake a midterm review to assess implementation status and take appropriate measures—including modification of scope and implementation arrangements, and reallocation of loan proceeds, as appropriate—to achieve the project impact and outcome. Within 6 months of physical completion of the project, GMG will submit a project completion report to ADB.<sup>30</sup>

## E. Reporting

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

## F. Stakeholder Communication Strategy

141. Project information will be communicated through public consultation, information disclosure mechanism in ADB's and government's websites, meetings, interviews, focus group discussions and community consultation meetings in accordance with ADB's requirements of information disclosure policy.

142. **Environment.** Meaningful consultation, participation and information disclosure was conducted during project preparation. Information disclosure and public consultation included newspaper disclosure; informal communication with key stakeholders, including residents, local authorities and sector specific institutions and authorities; questionnaire surveys; and wider stakeholder meetings attended by affected people and other concerned stakeholders. A GRM has been defined to address community concerns, reduce risks, and assist the project in maximizing environmental and social benefits. Meaningful consultation will continue throughout project implementation, especially prior to and during civil works. Planning for public consultations will ensure that environmental and social safeguard requirements are discussed.

143. **Involuntary Resettlement.** All the affected villages/households were involved in the project impact and socioeconomic survey. Through meetings, interviews, focus group discussions, public consultation workshops, and community consultation meetings; local representatives participated in the planning, and their concerns have been integrated into the RP. The resettlement plan will be posted on the ADB website. Resettlement information booklets will be distributed to affected households. The booklets contain information such as the affected project areas, implementation progress of and procedures for land acquisition and relocation,

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



compensation standards for land acquisition and house demolition, livelihood restoration strategy. Each implementing agency includes a full-time resettlement and social officer for supervision of implementation, continued public consultation, monitoring of progress, and response to grievances. The grievance redress procedures have been established and explanations have been included in the resettlement information booklets.

144. **Ethnic Minorities.** At the preparation stage, the agencies concerned disclosed relevant information, collected comments on the project design, and held consultation meetings with direct beneficiaries, including ethnic minority groups. At the implementation stage, needs and suggestions from the ethnic minorities will be handled timely based on project progress, and further consultation will be conducted; local minority villagers' comments on project layout and construction impacts will be considered; a public hearing on water and solid waste disposal rates will be held with minority villagers; employment and training information will be provided; a grievance redress mechanism will be established. At the operation stage, consultation with minority villagers will be conducted timely and in a culturally appropriate manner.

145. **Social and gender.** Consultations with communities were conducted and will be continued during the implementation of the SDAP, and GAP, not only to inform people about project components or activities, but also to enable people to ask questions, make suggestions, state preferences, and/or express concerns. Special attention will be paid to the participation of women, the poor and/or low-income people and other vulnerable groups. Public hearings will be held for any proposed adjustments in the water tariff, with attendance of adequate representation of the poor/low-income people and women, etc.

146. **Public disclosure.** ADB, the GMG including the PMO, and implementing agencies will disclose relevant project information to the public and interested parties. This includes the information regarding the overall project and environment and social safeguards. The information disclosure measures for different stakeholders are described in the Table below.

147. A consultation and participation plan (CPP) has been prepared for the concerned stakeholders within the project areas as required by ADB to ensure inclusiveness, transparency, and meaningful consultation and participation of concerned stakeholders for the Project (Table 19). The purpose of this plan is to engage the stakeholders in meaningful consultation and decision-making process; inform them about the project and consult them on various issues relevant to the project/subcomponents and activities during project design and implementation. Consultation and participation serve as a venue for the key stakeholders (i.e., government agencies, project beneficiaries, and women) to be informed about the project, clarify and express feedbacks, issues and concerns, and suggestions; learn how they will be benefited by the projects; participate in decision-making and act and/or be involved during the design, project implementation and operation/maintenance stages.

**Table 19: Consultation and Participation Plan**

Stakeholders	Objective of their participation	Type of Participation	Participation Methods and Responsibility		Timeline		Budget source
			Method	Responsible	Start	End	
Government agencies/ bureaus/ units responsible for implementing the project/subprojects (Local Development and Reform Bureaus, Health Commissions, Housing & Urban-Rural Construction Bureaus, Human Resources and Social Security Bureaus, Civil Affairs Bureaus, Women's Federations, Poverty Alleviation and Development Offices)	<p>To inform about the project activities, implementation schedule/arrangements, agencies responsible for project implementation.</p> <p>To provide information relevant policies applicable to the project including ADB policies on safeguard, gender, and other relevant aspects.</p> <p>To enable concerned agencies/IAs to express their needs/concerns and/or clarify matters to ensure that the project activities are implemented in a timely manner and in accordance with the ADB policies and guidelines</p>	Information sharing, consultation meetings, seeking/incorporating feedback in decision-making, and coordinating responsibilities	Meeting Workshop	GMG/IAs/ PMOs Consultants	2021	2028	Project budget
Agencies responsible for implementing the RP, EMDP, IEE, GAP, and SDAP (Natural Resources Bureaus, Ethnic and Religious Affairs Bureaus, Agriculture and Rural Bureaus, Ecology and Environment Bureaus, Women's Federations, township governments)	<p>To define the roles of each agency during implementation of relevant plans, solicit their support, and harmonize the implementation of relevant plans with the existing programs/plans of the government agencies/bureaus.</p> <p>To enable the concerned agencies/IAs to express their needs/concerns and/or clarify matters to ensure that the relevant plans are implemented in a timely manner and in accordance with the ADB policies or approved plans</p>	Information sharing, consultation meetings, seeking/ incorporating feedback in decision-making, and coordinating responsibilities	Meeting Workshop	GMG/IAs/ PMOs Consultants	2021	2028	Project budget
Project beneficiaries/residents in the project area including affected persons/HHs, women, farmers, village	To inform beneficiaries/households on how they could access project benefits (i.e., employment/jobs, public awareness, training, community participation, and other activities), and seek inputs for decision-making in project cycle (design, implementation, and monitoring).	Information sharing, consultation meetings, seeking/incorporating feedback in decision-making,	Meeting, FGD, public consultation	GMG/IAs/ PMOs Consultants	2021	2028	Project budget

Stakeholders	Objective of their participation	Type of Participation	Participation Methods and Responsibility		Timeline		Budget source
			Method	Responsible	Start	End	
committees and other stakeholders	<p>To provide information to households/individuals that would experience potential negative impacts (i.e., land acquisition/resettlement,) or experience positive project impacts according to relevant social and safeguard plans prepared for the project.</p> <p>To engage residents/communities in detailed design of relevant project activities (i.e., training/seminars, public awareness, consultations, mobilization of cleaners/river guards, community volunteers, etc.) according to relevant plans for the project</p>	and coordinating responsibilities					
Community-based organizations such as: -farmers groups, women federations, etc.; contractors	<p>To inform and seek participation of representatives of community-based organizations on issues/matters concerning water supply, river embankment improvement, solid waste and wastewater treatment/management, ecological conservations, green space construction, etc.</p> <p>To seek their inputs in decision-making and project implementation, and monitoring.</p> <p>To encourage contractors to hire local people including women, and the poor/low- income people</p>	Information sharing, consultation meetings, seeking/incorporating feedback in decision-making, and coordinating responsibilities	Meeting, FGD, public consultation	IAs/PMO consultants	2021	2028	Project budget
Women	<p>To ensure inclusiveness of women and that they can benefit from the project</p> <p>To ensure women's participating in consultation meetings on detailed design and tariff setting, training and or capacity building activities; and ensure women's access to project related jobs according to relevant plans for the project</p>	Information sharing, consultation meetings, seeking/incorporating feedback in decision-making, and coordinating responsibilities	Meeting, FGD, consultation	GMG/IAs/ PMOs; Consultants (assisted by local women's federations)	2021	2028	Project budget

ADB = Asian Development Bank, EA = executing agency, FGD = focus group discussion, GAP = gender action plan, PMO = Ganzhou project management office, GMG = Ganzhou Municipal Government, HH = household, IA = implementing agency, IEE = initial environment examination, LGU = local government unit, PMO = project management office, RP = resettlement plan, SDAP = social development action plan, TOR = terms of reference.

Source: Asian Development Bank estimates.

## **X. ANTICORRUPTION POLICY**

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

149. To support these efforts, relevant provisions are included in the loan agreement and the bidding documents for the project. PRC has introduced extensive laws and regulations to strengthen government functions and address corruption. Local governments at all levels have developed corresponding regulations and rules. Although strict laws against corruption are in place, the implementation team will closely monitor the identified finance high risk management. This will be mitigated during implementation as specified in the Risk Assessment and Risk Management Plan. Specifically, the fraud and corruption risks will be mitigated by (i) explaining ADB's Anticorruption Policy and whistle blowing mechanisms to executing/implementing agencies, project management offices and project implementation organizations staff engaged under the project to ensure that they are equipped with sufficient knowledge and aware of the policy from the very early stage of project implementation (ii) strengthening the capacity of the executing/implementing agencies, project management offices and project implementation organizations by providing continuous training to the staff on ADB's procurement, financial management and disbursement procedures and systems, (iii) ensuring efficient coordination on the flow of information between the different entities involved in the project implementation, and (iv) generating periodic financial and physical progress reports to ensure bottlenecks and inefficiencies are identified in a timely fashion.

150. The EA/IAs are required to scrutinize ADB's Complete Sanctions List during bid/proposals evaluation, prior to shortlisting, contract award, and contract variations, extensions or modifications to confirm that no bidder, contractor, supplier, individual consultant, consulting firm, and its team members are currently on the List. Should GPMO and county/district PMOs identify that an entity/individual is on the ADB Sanctions List, it should be reported to ADB immediately. ADB has right to investigate, audit and inspect the suspicious entity or individual on the Sanctions List.

## **XI. ACCOUNTABILITY MECHANISM**

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

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<sup>31</sup> Anticorruption Policy: <https://www.adb.org/documents/anticorruption-policy>.

<sup>32</sup> ADB's Office of Anticorruption and Integrity website: <https://www.adb.org/site/integrity/main>.

<sup>33</sup> Accountability Mechanism. <http://www.adb.org/Accountability-Mechanism/default.asp>.

## **XII. RECORDS OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL**

152. All revisions and/or updates during implementation should be retained in this section to provide a chronological history of changes to implemented arrangements recorded in the PAM, including revision to contract awards and disbursement s-curves.

### Appendix 1: List of Subprojects with Detailed Activities

Appendix 1: List of Subprojects with Detailed Activities					
Subproject No.	Subproject Name	Project Contents	IA	Cost Estimate <sup>a</sup>	
				(CNY million)	(USD million)
Output 1	Institutional and knowledge sharing capacity for environmental management strengthened				
1A	Environmental monitoring and capacity training				
1A-1	Water quality monitoring capacity improvement in Yudu County	Construction of 6 online automated water quality monitoring stations along 6 tributaries in Yudu County, and procurement of associated monitoring equipment.	Yudu County	10.21	1.58
1A-2	Management capacity strengthened in air pollution prevention and control	Air quality monitoring, information platform establishment, technical consulting services, etc.	GMG	35.00	5.42
1A-3	Capacity training on environmental management and ecological protection	Conduct capacity training for the management personnel on water resource management, ecological protection, soil conservation, forestry management, environmental monitoring, etc.	GMG	35.00	5.42
1B	Project management support and knowledge sharing				
1B-1	Establishment of management information system	Development of a project management information system, covering financial management, contract management, progress management, etc.	GMG	1.00	0.15
1B-2	Project Implementation Support Consultancy	(i) Project management implementation support in procurement and contract management, financial management, environment, and social management; (ii) Project monitoring and evaluation; (iii) Project progress monitoring; (iv) project management knowledge sharing; (v) Project management capacity training; and (vi) Study tours study.	GMG	10.08	1.56
1B-3	Knowledge sharing products and activities	(i) Knowledge sharing products preparation. (ii) Project experience sharing and dissemination seminars.	GMG	0.70	0.11
1B-4	Individual consultants in the inception stage	Recruitment of individual consultants for financial management, procurement management, environmental and social management.	GMG	1.08	0.17
1B-5	External environmental monitoring	Recruitment of a third party to conduct environmental impact monitoring	GMG	1.80	0.28
1B-6	External social and resettlement monitoring	Recruitment of a third party to conduct social and resettlement monitoring	GMG	0.90	0.14
1C	Studies and research				
1C-1	Ecological Investigation, Management and Protection System for Jiangxi Huichang	By investigation on ecological conditions and biodiversity within the wetland park to study the environmental and ecological management and protection system,	Huichang County	5.00	0.77

Subproject No.	Subproject Name	Project Contents	IA	Cost Estimate <sup>a</sup>	
				(CNY million)	(USD million)
	Xiangjiang National Wetland Park	including procurement of associated research equipment.			
1C-2	Study on Ganzhou Vegetable Greenhouse Waste Management	(i) Research on the development status quo of greenhouse vegetable industry, covering the collection, treatment, and utilization of agricultural wastes from greenhouses. (ii) Development of a pilot project for resource utilization of greenhouse waste.	GMG	2.00	0.31
1C-3	CCER Forestry Carbon Trade Pilot Program in Chongyi County	Development and VVB verification of a pilot program of CCER forestry carbon trade in Chongyi County.	Chongyi County	1.00	0.15
2	<b>Green development mechanism piloted</b>				
2A	<b>Green Financing Mechanism Establishment</b>	Piloting of green financing mechanism through financial intermediation loan to provide financial support to green agricultural development and rural vitalization.	GMG	646.61	100.00
2B	<b>Green agriculture development</b>				
2B-1	Green vegetable industry development project in Ningdu County	(i) Construction of a 4,000 <i>mu</i> of vegetable demonstration base. (ii) Supporting 10 brand building for agricultural products. (iii) Capacity building of cooperatives. (iv) Purchase of 24 sets of QR code printers for product tracing.	Ningdu County	43.69	6.76
2B-2	Drainage ditches renovation in Chongyi Hakkas Terrace	Renovation of 131.042 km of existing irrigation canals/ditches in the terraces in 12 villages.	Chongyi County	134.63	20.82
2B-3	Agricultural product quality and safety tracing system development in Shangyou County	(i) Establishment of agricultural product quality and safety tracing system. (ii) Development of county-level agricultural product monitoring station.	Shangyou County	4.06	0.63
2C	<b>Ecotourism development</b>				
2C-1	Ecotourism promotion project in Chongyi County	Greening and landscaping infrastructure construction along the highways and main roads.	Chongyi County	70.72	10.94
2C-2	Ecotourism promotion project in Shicheng County	(i) Construction of 5,000 m <sup>2</sup> new sidewalk, pavement of 48,900 m <sup>2</sup> road, restoration of 15,000 m <sup>2</sup> road. (ii) Renovation of 210,000 m <sup>2</sup> walls, installation of 1,940 streetlamps, construction of 47,200 m <sup>2</sup> green area, design and construction of 545 <i>mu</i> landscape and 1,470 m <sup>2</sup> bridge. (iii) Installation of 3,800 m wastewater pipe, restoration of 3,400 m drainage ditch.	Shicheng County	75.07	11.61

Subproject No.	Subproject Name	Project Contents	IA	Cost Estimate <sup>a</sup>	
				(CNY million)	(USD million)
2C-3	Ecotourism promotion project in Dayu County	Renovation of walls, installation of streetlamps, pavement of roads, restoration of sidewalks.	Dayu County	23.09	3.57
3	<b>Rural waste and environmental sanitation management improved</b>				
3A	<b>Rural wastewater management</b>				
3A-1	Water environment management project in Nankang district	(i) Construction of rural wastewater collection and treatment system, including one wastewater treatment station with a capacity of 2,000 tons/day, main pipes, branch pipes and household pipes; (ii) Water environment improvement in Luwu village, including revetment cleaning, pond dredging, ditches, sidewalk, and other infrastructure construction.	Nankang District	56.01	8.66
3A-2	Rural wastewater management project in Yudu County	(i) Construction of 10 wastewater treatment plants in townships with a total capacity of 4,800 tons/day; (ii) Installation of 15.1 km DN300 wastewater collection pipes, 44.78 km DN300 wastewater collection pipes.	Yudu County	99.45	15.38
3A-3	Rural wastewater management project in Shangyou County	Construction of 3 wastewater treatment plants with a total capacity of 2,800 tons/day and 42 km wastewater pipes.	Shangyou County	37.13	5.74
3A-4	Rural wastewater and stormwater management project in Dayu County	Construction of wastewater treatment plant and renovation of wastewater pipe network in Xincheng Town, Fujiang Township and Zhumu Village.	Dayu County	57.61	8.91
3B	<b>Rural solid waste management</b>				
3B-1	Rural solid waste treatment center in Chongyi County	Construction a solid waste management center with a total capacity of 300 tons/day.	Chongyi County	41.21	6.37
3B-2	Rural solid waste transfer system improvement in Chongyi County	Construction of 3 new solid waste transfer stations, expansion of 4 existing solid waste transfer stations.	Chongyi County	22.33	3.45
3B-3	Rural solid waste management project in Ningdu County	Purchase of 60 compressed transfer vehicles and 15,000 separated garbage bins. Promotion of garbage separation.	Ningdu County	53.55	8.28
3B-4	Rural solid waste management project in Shicheng County	(i) Construction of 3 township solid waste transfer stations; (ii) Purchase of equipment and vehicles for waste collection and transportation; (iii) Promotion of garbage separation.	Shicheng County	16.85	2.61
3B-5	Rural solid waste management project in Shangyou County	Construction of 2 new waste transfer stations, expansion of 4 waste transfer stations, purchase of 50	Shangyou County	35.16	5.44



Subproj ect No.	Subproject Name	Project Contents	IA	Cost Estimate <sup>a</sup>	
				(CNY million)	(USD million)
		waste trucks and 10,000 garbage bins.			
<b>3C</b>	<b>Rural water supply improvement</b>				
<b>3C-1</b>	Rural water supply improvement in Qingtang Township and Shishang Township of Ningdu County	(i) Renovation of a water supply plant with the capacity of 5,000 tons/day in Qingtang Town (ii) Renovation of a water supply plant with the capacity of 20,000 tons/day in Shishang Town.	Ningdu County	100.54	15.55
<b>3C-2</b>	Rural water supply improvement in Fujiang Township	Installation of about 3,000 m water supply pipes and 26 valve wells.	Dayu County	3.63	0.56
<b>4</b>	<b>Water and soil conservation practices improved</b>				
<b>4A</b>	<b>River rehabilitation</b>				
<b>4A-1</b>	River rehabilitation and environment improvement project in Zhangjiang River, Dayu County	(i) Construction of 2.5 km ecological revetment with the fence and the green trail and ecological strips of 250,000 m <sup>2</sup> . (ii) Road pavement along the river. (iii) Streetlamps and tourism infrastructures along the river.	Dayu County	168.43	26.05
<b>4A-2</b>	River rehabilitation project in Qinjiang River Basin, Shicheng County	Ecological restoration and revetment rehabilitation along Qinjiang river of 19.3km.	Shicheng County	106.04	16.40
<b>4A-3</b>	River rehabilitation project in Qingtang Town, Ningdu County	Dredging and restoration of ecological dikes for 10 km river section.	Ningdu County	45.43	7.03
<b>4A-4</b>	Ecological revetment restoration project on the north bank of Nanhe Lake in Shangyou County	Ecological restoration and renovation of 18 km riverbanks, including ecological stone gabion revetment, landscape, and environmental infrastructures.	Shangyou County	124.84	19.31
<b>4A-5</b>	River rehabilitation project in Xingguo County	River dredging, embankment reinforcement, ecological slope protection and river band management of 17.71 km river course.	Xingguo County	160.88	24.88
<b>4B</b>	<b>Wetland restoration and soil conservation</b>				
<b>4B-1</b>	Wetland restoration and protection in Xiangjiang River Basin in Huichang County	(i) Rehabilitation of 17 km of revetment along Xiang River by planting of aquatic plants and terrestrial plants. (ii) Solid waste interception at four river confluences along Xiang River. (iii) Closure and rehabilitation of 28 sand quarries. (iv) Development of a monitoring and management platform for the national wetland park.	Huichang County	107.64	16.65
<b>4B-2</b>	water and soil conservation demonstration project in Nankang District	Restoration of 216 collapsing hills with the area of 25 km <sup>2</sup> . Engineering contents include earthwork, planting of new water conservation forest, fruit forest and grass on slope, construction of ecological wall, check dams, ladders, and trenches.	Nankang District	64.91	10.04

Subproj ect No.	Subproject Name	Project Contents	IA	Cost Estimate <sup>a</sup>	
				(CNY million)	(USD million)
<b>4B-3</b>	Clean small watershed project in Xingguo County	(i) Plantation of fruit forest of 1,500 <i>mu</i> and tea tree forest of 750 <i>mu</i> , soil, and water conservation forest of 1,100 <i>mu</i> ; (ii) Closing hillsides to facilitate afforestation of 18,250 <i>mu</i> ; (iii) 1 water and soil ecological management program; (iv) 1 comprehensive environmental management program.	Xingguo County	44.55	6.89
<b>4B-4</b>	Water and soil conservation project in Huichang County	(i) Renovation of Xiang River wetland protection research center. (ii) Construction of watchtowers. (iii) Development of biological fire-barrier belt. (iv) Installation of video surveillance systems. (v) Installation of boundary monuments. (vi) Procurement of firefighting and other emergency response equipment.	Huichang County	31.24	4.83
<b>4B-5</b>	Water and soil conservation demonstration project in Yudu County	Restoration of 300 collapsed bare slopes by forest development, slope greening, and construction of check dams, retaining walls, drainage canals, and stairs.	Yudu County	71.98	11.13
<b>4C</b>	<b>Forest protection and management improvement</b>				
<b>4C-1</b>	Afforestation and forest protection project in Nankang District	(i) Afforestation and forest tendering of 21,745 <i>mu</i> ; (ii) Pine tree disease control; (iii) Road construction and landscaping engineering within the forest area; (iv) Construction of biological forest fire prevention belt.	Nankang District	75.05	11.61
<b>4C-2</b>	Forest protection and quality improvement project in Huichang County	(i) Planting of trees of native species; (ii) Greening and forest tendering in Huichang forest park; (iii) Expansion of cultivation zones for economic fruit trees.	Huichang County	36.76	5.69
<b>4C-3</b>	Forest protection and disease control project in Shangyou County	(i) Afforestation and forest tendering of 600 <i>mu</i> ; (ii) Pine tree disease control measures including abamectin injection to trees, cutting dead trees and installation of pest trap.	Shangyou County	16.01	2.48
<b>4C-4</b>	Forest quality improvement in Chongyi County	Forest tendering of 3,500 ha according to the requirement of CCER framework.	Chongyi County	16.00	2.47

CCER = China certified emissions reduction, GMG = Ganzhou Municipal Government, ha = hectare, IA = implementing agency, km<sup>2</sup> = Square kilometer, m = meters, m<sup>2</sup> = square meters, *mu* = a *mu* is a Chinese unit of measurement (1 *mu* = 666.67 square meters), VVB = validation and verification body.

<sup>a</sup> The cost estimate in the table indicates the base cost of civil works, goods supply, and consulting services in each subproject.

## APPENDIX 2: OUTLINE TERMS OF REFERENCE FOR CONSULTING SERVICES

1. There will be 21 consulting services to be financed by the Asian Development Bank (ADB) to complete the following purposes: (i) project start-up and implementation support,; (ii) capacity building, (iii) external social and resettlement monitoring, (iv) external environmental monitoring, (v) studies.
2. The Ganzhou Municipal project management office (PMO) on behalf of e (GMG) and implementing agencies will be responsible for engaging the consulting service contract packages in accordance with ADB's Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time). The consulting firms will be selected for the project implementation support and capacity development by quality- and cost-based selection method or consultant's qualification selection method.
3. In addition to the consulting services financed by the loan, domestically funded consulting services will be recruited by the executing and implementing agencies. The PMO will recruit a procurement agent to provide bidding support including preparation of bidding documents, invitation for bids and bid evaluation reports, while the IAs will engage domestic design institutes to carry out preliminary and detailed engineering designs.

Package No.	Consulting Services	Estimated Value (\$'000)	Procurement Method
<b>Capacity Development and project management</b>			
GZ-Serv-1	Management capacity strengthened in air pollution prevention and control	5,332	QCBS
GZ-Serv-3	Establishment of management information system	152	CQS
GZ-Serv-4	Project Implementation Support Consultancy	1,536	QCBS
GZ-Serv-5	External environmental monitoring	274	CQS
GZ-Serv-6	External social and resettlement monitoring	137	CQS
GZ-Serv-7,8,9,10	Individual consultants in the inception stage (Procurement management specialist, financial management specialist, environmental management specialist, social and gender specialist)	165	ICS
<b>Studies</b>			
HC-Serv-1	Huichang Xiangjiang Watershed Ecological Investigation and Environmental Management Study	762	QCBS
GZ-Serv-2	Study on Ganzhou Vegetable Greenhouse Waste Management	305	CQS
CY-Serv-1	CCER Forestry Carbon Trade Pilot Program	152	CQS

CCER = Chinese Certified Emission Reduction, CQS = consultants' qualification selection, ICS = individual consultant selection, QCBS = quality and cost-based selection.

Source: Asian Development Bank estimates.

## **Capacity Strengthening in Air Pollution Prevention and Control**

### **Indicative Terms of Reference for Package GZ-Serv-1**

#### **A. Background**

1. Ganzhou is a large agricultural prefecture-level municipality in Jiangxi Province with an estimated population of 9.7 million in 2017 and a land area of 39,380 square kilometers. Ganzhou is deemed poor, ecologically fragile, relatively rural, and strategically located in the vicinity of the Gan River in Jiangxi province. There have been increased environmental and ecological degradations in the rural areas of Gan River in Ganzhou.

2. The People's Republic of China (PRC) has requested the Asian Development Bank (ADB) to provide investment support and technical assistance for the Jiangxi Ganzhou Rural Vitalization and Comprehensive Environment Improvement Project (the project). The project will strengthen the environmental and ecological protection and urban-rural integration along the Gan River to improve the rural environmental and economic conditions in Ganzhou. The project will be implemented through four outputs within eight counties and one district, including institutional capacity for environment and water resource management strengthened, green development mechanisms piloted, rural waste and sanitation management improved, and water and soil conservation practices improved.

3. This document sets out the indicative terms of reference (TOR) for consulting services to establishment of a comprehensive air quality monitoring network and information management platform to enhance the capacity on air quality control of Ganzhou Municipal Government (GMG).

#### **B. The Objectives and Overall Scope of Works**

4. Particulate pollutant 2.5 ( $PM_{2.5}$ ) and ozone ( $O_3$ ) are the two key factors of air pollution in PRC. During the recent years, GMG has paid great efforts on air pollution prevention and control, the concentration of  $PM_{2.5}$  decreased but the concentration of  $O_3$  kept increasing. As the formation process of  $O_3$  is complicated and the increase of  $O_3$  in ambient air and air pollutant emission have a non-linear relationship, traditional air quality control strategy and mindset are not suitable for control of  $O_3$  pollution. In addition, GMG has limited equipment, technical personnel, and supervision capacity for volatile organic compounds (VOCs) monitoring and control. The consulting service is to provide physical and technical support to provide whole process monitoring of air pollution emission and diffusion and improve the management capacity of air quality in Ganzhou, in line with the targets set in 14th Five Year Plan.

5. Overall working scope include: (i) establishment of a comprehensive air quality monitoring network; (ii) design of air quality monitoring routes for the monitoring vehicles; (iii) application of new-tech equipment and vehicles to complement traditional manual monitoring, including laser radar; (v) analysis of monitoring data and providing basis for decision-making; (vi) development of an air quality management platform; and (vi) procurement of relevant monitoring equipment and vehicles, etc.

#### **C. Major Outputs and Activities**

6. The consulting service will be carried out by a team of consultants through a firm. The consulting services will be financed by ADB, and the consulting firm will be recruited by the PMO according to Procurement Regulations for ADB Borrowers - Goods, Works, Nonconsulting, and

Consulting Services (2017, as amended from time to time).<sup>1</sup>The consulting firm will be selected by (i) inviting full technical proposals; and (ii) using the quality and cost-based selection (QCBS) method. The consulting services are expected to start on 1 June 2023 and finish on 31 May 2028.

7. The key outputs of the consulting service will include:

- Output 1: Assessment of the status quo of air quality monitoring in Ganzhou city, and establishment of a monitoring network to cover core and key control areas.
- Output 2: Analysis of the sources of PM<sub>2.5</sub> and O<sub>3</sub>, and key factors influencing the formation of PM<sub>2.5</sub> and O<sub>3</sub> through quantitative and qualitative approaches.
- Output 3: Development of an air quality control platform, including a monitoring network subsystem to realize real time monitoring, data analysis, and decision-making supporting functions, and a command subsystem to dispatch air quality monitoring and management commands.

#### D. Consultant's Qualifications

8. The proposing entities will determine the number and the nature of experts which they will require to achieve the objectives of the consulting service in accordance with their proposed approach and methodology. However, ADB requires a minimum of five national specialists, including one project manager, two data analysis engineers and two data chain engineers.

9. **Project Manager (Team leader, national 15 person-months):** the project manager shall have at least 15 years of working experience in air quality monitoring and control with qualification of at least Master's degree in environmental engineering or relevant disciplines. The specialist will: (i) coordinate with relevant governmental agencies/departments, (ii) be responsible for project quality and progress management, (iii) assist the government in organizing discussion and review workshops, (iv) provide technical support during project implementation, and (v) prepare project reports.

10. **Data Analysis Engineer (two positions, national 48 person-months):** the data analysis engineer shall have at least 5 years of working experience in data analysis in the field of air quality management with at least Bachelor's degree in environmental engineering, or relevant disciplines. The engineers will: (i) conduct data analysis based on the distribution of sensitive receptors and pollution sources, monitoring data, and meteorological data; (ii) provide conclusion on the air quality; (iii) provide pollution mitigation measures; and (iv) assist the project manager in preparing reports as required by the Client.

11. **Data Chain Engineer (two positions, national 48 person-months):** the data chain engineer shall have at least 5 years of working experience in air quality monitoring with at least Bachelor's degree in environmental engineering, or relevant disciplines. The engineers will: (i) conduct routine and emergency monitoring tasks, (ii) prepare monitoring reports, and (iii) assist the project manager to conduct other tasks as needed.

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<sup>1</sup> Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>.

## **Ganzhou Vegetable Greenhouse Waste Management Study**

### **Indicative Terms of Reference for Consulting Service Package GZ-Serv-2**

#### **A. Background**

1. Ganzhou is a large agricultural prefecture-level municipality in Jiangxi Province with an estimated population of 9.7 million in 2017 and a land area of 39,380 square kilometers. Ganzhou is deemed poor, ecologically fragile, relatively rural, and strategically located in the vicinity of the Gan River in Jiangxi province. There have been increased environmental and ecological degradations in the rural areas of Gan River in Ganzhou.

2. The People's Republic of China (PRC) has requested the Asian Development Bank (ADB) to provide investment support and technical assistance for the Jiangxi Ganzhou Rural Vitalization and Comprehensive Environment Improvement Project (the project). The project will strengthen the environmental and ecological protection and urban-rural integration along the Gan River to improve the rural environmental and economic conditions in Ganzhou. The project will be implemented through four outputs within eight counties and one district, including institutional capacity for environment and water resource management strengthened, green development mechanisms piloted, rural waste and sanitation management improved, and water and soil conservation practices improved.

3. By 2020, Ganzhou has developed over 250,000 *mu*<sup>2</sup> of vegetable greenhouses. The agricultural waste generated from the greenhouse's accounts for about 30% of the total yield of vegetables and has posed threatens on the nearby environment. Uncontrolled piling and improper treatment of agricultural wastes in or near the greenhouses will result in soil and water pollution, especially in rainy seasons.

4. This document sets out the indicative terms of reference (TOR) for the consulting services to undertake a study on management of greenhouse waste, including vegetable straws and agricultural films, to reduce the water and soil pollution from uncontrolled disposal of greenhouse waste. The executing agency for the project is the Ganzhou Municipal Government (GMG). The implementing agency for the project is the Ganzhou Agriculture and Rural Affaires Bureau.

#### **B. The Objectives, Scope, and Major Outputs of Services**

5. The consulting service is to study and pilot effective measures for agricultural waste (vegetable straws and agricultural films) collection, recycling, composting, and application to achieve the nonpoint source pollution control in Gan River Basin. The study also includes a pilot project to design, build, and operate vegetable straws disposal facilities in Ganzhou for one year to demonstrate sound approach for vegetable straw management and evaluate the nonpoint pollution deduction effects. The budget is CNY 2 million, including professional remuneration costs and a pilot project.

6. The detailed outputs and activities of this consulting service will include but not limited to:

- (i) investigation on the status quo of agricultural waste in Ganzhou, including amount, compositions, and disposal approaches, etc.

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<sup>2</sup> A *mu* is a Chinese unit of measurement (1 *mu* = 666.67 square meters).

- (ii) study of best practices in agricultural waste management, including the treatment of vegetable straws and disposal and recycling of agricultural films.
- (iii) review of national, provincial, and local policies, regulations, and development plans for agricultural waste management.
- (iv) investigation on the market demand for organic fertilizers and biogas in Ganzhou.
- (v) detailed designs of pilot project including drawings, technical specifications, operation procedures, etc. for the whole process of the vegetable straws and agricultural films management from collection in greenhouses to application of the treated vegetable waste in farming fields.
- (vi) evaluation of detailed processes and effectiveness of pilot results of agricultural waste collection, composting process, final application to farming fields, and biogas utilization.
- (vii) conduct monthly auditing for the pilot project during the consulting services for quality control.
- (viii) develop a practical manual for application of proven technologies, designs, operations, and trouble shooting for whole process of agricultural waste management.
- (ix) conduct training and dissemination of the successful experiences of vegetable straw and agricultural film management.

### **C. Implementation Arrangements**

7. The consulting service will be carried out by a team of consultants through a firm, research institution, or academy, etc. The consulting services will be financed by the Asian Development Bank (ADB), and the consulting team will be recruited by PMO according to Procurement Regulations for ADB Borrowers - Goods, Works, Nonconsulting and Consulting Services (2017, as amended from time to time).<sup>3</sup> The consulting firm will be selected by (i) inviting simple technical proposals; and (ii) using the consultant's qualification selection (CQS) method. The consulting services are expected to start on 1 April 2023 and finish on 30 September 2024.

### **D. Reporting Requirements**

8. The consultant team will produce (i) an inception report within 4 weeks after mobilization, (ii) a design report within 2 months after mobilization, (iii) a final study report at the end of the consulting services, and one pilot project. The inception, draft design, and final reports will be subject to reviews by ADB and PMO. The comments received from ADB and PMO and selected key experts who would be invited as reviewers should be incorporated and addressed in the final report. All reports are to be written in English and in Chinese. The pilot project will be designed, procured (supply of materials and equipment), and managed by the consultants with assistance from farmers. The farmers shall contribute to all supports such as labors and local transportations required to build and operate composting facilities, and transport and apply the composts to designed pilot crop.

### **E. Key Expertise Required**

9. The proposing entities will determine the number and the nature of experts which they will require to achieve the objectives of the consulting service in accordance with their proposed approach and methodology. However, ADB requires a minimum of one key expert as follows.

<sup>3</sup> Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>.



**10. Agriculture Waste Utilization Specialist (International, 6 person-months).** The specialist should have (i) a Master's degree or above in engineering, chemical engineering, processing engineering, environmental engineering, or in any relevant field; and (ii) at least 10 years of experience working on agriculture waste utilization, and (iii) experience on international cooperation is preferred. Key tasks of the specialist include:

- (i) providing detailed comparison of different waste utilization technologies applicable for vegetable waste, which includes information on feedstock, associated environmental discharges, cost ranges, associated operation phase utility consumptions, and others;
- (ii) conducting general investigation on local agricultural waste data in different regions to ensure reliability;
- (iii) design of proposed solutions for treatment of vegetable straws and disposal of agricultural films taking local social and environmental factors into consideration;
- (iv) preparing the action plan for proposed solutions; and
- (v) identifying issues and challenges that the proposed solutions (composting) may face.

## **Establishment of Management Information System**

### **Indicative Terms of Reference for Package GZ-Serv-3**

#### **A. Background**

1. Ganzhou is a large agricultural prefecture-level municipality in Jiangxi Province with an estimated population of 9.7 million in 2017 and a land area of 39,380 square kilometers. Ganzhou is deemed poor, ecologically fragile, relatively rural, and strategically located in the vicinity of the Gan River in Jiangxi province. There have been increased environmental and ecological degradations in the rural areas of Gan River in Ganzhou.

2. The People's Republic of China (PRC) has requested the Asian Development Bank (ADB) to provide investment support and technical assistance for the Jiangxi Ganzhou Rural Vitalization and Comprehensive Environment Improvement Project (the project). The project will strengthen the environmental and ecological protection and urban-rural integration along the Gan River to improve the rural environmental and economic conditions in Ganzhou. The project will be implemented through four outputs within eight counties and one district, including institutional capacity for environment and water resource management strengthened, green development mechanisms piloted, rural waste and sanitation management improved, and water and soil conservation practices improved.

3. This document is the indicative terms of reference for a consulting firm to develop a management information system and provide follow-up operation and maintenance services for the project and provide corresponding operation training for the relevant personnel of the project management organization and executing agency. The direct client for the consulting services is the Ganzhou Municipal project management office (PMO).

#### **B. Implementation Arrangements**

4. The consulting works will be financed by ADB, and the firm will be recruited by the PMO according to ADB's Procurement Regulations (2017, as amended from time to time) through consultants' qualifications selection (CQS) method, contract duration expected from 1 April 2022 to 31 March 2023. The PMO and IAs will provide assistance to the consulting firm, particularly in the aspects of document collection, and logistics.

#### **C. Reporting Requirements**

5. Key outputs of the consulting service include: (i) an Inception Report within one month after the implementation of the consulting service. The main contents of the report will include: confirmation of the project service content in the technical proposal; adjustment of the consulting service work plan in the technical proposal, etc. (in Chinese and English); (ii) a system requirements specification one month after consulting service commencement; (iii) system design documents two month after consulting service commencement; (iv) system development monthly progress report before the fifth day of next month; (v) system test report within 1 month after the completion of system development; (vi) system operation manual 1 month after the completion of system development; (vii) a completion report 1 month before service completion.

#### **D. Scope of Services**

6. The consulting services will be provided in two areas:

- (i) **System development and related supporting procurement.** The consultants will be engaged through a firm, and proceed information system construction according to existing project management content and process, including:
- Project management database;
  - Project repository;
  - Investment plan management;
  - Contract management;
  - Project schedule management;
  - Financial management;
  - Document library management;
  - Authorization management;
  - Approval management;
  - Decision support.
- (ii) **Capacity Building.** The consultants will also provide capacity development support to the PMO and IAs in the following areas:
- Content informatization of subprojects;
  - System service operation and maintenance (including system operation training for PMO and IAs);
  - Report output through project management system.

**7. Development of management information system.** Manage foreign loan projects by information technology and improve the efficiency of managers in managing projects. The system must have good scalability, openness and security, and reserve relevant development interfaces to facilitate subsequent access to relevant systems. The specific technical requirements are as follows:

- (i) **Practicability:** To improve the management level and work efficiency, the project needs to fully meet the basic information management requirements in combination with the actual management situation of PMO.
- (ii) **Technology selection:** The system design needs to adapt the current advanced technology, using java language as the basic language for system development.
- (iii) **Easy to use:** The software system shall provide friendly user interface, humanized design, simple, easy to use and operate.
- (iv) **Easy to integrate:** The software system shall provide standard interface specifications to realize effective interaction and integration with current and future systems.
- (v) **Security:** The software system should have perfect, multi-level and unified security mechanism, conform to the relevant information security specifications, and take different security measures in data transmission, data storage, user management and many other aspects; in view of the particularity of this system, it needs to have perfect operation control, trace record and other mechanisms.
- (vi) **High performance:** It shall have advanced system structure to ensure the stable and efficient operation of products developed based on the system and meet the performance requirements of at least 6 years in the future.
- (vii) **Scalability:** It is required that the function expansion and secondary development of the software system be efficient and flexible, that new function modules and application scale

can be added quickly according to the demand, and that smooth automatic upgrade can be supported.

- (viii) **High availability:** The software system shall include reliability and fault-tolerant mechanism, without single point fault, and other module faults shall not be caused due to the problems of one module, among which the queue, cache, message bus, etc. involved shall have good anti-congestion and anti-collapse mechanism.
- (ix) **Manageability:** The software system shall provide a visual management tool, which allows quick management, configuration, and monitoring of the system operation through various means to provide technical support for the normal operation of the system.
- (x) **Recoverability:** The software system should have perfect backup technology; the main components should have error self-diagnosis function and feasible recovery scheme.
- (xi) **Training and upgrading services:** To provide perfect training services, in the process of system installation, commissioning and online operation, the training for different levels of management personnel, technical personnel and operators shall be carried out at the same time. After the formal operation of the system, perfect maintenance service measures shall be taken to ensure the smooth operation of the system.

## 8. System establishment task.

- (i) **Database establishment.** Technical experts need to combine project management experience and existing project processes for database design. Considering the management of different types of projects, the database design should consider the scalability to avoid the change of database structure caused by the change of simple requirements.
- (ii) **Investment plan management.** Prepare the investment plan for the successfully applied projects, input the quantity of investment content and the amount of basic cost investment in the detailed design, and the system can automatically summarize and calculate the investment budget and annual investment plan including the invisible cost. At the same time, it can check the contract and data of the selected year by selecting different years.
- (iii) **Contract management.** Contract management is the basis of the project management information system. According to the procurement management standards of overseas investment institutions, the procurement of loan projects will be packaged and purchased according to works, goods, consulting, and other categories. The system needs to enter relevant information according to different types of contracts.
- (iv) **Project schedule management.** For the project progress management, the reimbursement will be supplemented and adjusted automatically based on the progress application and financial application of the contractor, the supervisor, the owner, and the consulting expert. The current project progress will be verified with the plan submitted by each city every year. Progress management needs to reflect the current situation of project progress and progress detection report.
- (v) **Financial management.** The financial part of the project management system only connects with the financial interface of the financial department and performs the functions of project related declaration and supplement. The system needs to declare and supplement online in real time, and record the process, which is also reflected in the contract management.
- (vi) **Document library management.** The financial part of the project management system only connects with the financial interface of the financial department and performs the functions of project related application and reimbursement and so on. The system needs to perform the application and reimbursement online in real time, and record the process, which is also reflected in the contract management.
- (vii) **Document library management.** The document library is a unified query function for all relevant documents. The system uploads the relevant management measures of overseas

- investment institutions and relevant national laws and regulations documents for overseas investment through the document library, conducts rules and content query through fuzzy query, and accurately determines various regulations and requirements.
- (viii) **Decision support.** The system needs to automatically review the project progress and function according to the relevant policies and requirements of foreign loan projects and provide early warning. The rules need to support user-defined settings.
  - (ix) **Provide system after-sales service support.**
9. Lease of ECS (including CPU, memory, hard disk, bandwidth, database, etc.):
- (i) **High availability.** More stringent IDC standards, server access standards and operation and maintenance standards are used to ensure the high availability of cloud computing infrastructure, data reliability and cloud server.
  - (ii) **Security.** Pass a variety of international safety standards certification, including ISO27001, MTCs, etc. Security compliance has very strict requirements for the privacy of user data, the privacy of user information and the protection of user privacy.
  - (iii) **Flexibility.** It includes computing flexibility, storage flexibility, network flexibility and business structure re-planning flexibility.
10. **Capacity development.** The objective of the capacity development program is to assist PMO and IAs in strengthening their capacity to use information based on understanding national and ADB guidelines on project implementation, monitoring and reporting, as well as international and national best practices. Training will be part of consulting service package. This will include trainings on system operation and other topics as needed by the PMO.

## E. Qualification and Requirements

11. The consultant shall have at least five years' experience in the development, operation, and maintenance of management information system, and at least three years' relevant business experience in China. The consultant should have the following software implementation related capabilities:

- Project software quality management system needs to conform to the standard of GB/T19001-2016 and ISO9001:2015;
- Application software and system integration, design, development, sales, and operation & maintenance need to conform to the standard of GB/T24001-2016/IOS14001:2015;
- Above level 5 of CMMI (Capability Maturity Model Integration for Software) (higher-level companies are preferred);
- Information security management system needs to conform to the standard of GB/T22080-2016/IOS/IEC27001:2013 system;
- Information technology service management system needs to conform to the standard of ISO/IEC20000-1:2011 service system.

### (a) System Development Management Expert (National, 10 person-months)

12. **Qualifications and requirements:** (i) at least 10 years of relevant experience in project management experience and implementation management experience in data management, e-commerce platform and other similar projects and fields. Served as senior management position in more than 3 similar projects; (ii) Master's degree or above in computer or relevant discipline;

(iii) candidates with experience in ADB and World Bank's projects are preferred; (iv) excellent oral and written communication skills in English.

13. Key tasks of the expert are comprehensive project management and capacity development, including:

- (i) Lead the development team and work closely with the project implementation unit to implement the whole process of design, development, trial operation and acceptance of the information management system;
- (ii) Be responsible for coordinating resources of all parties to ensure the completion of the project according to the expected time and results;
- (iii) Be responsible for the guidance and supervision of the system development, the overall test of the system, and the progress management;
- (iv) Organize project check and acceptance.
- (v) Draft the operation manual of the information management system and provide the relevant training of the information management system for the staff of PMO.

**(b) System Development Structure Expert (National, 8 person-months)**

14. **Qualifications and requirements:** (i) At least 8 years of system design related fields, with at least 3 large project structure experience, be very proficient in system structure; (ii) Master's degree or above in software engineering, computer science or relevant discipline; (iii) Candidates with experience in ADB and World Bank's projects are preferred.

15. Under the overall guidance of the system management expert, the expert will provide the overall system structure scheme and technical guidance to system development engineer in the system development process. The specific tasks of the expert include but are not limited to the following:

- (i) Responsible for system software design.
- (ii) Write program design specification and other relevant documents.
- (iii) Prepare detailed design specification according to overall design scheme.
- (iv) Complete the system code writing according to the detailed design specification.
- (v) Carry out system structure design, framework design and implementation, system feasibility demonstration and prototype development.
- (vi) Network planning and configuration: design the overall network structure of the system, configure, and divide the subnets, and determine the access rules and connection methods between subnets.
- (vii) Server configuration: according to the design scheme, integrate the purchased servers, determine the purpose of each server, basic software to be installed, network connection mode and address, storage equipment, etc.

**(c) System Development and Test Engineer (National, 2 positions, 10 person-months each)**

16. **Qualifications and requirements:** (i) At least 5 years of system development and testing experience in similar projects; (ii) Bachelor's degree or higher in computer or relevant discipline; (iii) Familiar with Java language, spring framework and design pattern; (iv) candidates with experience in ADB and World Bank's projects are preferred; and (v) good communication and writing skills in English and Chinese.

17. Key tasks of the engineers include:

- (i) Write requirement rule description through requirement communication.
- (ii) System coding according to system.
- (iii) Organize and guide programmers to write and debug programs, optimize, and integrate software testing.
- (iv) Participate in project, assist in requirement analysis, system coding and system testing.
- (v) Supervise unit testing, daily project construction, periodical version release and quality control to solve the problems raised by the PMO.
- (vi) Make test plan and write test outline.
- (vii) System function test, system performance test, write test report.
- (viii) Prepare operation manual, FAQ document, organize system training, etc.

## **Project Implementation Supporting Consulting Services**

### **Indicative Terms of Reference for Package GZ-Serv-4**

#### **A. Background**

1. Ganzhou is a large agricultural prefecture-level municipality in Jiangxi Province with an estimated population of 9.7 million in 2017 and a land area of 39,380 square kilometers. Ganzhou is deemed poor, ecologically fragile, relatively rural, and strategically located in the vicinity of the Gan River in Jiangxi province. There have been increased environmental and ecological degradations in the rural areas of Gan River in Ganzhou.

2. The People's Republic of China (PRC) has requested the Asian Development Bank (ADB) to provide investment support and technical assistance for the Jiangxi Ganzhou Rural Vitalization and Comprehensive Environment Improvement Project (the project). The project will strengthen the environmental and ecological protection and urban-rural integration along the Gan River to improve the rural environmental and economic conditions in Ganzhou. The project will be implemented through four outputs within eight counties and one district, including institutional capacity for environment and water resource management strengthened, green development mechanisms piloted, rural waste and sanitation management improved, and water and soil conservation practices improved.

3. This document sets out the terms of reference for consulting services needed to ensure the smooth implementation of the project. The executing agency for the project is the Ganzhou Municipal Government (GMG). The direct client for the consulting services is the Ganzhou Municipal project management office (PMO).

#### **B. Overall Scope of Work**

4. The consultants will provide the PMO and the implementing agencies with project management support, including support for project performance management and monitoring, design review, procurement and contract management, construction management, environmental and social safeguards implementation, financial management, capacity training workshop, tour study, knowledge sharing, and project evaluation.

#### **C. Implementation Arrangements**

5. The consulting services for project implementation support will be carried out by a team of consultants through a firm. A total of 45 person-months of international and 194 person-months of national consulting services will be required. The consulting services will be financed by the Asian Development Bank (ADB), and the consultants will be recruited by the PMO according to Procurement Regulations for ADB Borrowers - Goods, Works, Nonconsulting and Consulting Services (2017, as amended from time to time).<sup>4</sup> The consulting firm will be selected by (i) inviting full technical proposals; and (ii) using the quality- and cost-based selection (QCBS) method, with a quality-cost weighting ratio of 80:20. The consulting services are expected to start in 8 October 2022 to 30 June 2028.

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<sup>4</sup> Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>.



## **D. Reporting Requirements**

6. The consultant team will produce (i) an inception report within 4 weeks after commencement of the consulting services, (ii) a semiannual report by July 15 of each year; (ii) an annual report by January 15 of each year, (iii) draft final report six months before project completion, and (iii) a final report at the end of the consulting services. The inception, semiannual, annual, and draft final reports will be subject to reviews by ADB and the PMO. All reports are to be written in English and translated into Chinese. One soft and two printed copies of each report are to be submitted to ADB (English version only) and the PMO (both Chinese and English versions).

7. The inception report will present an approach for the consulting services, including a work plan and an implementation schedule. The semiannual, annual, draft final, and final reports will present activities conducted by the consultants, effects of the consulting services, issues encountered, and recommendations to improve project management.

8. The consultant team will hold workshops for project implementation management, financial management, procurement management, and safeguards, etc., and organize study tours at least three times during project implementation to learn best practices in forest afforestation, green agricultural promotion, river protection, and rural sanitation management. The training targets will provide various trainings for about 400 staff of EA/IAs.

## **E. Other Requirements**

9. The consultant team will provide a fully qualified interpreter to work with the consultants on a full-time basis and support the ADB missions.

## **F. Scope of Services**

10. For each of the international and national consultant positions, (i) possession of a related degree, qualification, and/or memberships of related academic societies; and/or past participation in related training courses; (ii) experience in similar positions for loan, grant, or TA projects; and (iii) experience in implementing projects in the PRC; are required.

### **a. Project Management Specialist and Team Leader (International, 25 person-months)**

11. The specialist will:

- (i) coordinate all project management support activities as team leader;
- (ii) finalize the approach for project management support;
- (iii) prepare the inception, semiannual, annual, draft final, and final reports;
- (iv) assist the PMO and the implementing agencies in preparing, implementing, monitoring, and evaluating the overall project and subprojects;
- (v) assist the PMO in preparing the project progress reports in a format provided by ADB;
- (vi) assist the PMO in project performance monitoring and evaluation;
- (vii) assist the PMO in preparing a project completion report on the execution and initial operation of the project, including its cost, the performance of GMG of its obligations under the project agreement, and the accomplishment of the purposes of the project;

- (viii) develop bidding documents with design institutes for civil works and goods supply contracts;
- (ix) conduct quality assurance and review of payment certificates for quality and payment controls for PMO managed contracts;
- (x) monitor compliance with the loan covenants, assess key implementation issues, and make recommendations for improvement;
- (xi) lead project knowledge sharing; and
- (xii) conduct any other necessary work for smooth and appropriate implementation of the project.

**b. Construction Management Specialist and Deputy Team Leader (National, 60 person-months)**

12. The specialist will:

- (i) assist the team leader in developing comprehensive project implementation plans and procedures for monitoring and controlling overall project and activities;
- (ii) conduct technical review and provide expert comments on engineering detailed design in accordance with the design codes and standards;
- (iii) conduct routine site visits and provide technical inputs to construction planning, supervision, and monitoring for quality control of the subproject construction;
- (iv) collect all necessary information and prepare the reports required under loan and project covenants;
- (v) develop bidding documents with design institutes for civil works and goods supply contracts;
- (vi) conduct quality assurance and review of payment certificates for quality and payment controls for IAs' managed contracts;
- (vii) identify detailed capacity development needs for sustainable infrastructure services and governance;
- (viii) conduct evaluation of construction work and project implementation upon completion of the subprojects and the project as whole, stressing on quality control and cost control in particular;
- (ix) assist IAs in conducting the analysis and experience reviewing, and in capacity strengthening in quality control and cost control;
- (x) Undertake project completion report; and
- (xi) undertake any other necessary work assigned by the team leader.

**c. Procurement and Contract Management Specialist (National, 24 person-months)**

13. The specialists will:

- (i) review the procurement plan; and after consultation with the PMO and the IAs, revise as needed;
- (ii) set schedule for obtaining technical specifications from the design institute;
- (iii) review of business sections in the bidding documents;
- (iv) review of bid evaluation reports;
- (v) coordinate with the national procurement agency (hired by the PMO);
- (vi) monitor the PMO's procurement activities under the project, and assist the PMO in preparing, updating, and implementing the procurement plan;
- (vii) conducting contract management during the project implementation, including monitoring construction progress, preparing progress reports, reviewing the

- contractor's claims for payments, coordinating project implementation among contractors and various stakeholders, and coordinating daily operational tasks;
- (viii) providing expert inputs, review and justification for contract variation and preparing necessary documentations in accordance with the Government and ADB requirements, if necessary;
- (ix) capacity development (including training of trainers, etc.) in procurement and contract management with the long-term objective of institutionalizing a strong procurement and contract management function within the EA/PMO; and
- (x) undertake any other necessary work assigned by the team leader.

**d. Wastewater and Water Specialist (International, 8 person-month; National, 10 person-months)**

14. The specialists will:

- (i) review wastewater and water-related technical sections in the design documents;
- (ii) review technical specifications and bill of quantities (BOQ) in the bidding documents in aspect of wastewater and water design;
- (iii) assist the design institute in optimizing the design documents of wastewater and water sectors to ensure high design quality and investment control;
- (iv) participate in bid evaluation, if necessary;
- (v) review of the contractor's construction program and provision of technical support for on-site construction technology;
- (vi) provide training on water supply, wastewater management, and other related knowledge, if needed; and
- (vii) undertake any other necessary work assigned by the team leader.

**e. Green Agriculture Specialist (International, 4 person-month; National, 10 person-months)**

15. The specialists will:

- (i) review green agriculture related technical sections in the design documents;
- (ii) review technical specifications and BOQ in the bidding documents in aspect of green agriculture design;
- (iii) assist the design institute in optimizing the design documents of green agriculture to ensure high design quality and investment control;
- (iv) participate in bid evaluation, if necessary;
- (v) review the design of green agricultural product tracing system and provide comments for improvement;
- (vi) provide training on green agriculture application and other related knowledge, if needed; and
- (vii) undertake any other necessary work assigned by the team leader.

**f. Afforestation Specialist (National, 12 person-months)**

16. The specialists will:

- (i) review the detailed engineering designs of afforestation, including addressing potential technical issues and proposing feasible solutions in accordance with the design codes and standards;

- (ii) assist the IAs or design institutes in preparing technical specifications and other relevant technical sections of the bidding documents for afforestation;
- (iii) evaluation on the pesticide application and provide technical recommendations on high efficiency use of pesticide;
- (iv) work closely with the ecological protection specialist to ensure proper design of planting trees;
- (v) conduct routine site visits and assess construction progress and quality control of the project, and report to team leader/deputy team leader;
- (vi) provide supports to team leader/deputy team leader for preparing the required reports; and
- (vii) undertake any other necessary work assigned by the team leader.

**g. Ecological protection specialist (National, 12 person-months)**

17. The specialist will:

- (i) review the detailed engineering designs of barren hill revegetation, wetland restoration, and forest protection, including addressing potential technical issues and proposing feasible solutions in accordance with the design codes and standards, and assist PMO and IAs in fully complying with the covenant on native plant species;
- (ii) assist the IAs or design institutes in preparing technical specifications and other relevant technical sections of the bidding documents for afforestation, wetland restoration and protection, greening activities;
- (iii) work closely with the afforestation specialist to ensure proper design of planting trees;
- (iv) conduct routine site visits and assess construction progress and quality control of the project, and report to team leader/deputy team leader;
- (v) provide supports to team leader/deputy team leader for preparing the required reports; and
- (vi) undertake any other necessary work assigned by the team leader.

**h. Solid Waste Management Specialist (International, 4 person-month; National, 10 person-months)**

18. The specialists will:

- (vii) review the design documents for solid waste transfer stations and the Chongyi solid waste treatment center;
- (viii) review technical specifications and BOQ in the bidding documents in aspect of solid waste management design;
- (ix) assist the design institute in optimizing the solid waste management design documents to ensure high design quality and investment control;
- (x) participate in bid evaluation, if necessary;
- (xi) provide training on solid waste management and other related knowledge, if needed; and
- (xii) undertake any other necessary work assigned by the team leader.

**i. River Rehabilitation Specialist (International, 4 person-months; National, 10 person-months)**

19. The specialists will:

- (i) provide guidance and recommendations on the detailed engineering design for the river embankment, flood protection facilities, and river dredging by incorporating the best international practice wherever feasible to achieve the better ecological and environmental benefits;
- (ii) conduct technical review of the river rehabilitation and provide expert comments on engineering detailed design in accordance with the contract documents and applicable national design codes and standards as well as the best international practices;
- (iii) assist the IAs or design institutes in preparing technical specifications and other relevant technical sections of the bidding documents for the works related mainstream watercourse improvement, rehabilitation of tributaries, construction of embankment, and river dredging;
- (iv) conduct site inspections to review construction progress, provide technical support to construction planning and construction method, and verify the completion and compliance with the contract documents including the design drawing;
- (v) review and inspect the quality of the construction items and safety measures in the construction site, carry out the quality assurance and/or quality control and construction safety plans;
- (vi) coordinate with team leader/deputy team leader and other team specialists to develop capacity development and training program for river rehabilitation, flood control, river and river basin protection, river ecological protection and restoration;
- (vii) provide support to team leader/deputy team leader in preparing the required reports; and
- (viii) undertake any other necessary work assigned by the team leader.

**j. Environmental Specialist (National, 14 person-months)**

20. The project will be coordinated by the Ganzhou Municipal PMO, whose overall responsibility includes implementation of the project environmental management plan (EMP) and environmental and social management system (ESMS). At the field level, the project (except for the financial intermediation loan) will be implemented by nine IAs in the eight counties and one district, and the financial intermediation loan will be implemented by Agricultural Bank of China at city level. The PMO and IAs will be assisted by a loan implementation consultant team. The loan implementation environmental consultant (LIEC) will be a part of this team and will support the PMO and IAs to implement the project EMP and oversee the ESMS.

21. The specialist will have: (i) a Master's degree or higher in environmental management or related field; (ii) at least 12 years of experience in environmental management, monitoring, and/or impact assessment, including specific experience on the management and monitoring of green agriculture and rural vitalization projects; (iii) familiarity with ADB project management requirements and national environmental management procedures; (iv) ability to communicate and work effectively with local communities, contractors, and government agencies; (v) ability to analyze data and prepare technical reports; (vi) willingness and health to regularly visit the subproject sites; and (vii) proficiency in spoken and written English. Working closely with the PMO and PMO Environmental Officer, the LIEC will do the following.

**For the EMP**

22. Before construction:

- (i) Ensure project environmental readiness, including: (i) all contractor contracts include, and will comply with, the EMP; and (iii) relevant sections of the EMP are incorporated in construction plans and contracts.
- (ii) Assist the PMO and IAs to implement the GRM, including: (i) establish and publicize the GRM; and (ii) collate and evaluate grievances received.
- (iii) Develop procedures to: (i) monitor EMP implementation progress; (ii) collate and evaluate data collected in the EMP environmental monitoring program; and (iii) prepare and submit the semiannual environmental monitoring reports to ADB (to continue until project completion report).
- (iv) Undertake training of project agencies as required by the EMP training plan.
- (v) Provide hands-on support and on-the-job training to the PMO, implementing agencies, and contractors on the specific requirements of the EMP as required.

23. During project implementation:

- (i) Undertake site visits to all implementing agencies during subproject construction and operating phase.
- (ii) Assist in the ongoing public consultation process as described in the project IEE.
- (iii) Conduct EMP compliance assessments, identify any environment-related implementation issues, and propose necessary responses in corrective action plans.
- (iv) Undertake training of project agencies as required by the EMP training plan.
- (v) Undertake simple and cost-effective on-site quantitative measurements to regularly check that the construction complies with the environmental monitoring standards and targets, especially for noise and dust (during the pipe trenches construction), using a basic hand-held meter.

**For the ESMS**

- (vi) Support the PMO environment officer and the ESMS environmental and social officers to oversee implementation of the ESMS.
- (vii) Ensure that the steps of the ESMS are incorporated into the business procedures of Agricultural Bank of China.
- (viii) Deliver training in (a) ESMS procedures for screening, categorizing, and assessing environmental impact; (b) the setting and monitoring of environmental safeguards in loan conditions; and (c) ESMS record keeping and reporting.
- (ix) Assist Agricultural Bank of China to establish and publicize the grievance redress mechanism (GRM) for subprojects, ensuring that the GRM publicity is appropriate to the scale and complexity of the subproject and includes, as a minimum, the disclosure of all contact persons for lodging complaints.
- (x) Review the operation of the GRM for a range of subprojects and locations and revise GRM procedures as required.
- (xi) Conduct regular checks on ESMS compliance by Agricultural Bank of China: review ESMS workbooks, undertake site visits as required, identify problems, and propose necessary corrective action.
- (xii) Assist the PMO to prepare semiannual project monitoring progress reports for submission to ADB within 1 months after each reporting period.

**Overall**

- (i) Assist the PMO to prepare semiannual environmental monitoring progress reports for submission to ADB.
- (ii) Work closely with the PMO, district and county IAs, loan implementation consultants, and other agencies as necessary to conduct these tasks.

**k. Resettlement Specialist (National, 12 person-months)**

24. The specialist will:

- (i) assist the PMO, the implementing agencies, and the design institutes in updating the resettlement plan approved by ADB, following the ADB formats based on the detailed designs; disclosing it to the affected persons after ADB's approval; and obtaining ADB's approval;
- (ii) assist GMG and the implementing agencies to update the due diligence report for state-owned land and associated facilities after the final design before approval of civil works contracts to reconfirm that there are no outstanding or legacy issues of land acquisition and resettlement;
- (iii) assist GMG and the implementing agencies in implementing the land acquisition and resettlement in accordance with the resettlement plan,
- (iv) assist the PMO and the implementing agencies in supervising the contractors to ensure their compliance with the requirements of the resettlement plan, applicable laws, and regulations, and ADB's Safeguard Policy Statement (2009);
- (v) assist the PMO and the implementing agencies in supervising the processes of LAR by collecting and updating basic data; and closely coordinating between the PMO, the implementing agencies, and an external resettlement monitoring agency;
- (vi) review the external monitoring and evaluation (M&E) reports prepared by the external resettlement monitoring agency and ADB's comments on the reports;
- (vii) assist the PMO in monitoring the compliance with the resettlement plan, assessing the key implementation issues, formulating remedial measures, and conducting the follow-up actions;
- (viii) provide support to the project management specialist for assessing the needs for capacity development; and planning, designing, organizing, and implementing seminars, workshops, training, and/or study tours for the implementation and M&E of the resettlement;
- (ix) provide support to the project management specialist for preparing the inception, semiannual, annual, draft final, and final reports;
- (x) assist in the screening, categorization, and monitoring of subprojects under the FI component to ensure that there are no involuntary land acquisition and resettlement impacts according to the ESMS; and
- (xi) undertake any other necessary work assigned by the team leader.

**I. Social Development, Gender and Ethnic Minority Development Specialist (National, 8 person-months)**

25. The specialist will

- (i) assist GMG and the implementing agencies in implementing the social development action plan (SDAP), the gender action plan (GAP) and the ethnic minority development plan (EMDP) prepared during project preparation;
- (ii) assist the PMO and the implementing agencies in supervising the contractors to ensure compliance with requirements of GAP, SDAP and EMDP; and applicable laws and regulations;
- (iii) monitor the compliance with GAP, SDAP and EMDP; assess the degree of impacts and key implementation issues; explain key issues to the PMO and the implementing

- agencies; and assist them in conducting the follow-up actions to address the key issues;
- (iv) provide support to the project management specialist for assessing the needs for capacity development; and planning, designing, organizing, and implementing seminars, workshops, training, and/or study tours for the implementation and M&E of GAP, SDAP and EMDP;
- (v) provide support to the project management specialist for preparing the inception, semiannual, annual, draft final, and final reports;
- (vi) assist in the screening, categorization, and monitoring of subprojects under the FI component to ensure that there are no adverse impacts on vulnerable ethnic minorities according to the ESMS; and
- (vii) undertake any other necessary work assigned by the team leader.

**m. Financial Management Specialist (National, 6 person-months)**

26. The specialist will:

- (i) review background documents, including the financial analysis of the project undertaken during project preparation;
- (ii) assist the PMO and the implementing agencies in preparing and implementing a financial management system;
- (iii) assist the PMO and the implementing agencies in preparing the withdrawal applications and improving the efficiency by streamlining the preparation of withdrawal applications;
- (iv) conduct financial analysis at the midterm of project implementation, and at physical completion of the project, including financial sustainability analysis to assess the fiscal sustainability debt repayment capacity of GMG as a whole;
- (v) provide support to the project management specialist for assessing the needs for capacity development; and planning, designing, organizing, and implementing seminars, workshops, training, and/or study tours for financial analysis, as necessary;
- (vi) undertake accounting oversight, internal control, funds flow, financial reporting, audit planning;
- (vii) support the capacity building of financial and accounting staff;
- (viii) provide support to the project management specialist for preparing the inception, semiannual, annual, draft final, and final reports; and
- (ix) undertake any other necessary work assigned by the team leader.

**m. Training Specialist (National, 6 person-months)**

27. The specialist shall have graduate degree or above and over 10 years of experience in project management in green development and environmental protection. Experience in green agriculture or afforestation would be preferred. Specific tasks will include the following:

- (i) assess the need for capacity development of the staff of the PMO and the implementing agencies;
- (ii) plan, design, organize, and implement seminars, workshops, training, and/or study tours for project management, financial management, disbursement arrangements, implementation, monitoring, and evaluation of resettlement, gender development, and environmental management, and project monitoring and evaluation;
- (iii) based on the project needs and best knowledge, identify destinations for study tours;



- (iv) develop study tour agenda and submit to GMPO for approval;
- (v) liaise with agencies for organization of the study tours;
- (vi) work as the facilitator to participate the international study tours, if needed;
- (vii) prepare inception report, study tour report and final report, and submit to GMPO and ADB for approval.

## **External Environmental Monitoring and Evaluation**

### **Indicative Terms of Reference for Package GZ-Serv-5**

#### **A. Background**

1. Ganzhou is a large agricultural prefecture-level municipality in Jiangxi Province with an estimated population of 9.7 million in 2017 and a land area of 39,380 square kilometers. Ganzhou is deemed poor, ecologically fragile, relatively rural, and strategically located in the vicinity of the Gan River in Jiangxi province. There have been increased environmental and ecological degradations in the rural areas of Gan River in Ganzhou.

2. The People's Republic of China (PRC) has requested the Asian Development Bank (ADB) to provide investment support and technical assistance for the Jiangxi Ganzhou Rural Vitalization and Comprehensive Environment Improvement Project (the project). The project will strengthen the environmental and ecological protection and urban-rural integration along the Gan River to improve the rural environmental and economic conditions in Ganzhou. The project will be implemented through four outputs within eight counties and one district, including institutional capacity for environment and water resource management strengthened, green development mechanisms piloted, rural waste and sanitation management improved, and water and soil conservation practices improved.

3. This document is the indicative terms of reference for an external environmental monitoring and evaluation (M&E) agency to ensure that the project will be implemented in conformity with the People's Republic of China (PRC) laws and regulations and the Asian Development Bank's (ADB's) Safeguard Policy Statement (2009) requirements on environmental management. The direct client for the consulting services is the Ganzhou Municipal project management office (PMO).

#### **B. Implementation Arrangements**

4. The external environmental M&E will be carried out by a team of specialists through a competent external monitoring agency (EMA) which should be firm/institute or qualified nongovernment organization (NGO) or community-based organization (CBO). The M&E will be financed by ADB, and the EMA will be recruited by the PMO according to ADB's Procurement Regulations (2017, as amended from time to time) through consultant's qualification selection (CQS) method, contract duration expected from January 2023 to June 2028. The PMO and IAs will provide assistance to the EMA, particularly in the aspects of field survey, staffing, and logistics. In case the implementation of EMP measures is not satisfactory, the EMA will be required to recommend corrective actions to address environmental compliance.

#### **C. Reporting Requirements**

5. The EMA will submit the semiannual external environmental monitoring reports to ADB and the PMO to verify whether sound environmental management practices are applied, and the set environment targets are being achieved. The external environmental monitoring reports will include, but not be limited to, (i) description of activities conducted in the reporting period and results; (ii) all cumulative data collected up to the current reporting period; (iii) any cases of noncompliance with the target standards; (iv) any additional observations (qualitative or quantitative); (iv) lessons learned; and (f) work schedule for the next semiannual monitoring period. In case the implementation of EMP measures is not satisfactory, the external experts/NGO

or CBO will recommend actions to enhance environmental compliance. The EMA will submit to ADB and PMO the M&E reports two times a year during project implementation and one final report one month after project completion, and at least conduct field survey four times each year. For each report, soft copies for both English and Chinese versions will be needed. At the end of their contract, the EMA will submit a final consolidated M&E report in both English and Chinese within one month after completion of the project.

6. The EMA will take full responsibility on the content and quality of the reports, and if required, revise the reports based on the comments of ADB and the PMO. Format of the reports will be proposed by the EMA in the technical proposal. The EMA may seek guidance from examples of reports on ADB website.

#### **D. Scope of Services**

7. The objective of the assignment is to provide external monitoring and review on the implementation of EMP. In general, the EMA will:

- (i) Conduct independent review on the performance of environmental management under the ADB loan project, identify issues and propose corrective actions;
- (ii) Conduct monitoring on the environmental compliance and document findings of the monitoring result; at least conduct field survey four times each year.
- (iii) Review the EMP compliance and EMP monitoring (sampling and analyzing) reports;
- (iv) Identified adverse environmental impacts during implementation, if any, compare with predicted impacts, assess the effectiveness of mitigation measures, and propose remedial or corrective measures if necessary;
- (v) Review public consultation conducted and GRM handling, if any; and
- (vi) Provide reporting to PMO with acceptable format and quality.
- (vii) To recommend corrective actions to address environmental compliance as needed.

8. In detail, tasks and responsibilities of the consultant team are described but not limited to the following:

- (i) Gain familiarity with the project sites and monitoring requirements through (a) review of the items listed as “external monitoring” in Table EMP-5 of the EMP, as well as the overall IEE and EMP; (b) meetings with the project agencies; and (c) site visits.
- (ii) Collect relevant information from the implementing agencies and relevant local government agencies on environment impact.
- (iii) Assess the relevance and adequacy of the monitoring variables and proposed monitoring frequencies listed in EMP for “external monitoring.” If needed, recommend additional variables and/or changes in monitoring methods or frequencies to ensure that key environmental impacts are sufficiently monitored, and to improve the likelihood for early identification of impacts. Variables which are beyond the official mandate or skills of the agency, but which the agency may consider to be important, should be identified, for subsequent review and action by the project agencies and ADB.
- (iv) Design an environmental monitoring plan which includes: (a) a clear methodology and work schedule; (b) the specific variables listed in EMP for “external monitoring” (unless otherwise suggested); and (c) any additional variables recommended.

- Provide a clear rationale for any changes proposed to “external monitoring” in EMP.
- (v) Design and establish a simple database (e.g., in Excel) to store all collected data. Data should be entered and stored in a clear and simple format that enables comparison of values over time. Ensure that data is backed up on at least one external storage device.
  - (vi) Implement the monitoring program (including sampling and analyzing) to review project progress and compliance with the EMP and conduct independent verification of the project’s environmental management performance, undertake site visits as required, identify any environment-related implementation issues, propose necessary corrective actions, reflect these in a corrective action plan. The findings will be reported in the format acceptable to ADB every six months and provide list of required corrective actions.
  - (vii) While on site, provide demonstrations to the project agencies (including the IAs, contractors, and construction supervision companies) in the monitoring, and emphasize the links between good construction practices and reducing environmental risks.
  - (viii) Immediately report to the IAs any cases of noncompliance with the EMP monitoring standards and/or any other environmental management issues that may be observed while on site and timely determine if any adverse impacts have occurred during project implementation compare the predicted impacts with the actual environmental impacts, assessing the effectiveness of the mitigation measures, and suggesting remedial and enhancement measures, as required.
  - (ix) Identify any cases of exceedance or incompliance of values against the project standards, and the reasons for such exceedance or incompliance.
  - (x) Participation in ongoing stakeholder consultations and evaluation and reporting on how environmental grievances, if any, are handled and make recommendations to resolve any issues or problems and providing independent advice to the PMO and relevant implementing agency.
  - (xi) Work closely with the PMO, IAs, contractors, construction supervision companies, loan implementation consultants, communities, and other stakeholders as necessary, to conduct these tasks.
  - (xii) Prepare and submit semiannual external monitoring reports to the PMO. The reports will include (but not be limited to): (a) description of activities conducted in the reporting period and results; (b) all cumulative data collected up to the current reporting period; (c) any cases of noncompliance with the target standards; (d) any additional observations (qualitative or quantitative); (e) lessons learned; and (f) work schedule for the next semiannual monitoring period. and
  - (xiii) At the end of the project, prepare and submit a draft final report, and a final report (incorporating the results of review comments). The report will summarize the results, conclusions, lessons learned, and recommendations, from the 6-year monitoring program. All raw data will be handed over to the PMO and IAs, in a clear and simple format.

## **E. Qualification and Requirements**

9. The EMA should (i) possess relevant domestic certifications required to conduct environmental monitoring; (ii) ensure the provision of all certified equipment and other resources needed for monitoring, analyses, and reporting, including field sampling and laboratory equipment and logistical resources (vehicles etc.); and (iii) assign qualified and experienced staff to be directly involved in site visits, monitoring, analyses, and reporting activities who has (a) a degree

in environmental management or related field (preferable master's or higher degree); (b) an ability to communicate and work effectively with local communities, contractors, and government agencies; (c) experience in data collection and analyses and report preparation; and (d) good physical health and fitness to visit remote project construction sites and in different seasons.

**(a) Environmental Specialist/Team Leader of the External Environment Monitoring Agency (National, 12 person-months)**

10. **Qualifications and requirements:** (i) At least 10 years of external environmental M&E experience in similar projects, (ii) Master's degree or above in Environmental Sciences or related environmental field, (iii) candidates with experience in ADB and World Bank's projects are preferred, (iv) good communication and writing skills in English.

11. The environmental Specialist/Team Leader will: (i) lead all the activities of the team; (ii) lead and set up the monitoring methodology, including design of baseline and tracer surveys; (iii) work and coordinate with relevant agencies and/or bodies within the project to implement the task of external M&E activities; (iv) lead and conduct the external M&E activities and required surveys to collect data and information at office and project sites, and analyze the findings; (v) prepare external environmental M&E reports which include conclusions and recommendations; (vi) submit the reports to PMO; and (vii) discuss findings with the PMO and IAs to reach agreement on any corrective actions required. Specifically:

- (i) To coordinate overall M&E activities in compliance with contract requirements;
- (ii) To develop detailed work plan and procedures;
- (iii) To conduct regular site visits for guidance of local site workers;
- (iv) To hold regular meeting to review work progress and propose actions for improvement;
- (v) To review M&E work plan and training programs;
- (vi) To propose suggestions based on the progress and participate in handling pollution accidents or any unexpected emerging environmental issues;
- (vii) To review variations in relation to environmental components and provide advice;
- (viii) To review environmental sections contained in the construction management plan, and to review compliance of environmental protection systems developed by contractors; and
- (ix) To review M&E reports and consolidated M&E report at completion.

**(b) Technical staff of the External Environment Monitoring Agency (National, 2 positions, 12 person-months each)**

12. **Qualifications and requirements:** (i) At least 5 years of external environmental M&E experience in similar projects; (ii) At least college degree or above in Environmental Sciences or related field, (iii) candidates with experience in ADB and World Bank's projects are preferred, and (iv) good communication and writing skills in English.

13. The technical staff will: (i) assist the environmental specialist in carrying out the monitoring on the project implementation to ensure that the environmental implementation is in compliance with the environmental management plans; (ii) under the guidance of the environmental specialist, carry out field surveys, including sampling and analyzing; (iii) analyze the data collected from the field surveys; (iv) provide assistance to the environmental specialist for the preparation of the external environmental M&E reports; and (v) conduct any other duties assigned by the environmental specialist/team leader. Specifically:

- (i) To undertake field survey and inspection under the guidance of Team Leader;
- (ii) To participate in preparation of environmental M&E procedures;
- (iii) To conduct environmental monitoring at project sites, and evaluate control of pollutants for compliance with relevant environmental standards and regulations;
- (iv) To identify issues and report in a timely manner and propose mitigation measures;
- (v) To arrange site meetings for effective coordination with the PMO, IAs and contractors and deliver training on a needed basis;
- (vi) To participate in handling pollution accidents or any unexpected emerging environmental issues under the guidance of Team Leader;
- (vii) To assist Team Leader in review of variations in relation to environmental components;
- (viii) To prepare external environmental M&E reports and consolidated M&E report;
- (ix) To undertake other tasks assigned by Team Leader.

## **External Resettlement and Social Monitoring and Evaluation**

### **Indicative Terms of Reference for Package GZ-Serv-6**

#### **A. Background**

1. Ganzhou is a large agricultural prefecture-level municipality in Jiangxi Province with an estimated population of 9.7 million in 2017 and a land area of 39,380 square kilometers. Ganzhou is deemed poor, ecologically fragile, relatively rural, and strategically located in the vicinity of the Gan River in Jiangxi province. There have been increased environmental and ecological degradations in the rural areas of Gan River in Ganzhou.

2. The People's Republic of China (PRC) has requested the Asian Development Bank (ADB) to provide investment support and technical assistance for the Jiangxi Ganzhou Rural Vitalization and Comprehensive Environment Improvement Project (the project). The project will strengthen the environmental and ecological protection and urban-rural integration along the Gan River to improve the rural environmental and economic conditions in Ganzhou. The project will be implemented through four outputs within eight counties and one district, including institutional capacity for environment and water resource management strengthened, green development mechanisms piloted, rural waste and sanitation management improved, and water and soil conservation practices improved.

3. This document is the indicative terms of reference for an external resettlement and social monitoring and evaluation (M&E) agency to ensure that the project will be implemented in conformity with the People's Republic of China's (PRC) laws and regulations and the Asian Development Bank's (ADB's) Safeguard Policy Statement (2009) requirements on involuntary resettlement, indigenous peoples, and social aspects. The direct client for the consulting services is the Ganzhou Municipal project management office (PMO).

#### **B. Implementation Arrangements**

4. The external resettlement and social M&E will be carried out by a team of specialists through a competent external monitoring agency (EMA). The M&E will be financed by ADB, and the team of specialists will be recruited by the PMO according to ADB's Procurement Regulations for ADB Borrowers—Goods, Works, Nonconsulting and Consulting Services (2017, as amended from time to time) through consultants' qualifications selection (CQS) method. The PMO and IAs will provide assistance to the EMA, particularly in the aspects of field survey, staffing, and logistics.

#### **C. Reporting Requirements**

5. The EMA will submit the semiannual external resettlement and social M&E reports to ADB and the PMO during the implementation of land acquisition and resettlement (LAR), and the annual external resettlement and social M&E reports for 2 years after the completion of the LAR. For each report, soft copies for both English and Chinese versions will be needed. At the end of their contract, the EMA will submit a final consolidated M&E report in both English and Chinese within one month after completion of the project.

6. An inception report will be prepared at inception stage which include agreed methodology and work plan, baseline survey results, survey tools and questionnaires to be used, approach to sampling of affected households, sample size (minimum of 20% of the affected households), and the outline of the monitoring reports. Semiannual monitoring reports will include but not limited to

summary of findings and conclusion of investigations and evaluation; major problems identified (existing and potential); recommended mitigation or prevention measures which need to be taken; and assessment of previous follow-up actions.

7. The EMA will take full responsibility on the content and quality of the reports, and revise reports based on the comments of ADB. Format of the reports will be proposed by the EMA in the technical proposal. The EMA may seek guidance from examples of reports on ADB website.

#### **D. Scope of Services**

8. The general objective of the external resettlement and social M&E is to assess the compliance with principles, policies, and requirements mentioned in the RP, EMDP, SDAP, GAP and ESMS, including to:

- (i) determine and assess whether the compensation payment, support, and resettlement for the affected persons as well as the process of community consultation, information disclosure, and resolution of complaints and grievances are being carried out in compliance with principles, requirements, and procedures according to the resettlement plan;
- (ii) review whether the resettlement plan's objectives, especially those that improve or at least restore affected persons' living standards, are adequately implemented and achieved;
- (iii) review the implementation of measures in the EMDP, SDAP, GAP and ESMS; and
- (iv) review the shortcomings in the implementation of relevant social plans and develop recommended solutions for discussion with the PMO.

9. To carry out the M&E, the EMA will address the following tasks.

- (i) **Periodic monitoring and evaluation.** During the implementation, the EMA will periodically monitor and evaluate the implementation of relevant social plans according to the progress of each subproject mobilized by the PMO.
- (ii) **Post-resettlement and social monitoring and evaluation.** After the completion of the implementation of relevant social plans for the project, the EMA will carry out post-resettlement and social M&E to evaluate the results of the implementation of the relevant plans.
- (iii) Participate with the PMO in ADB's review missions, as required.

10. **Methodology of the monitoring and evaluation.** The EMA will apply both qualitative and quantitative methods during monitoring, including the following.

#### **(i) Quantitative Methods**

##### **For Resettlement Plan:**

- (a) Conduct baseline survey (prior to start of the LAR), covering a representative sample of affected persons; and focusing more on those seriously affected and vulnerable affected persons;



- (b) Conduct semiannual and annual questionnaire survey during project implementation for 50% of severely affected households and 20% of all other affected households;
- (c) Use the existing statistical data at local levels, and data from district and/or county resettlement bureaus;
- (d) Survey affected businesses and workers; and
- (e) Conduct final M&E of the LAR implementation (prior to project completion) by conducting a sample survey on 50% of severely affected households and 20% of all other affected households.

**For EMDP, SDAP, GAP and ESMS:**

Collect data on the implementation of relevant activities in relevant plans.

Collect data to measure the achievement of targets in relevant plans

**(ii) Qualitative Methods (for all social plans)**

- (a) Review project documents, ADB relevant policies, and relevant domestic laws and regulations.
- (b) Consult and discuss with different stakeholders, including the PMO, IAs and other organizations through consultation meetings, in-depth interviews, and group discussions.
- (c) Undertake focus group discussions, in-depth interviews with the target groups of relevant social plans.

**(iii) Site visits.** Conduct site visits to check the implementation results of relevant social plans.

11. All information and data collected will be processed, analyzed, and included in the baseline or subsequent M&E reports. The EMA must store the processed data to serve for the next M&E. These data will belong to the PMO and will be made available to ADB or the PMO upon request. All documentation will be transferred to the PMO at the completion of the contract.

12. **Monitoring and evaluation frequency.** Frequency of the two types of M&E are as follows:

- (i) **For periodic monitoring and evaluation.** Periodic M&E will be carried out in project sites at least twice a year or at suitable schedules determined by the PMO to collect information. The periodic M&E report will be submitted not later than 30 days after the completion of field investigations; and
- (ii) **For post-resettlement and social monitoring and evaluation.** Post-resettlement and social M&E will be carried out for 2 years after the completion of the LAR activities, at least once a year, or at a suitable schedule determined by the PMO to evaluate the efficiency of the LAR. The post-resettlement and social M&E report will be submitted to ADB and the PMO not later than 30 days after the completion of the field investigations.

**E. Qualification and Requirements**

13. The EMA should be a registered social organization (research institution, design institute, consulting institution and/or firm, university, or nongovernment organizations) without direct

administrative subordination relations with GMG and the PMO. The EMA should have five or more qualified technical staff members. Professional staff members of the EMA should have degrees in economics, sociology, anthropology, or a relevant field of social sciences; are familiar with ADB's social safeguard policies and procedures; and have previous experience in M&E of the resettlement and social issues for projects funded by ADB. The EMA should also have experience in undertaking similar projects in the PRC.

14. The EMA will establish a M&E team. The main duties of the team are to (i) carry out the M&E on the implementation of the relevant social plans to ensure it is in compliance with ADB and PRC requirements; (ii) advise the PMO on the implementation of the relevant social plans to ensure policies and procedures are complied with; and (iii) provide information and data, monitoring results, and observations that the team leader will aggregate into the external M&E reports.

15. All team members must be fluent in Chinese as well as English, and reports submitted to ADB will be in English. For each of the members, (i) possession of a related degree, qualification, and/or memberships of related academic societies; and/or past participation in related training courses; (ii) experience in similar positions for projects; and (iii) experience in working with international organizations and/or international consultants will be highly evaluated.

**(a) Resettlement Specialist and Team Leader (national, 10 person-months)**

16. The specialist will conduct, but not limited to, the following tasks:

- (i) lead all the activities of the team;
- (ii) lead and set up the monitoring methodology, including design of baseline and tracer surveys;
- (iii) work and coordinate with relevant agencies and/or bodies within the project to implement the tasks of the M&E activities;
- (iv) lead and conduct the M&E activities and required surveys to collect data and information at office and project sites, and then analyze the findings;
- (v) prepare external M&E reports which include conclusions and recommendations;
- (vi) discuss findings with the PMO to reach agreement on follow-up actions; and
- (vii) participate in ADB's review missions.

**(b) Social Specialist (national, 10 person-months)**

17. The specialist will conduct, but not limited to, the following tasks:

- (i) monitor the social activities mentioned in the relevant social plans to ensure they are carried out in compliance with principles, requirements, and procedures according to relevant plans; and monitor livelihood restoration of the affected persons as well as social benefits to residents including relevant plans;
- (ii) provide inputs to the external resettlement and social M&E reports, which would include progress, challenges and/or bottlenecks during implementation; and propose solutions and/or recommendations to address these issues;
- (iii) participate in ADB's review missions, if required; and
- (iv) conduct any other duties assigned by the team leader.

**(c) Field Surveyors (national, two positions, 10 person-months each)**

18. The surveyors will:

- (i) assist the resettlement and social specialists in carrying out the monitoring on the implementation of the resettlement plan and social plans so that their implementation is in compliance with ADB's requirements;
- (ii) under the guidance of the resettlement and social specialists, carry out field surveys;
- (iii) analyze the data collected from the field surveys;
- (iv) provide assistance to the resettlement and social specialists for the preparation of the external resettlement and social M&E reports; and
- (v) conduct any other duties assigned by the team leader.

## **Project Start-up Consultancy before Loan Implementation**

### **Indicative Terms of Reference for Package GZ-Serv-7,8,9,10**

1. Four national specialists will be hired through the individual consultant selection (ICS): procurement specialist (10 person-months); financial specialist (10 person-months); social specialist (10 person-months); and environmental specialist (10 person-months). The indicative terms of reference for consulting services for the project implementation start-up support are as follow:

#### **A. Background**

2. Ganzhou is a large agricultural prefecture-level municipality in Jiangxi Province with an estimated population of 9.7 million in 2017 and a land area of 39,380 square kilometers. Ganzhou is deemed poor, ecologically fragile, relatively rural, and strategically located in the vicinity of the Gan River in Jiangxi province. There have been increased environmental and ecological degradations in the rural areas of Gan River in Ganzhou.

3. The People's Republic of China (PRC) has requested the Asian Development Bank (ADB) to provide investment support and technical assistance for the Jiangxi Ganzhou Rural Vitalization and Comprehensive Environment Improvement Project (the project). The project will strengthen the environmental and ecological protection and urban-rural integration along the Gan River to improve the rural environmental and economic conditions in Ganzhou. The project will be implemented through four outputs within eight counties and one district, including institutional capacity for environment and water resource management strengthened, green development mechanisms piloted, rural waste and sanitation management improved, and water and soil conservation practices improved.

4. This document sets out indicative terms of reference for consulting services needed to ensure the smooth implementation start-up of the project. The executing agency for the project is the Ganzhou Municipal Government (GMG). The direct client for the consulting services is the Ganzhou Municipal project management office (PMO).

#### **B. Implementation Arrangements**

5. The consulting services will be carried out by the following individual consultants: financial specialist (4 person-months); social specialist (5 person-months); and environmental specialist (5 person-months), with a total of 14 person-months. The consulting services will be financed by the Asian Development Bank (ADB), and the consultants will be recruited by the PMO according to Procurement Regulations for ADB Borrowers - Goods, Works, Nonconsulting and Consulting Services (2017, as amended from time to time).<sup>5</sup>

6. The consultant will be selected using the individual consultant selection (ICS) method. The consulting services are expected to start on 1 January 2022 and continue until 31 October 2022.

#### **C. Reporting Requirements**

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<sup>5</sup> Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>.

7. During the assignment, each consultant will submit monthly reports (maximum of 2 pages) in Chinese to the PMO. The reports will describe what was planned and accomplished, the problems and obstacles encountered, and what are planned for the following month.

8. At the end of the assignment, each consultant will submit a report on his/her activities to ADB and the PMO (a soft copy of the English version to ADB and soft copies of the English and Chinese versions to the PMO).

#### **D. Scope of Services and Consultants' Inputs**

9. The procurement management specialist will undertake the following tasks:
  - (i) review the procurement plan; and after consultation with the PMO and the IAs, revise as needed;
  - (ii) set schedule for obtaining technical specifications from the design institute;
  - (iii) review of business sections in the bidding documents;
  - (iv) review of bid evaluation reports;
  - (v) coordinate with the national procurement agency (hired by the PMO);
  - (vi) monitor the PMO's procurement activities under the project, and assist the PMO in preparing, updating, and implementing the procurement plan;
  - (vii) conducting contract management during the project implementation, including monitoring construction progress, preparing progress reports, reviewing the contractor's claims for payments, coordinating project implementation among contractors and various stakeholders, and coordinating daily operational tasks;
  - (viii) providing expert inputs, review and justification for contract variation and preparing necessary documentations in accordance with the Government and ADB requirements, if necessary;
  - (ix) capacity development (including training of trainers, etc.) in procurement and contract management with the long-term objective of institutionalizing a strong procurement and contract management function within the EA/PMO; and
  - (x) undertake any other necessary work related to procurement and contract management as needed.
10. The financial specialist will undertake the following tasks:
  - (i) Assist EA and IAs to set up the project account before loan implementation consultant is recruited;
  - (ii) Provide suggestions and support for ADB disbursement procedures, and assist related specialists to develop and improve the system of accounting, financial management and reporting;
  - (iii) Review information of withdrawal before the loan implementation consultant participates, to ensure compliance of ADB, financial and auditing requirements;
  - (iv) Guide the preparation of statements and financial management, review the annual financial statements, and compile the summary statements;
  - (v) Provide assistance to the IA of FIL in financial management of FIL subproject; and
  - (vi) Assist executing agency/implementing agency to complete other tasks activities as needed.
11. The social specialist will undertake the following tasks:
  - (i) assist the PMO, the IAs, and designated institute in updating and/or implementing the resettlement plan (RP), ethnic minority development plan (EMDP), environment and social management system (ESMS), social development action plan (SDAP) and gender action plan (GAP) approved by ADB, following the ADB format and based on

- the detailed designs. For the updated plans assist in disclosing the plans to the affected persons/stakeholders and obtaining ADB's approval of them;
- (ii) assist GMG and the implementing agencies to update the due diligence report for state-owned land and associated facilities after the final design before approval of civil works contracts to reconfirm that there are no outstanding or legacy issues of land acquisition and resettlement;
  - (iii) provide training and support to the Ganzhou Branch of Agricultural Bank of China (GABC) to establish the ESMS, including readiness measures needed to ensure timely issuance of the GABC Presidential Directive (ESMS paras. 29-30) and ensure the steps of the ESMS are incorporated into the business procedures of GABC;
  - (iv) provide support during the screening, categorization, and monitoring of subprojects under the FI component to ensure that there are no involuntary resettlement impacts and adverse impacts on vulnerable ethnic minorities according to the ESMS;
  - (v) assist the PMO and the IAs in establishing effective grievance redress mechanism (GRM), including procedures to ensure the documentation and reporting of complaints, follow-up actions, and results;
  - (vi) provide training to relevant staff of the PMO and the IAs so that they will understand ADB's policies and compliance requirements for land acquisition, resettlement, ESMS, social development, and gender-inclusive measures, including record keeping;
  - (vii) prepare or update the social related guidance documents, including procedures and forms;
  - (viii) assist in establishing an internal monitoring and reporting system;
  - (ix) provide hands-on guidance in preparing the first social report;
  - (x) provide a written report for the project implementation consulting firm about the accomplished work in aspect of social management; and
  - (xi) perform any other land acquisition, resettlement, ESMS, and social related tasks during the start-up of the project.
12. The environmental specialist will undertake the following tasks:
- (i) Work closely with the PMO, IAs and design institutes to ensure that preparation of the detailed engineering designs (DEDs) fully incorporates the designs and mitigation measures described in the project initial environmental examination (IEE) and environmental management plan (EMP).
  - (ii) Assess whether any of the DEDs are sufficiently different from the preliminary designs approved by the Government and ADB that updates to the IEE, EMP and ESMS are required. This may include, but not be limited to: major changes in proposed alignments and/or locations of facilities; new subcomponents requiring infrastructure works and/or which may have environment; and/or cancellation of approved components.
  - (iii) With the PMO and ADB, discuss any changes required for the IEE, EMP and ESMS. Assist the PMO to prepare any new impact assessments and/or updates as required; and to submit these to ADB for review. No changes to any of the ADB-approved documents will be made without prior approval of the Government and ADB.
  - (iv) Training and support to the Ganzhou Branch of Agricultural Bank of China (GABC) to establish the ESMS, including readiness measures needed to ensure timely issuance of the GABC Presidential Directive (ESMS paras. 29-30) and ensure the steps of the ESMS are incorporated into the business procedures of GABC.
  - (v) Assist the PMO and IAs in establishing the project grievance redress mechanism (GRM), including procedures to ensure documentation, and reporting of complaints, follow-up actions, and results.

- (vi) Provide trainings to PMO and IA staff so that they will understand ADB's Safeguard Policy Statement (2009), policies, and compliance requirements for environmental management; national and local regulations and standards for environmental protection, health, labor, and occupational safety; and the project IEE, EMP and ESMS.
- (vii) Provide hands-on guidance in preparing the first environmental monitoring report to ADB.

#### **E. Consultant Qualifications**

13. The consultant shall have (i) a Master's degree or higher in environmental management or related field; (ii) at least 10 years of experience in environmental management, monitoring and environmental impact assessment and/or initial environmental examination (IEE), including specific experience in management and monitoring of environmental projects; (iii) familiarity with ADB's Safeguard Policy Statement (2009), ADB's project management requirements, and national environmental management procedures; (iv) ability to communicate and work effectively with local communities, contractors, and government agencies; (v) ability to analyze data and prepare technical reports; (vi) willingness and health to regularly visit project sites; and (vii) proficiency in spoken and written English.

#### **F. Reporting requirements**

14. Upon completion of the consultancy, submit a written report describing the work accomplished, any key challenges encountered and/or technical concerns for further consideration, and lessons learned.

## **Huichang Xiang River Watershed Ecological Investigation and Environmental Management Study**

### **Indicative Terms of Reference for Consulting Service Package HC-Serv-1**

#### **A. Background**

1. Ganzhou is a large agricultural prefecture-level municipality in Jiangxi Province with an estimated population of 9.7 million in 2017 and a land area of 39,380 square kilometers. Ganzhou is deemed poor, ecologically fragile, relatively rural, and strategically located in the vicinity of the Gan River in Jiangxi province. There have been increased environmental and ecological degradations in the rural areas of Gan River in Ganzhou.

2. The People's Republic of China (PRC) has requested the Asian Development Bank (ADB) to provide investment support and technical assistance for the Jiangxi Ganzhou Rural Vitalization and Comprehensive Environment Improvement Project (the project). The project will strengthen the environmental and ecological protection and urban-rural integration along the Gan River to improve the rural environmental and economic conditions in Ganzhou. The project will be implemented through four outputs within eight counties and one district, including institutional capacity for environment and water resource management strengthened, green development mechanisms piloted, rural waste and sanitation management improved, and water and soil conservation practices improved.

3. The Jiangxi Huichang Xiang River National Wetland Park was established in 2012 along Xiang River and was approved as the national wetland park in 2016. The total area of the park is 12.647 square kilometers, among which 10.388 square kilometers (82%) is wetland. It provides habitat for approximately 284 species of wild vertebrates and supports at least 214 species of wetland plants. To protect the ecosystem within the park, systematic investigation, and dynamic monitoring on the ecological resources, including fauna and flora, are needed.

4. This document sets out the indicative terms of reference (TOR) for the consulting services to undertake a study on the ecological and environmental monitoring and management system in Jiangxi Huichang Xiang River National Wetland Park to protect the ecological resources and systems within the wetland. The executing agency for the project is the Ganzhou Municipal Government (GMG).

#### **B. The Objectives, Scope, and Major Outputs of Services**

5. The consulting service is to study and develop an ecological and environmental monitoring system for the Jiangxi Huichang Xiang River National Wetland Park to protect the ecosystem within the wetland. The budget is CNY5 million including professional remuneration and costs for the monitoring system development and monitoring equipment procurement.

6. The detailed outputs and activities of this consulting service will include but not limited to:

- (i) detailed designs of the ecological and environmental monitoring system, including structures, technical specifications, operation, and maintenance procedures, etc. The monitoring system will be composed of four subsystems, including: (a) ecological and environmental quality monitoring subsystem; (b) video surveillance subsystem; (c) ecological factor monitoring subsystem; and (d) public education and dissemination subsystem.



- (ii) **Ecological and environmental quality monitoring subsystem:** (a) collection and review of existing remote sensing image data, geographical data, meteorological data, and ecological and environmental quality monitoring data of Xing River basin to develop a data base; and (b) design and development of a monitoring system to collect, calculate, analyze, and present the data.
- (iii) **Video surveillance subsystem.** Installation of intelligent video monitoring equipment to establish a comprehensive monitoring network covering main bird habitats and birds within the wetland, with functions of real time video check, historical videos replay, automatic amplification tracing and point tracing, etc.
- (iv) **Ecological factor monitoring subsystem.** The subsystem will include video surveillance system, hydrological monitoring system, and meteorological monitoring system, etc. Data collected will be analyzed to produce statistical and graphic outputs to users.
- (v) **Public education and dissemination subsystem.** The subsystem is to provide a platform for the public to understand the ecological resources and values in the wetland park. Photos, pictures, videos, ecological data, research reports, etc. will be available to the public on a website.

### C. Implementation Arrangements

7. The consulting service will be carried out by a team of consultants through a firm, research institution, or academy, etc. The consulting services will be financed by the Asian Development Bank (ADB), and the consulting team will be recruited by PMO according to Procurement Regulations for ADB Borrowers - Goods, Works, Nonconsulting and Consulting Services (2017, as amended from time to time).<sup>6</sup> The consulting firm will be selected by (i) inviting simplified technical proposals; and (ii) using the quality and cost-based selection (QCBS) method. The consulting services are expected to start on 1 April 2023 and finish on 30 September 2024. The management committee of Jiangxi Huichang Xiang River National Wetland Park will provide assistance to the consultant team in obtaining of wetland access authority and history data/documents during the consulting services.

### D. Reporting Requirements

8. The consultant team will produce (i) an inception report within 4 weeks after mobilization, (ii) a system design report within 3 months after mobilization, (iii) a final study report at the end of the consulting services, and an ecological and environmental monitoring system for the wetland park. The inception, draft system design, and final reports will be subject to reviews by ADB and PMO. The comments received from ADB and PMO and selected key experts who would be invited as reviewers should be incorporated and addressed in the final report. All reports are to be written in English and in Chinese.

### E. Key Expertise Required

9. The consultants will determine the inputs, the number, and the specialties of experts which they will require to achieve the objectives of the consulting service in accordance with their proposed approach and methodology.

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<sup>6</sup> Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>.

## **Ganzhou CCER Forestry Carbon Sink Study and Pilot**

### **Indicative Terms of Reference for Consulting Service Package CY-Serv-1**

#### **A. Background**

1. Ganzhou is a large agricultural prefecture-level municipality in Jiangxi Province with an estimated population of 9.7 million in 2017 and a land area of 39,380 square kilometers. Ganzhou is deemed poor, ecologically fragile, relatively rural, and strategically located in the vicinity of the Gan River in Jiangxi province. There have been increased environmental and ecological degradations in the rural areas of Gan River in Ganzhou.

2. The People's Republic of China (PRC) has requested the Asian Development Bank (ADB) to provide investment support and technical assistance for the Jiangxi Ganzhou Rural Vitalization and Comprehensive Environment Improvement Project (the project). The project will strengthen the environmental and ecological protection and urban-rural integration along the Gan River to improve the rural environmental and economic conditions in Ganzhou. The project will be implemented through four outputs within eight counties and one district, including institutional capacity for environment and water resource management strengthened, green development mechanisms piloted, rural waste and sanitation management improved, and water and soil conservation practices improved.

3. This document sets out the indicative terms of reference (TOR) for the consulting services to undertake a study on CCER carbon sink to help decreasing carbon dioxide emission and promoting forest management in Ganzhou. The executing agency for the project is the Ganzhou Municipal Government (GMG). The implementing agency for the project is the Chongyi Forest Bureau.

#### **B. The Objectives, Scope, and Major Outputs of Services**

4. The consulting service is to study and design a pilot program for CCER forestry carbon sink in Chongyi County. The pilot program will cover 270,000 *mu* of forest. The budget is CNY1 million. The detailed outputs and activities of this consulting service will include but not limited to:

- (i) review of national regulations and plans on CCER carbon sink trade.
- (ii) baseline investigation on the forest in Chongyi County.
- (iii) detailed design of the CCER carbon sink program based on baseline investigation, including afforestation or forest operation/management schemes, and specific activities to be undertaken for CCER application.
- (iv) preparation of required documents for CCER application. The documents will cover program basic information, financial conditions, predicted carbon dioxide equivalence, and predicted financial benefits, etc.
- (v) provision of technical assistance to the client during CCER program monitoring and verification.
- (vi) helping the client to address the comments from the review panel and obtain the CCER credit approval.
- (vii) provision of trainings on CCER application requirements, application procedures, program implementation, monitoring and verification, and final credit issuance to relevant staff in Chongyi Forest Bureau.

## **C. Implementation Arrangements**

5. The consulting service will be carried out by a team of consultants through a firm, research institution, or academy, etc. The consulting services will be financed by the Asian Development Bank (ADB), and the consulting team will be recruited by PMO according to Procurement Regulations for ADB Borrowers - Goods, Works, Nonconsulting and Consulting Services (2017, as amended from time to time).<sup>7</sup> The consulting firm will be selected by (i) inviting combined technical and financial proposal; and (ii) using the consultant's qualification selection (CQS) method. The consulting services are expected to start on 31 October 2022 and finish on 31 December 2027.

## **D. Reporting Requirements**

6. The consultant team will produce (i) an inception report within 4 weeks after mobilization, (ii) a CCER forest carbon sink program design report within 4 months after mobilization, (iii) semiannual progress and monitoring reports during service period; and (iii) a final study report at the end of the consulting services. The inception, draft CCER program design, progress and final reports will be subject to reviews by ADB and PMO. For the CCER program design report, the comments received from ADB and PMO, and selected key experts who would be invited as reviewers should be incorporated and addressed in the final report. All reports are to be written in English and in Chinese.

## **E. Key Expertise Required**

7. The proposing entities will determine the number and the nature of experts which they will require to achieve the objectives of the consulting service in accordance with their proposed approach and methodology.

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<sup>7</sup> Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>.

## APPENDIX 3: TRAINING PLAN FOR CAPACITY TRAINING

### Training Plan for Capacity Training on Environmental Management and Enforcement, Natural Resource Management, Water and Soil Conservation (Nonconsulting Services Package GZ-NCServ-1 to GZ-NCSev-8)

#### A. Background

1. Ganzhou is a large agricultural prefecture-level municipality in Jiangxi Province with an estimated population of 9.7 million in 2017 and a land area of 39,380 square kilometers. Ganzhou is deemed poor, ecologically fragile, relatively rural, and strategically located in the vicinity of the Gan River in Jiangxi province. There have been increased environmental and ecological degradations in the rural areas of Gan River in Ganzhou.
2. The People's Republic of China (PRC) has requested the Asian Development Bank (ADB) to provide investment support and technical assistance for the Jiangxi Ganzhou Rural Vitalization and Comprehensive Environment Improvement Project (the project). The project will strengthen the environmental and ecological protection and urban-rural integration along the Gan River to improve the rural environmental and economic conditions in Ganzhou. The project will be implemented through four outputs within eight counties and one district, including institutional capacity for environment and water resource management strengthened, green development mechanisms piloted, rural waste and sanitation management improved, and water and soil conservation practices improved.
3. This document sets out the training plan for the nonconsulting services to strengthen the capacity of project agencies in ecological protection, water and soil conservation, ecological and environmental monitoring, hydrological management, and monitoring, as well as afforestation and forest quality promotion. The executing agency for the project is the Ganzhou Municipal Government (GMG). The capacity training participants are the relevant officers in the EA/IAs.

#### B. Implementation Arrangements

4. The training seminars or study tours will be led by the consultants to develop detailed training plans, identify trainees and trainers, coordinate with various organizations, organize and facilitate the training activities, review of training contents, and assess training outputs and outcomes. The training targets will provide various trainings for about 500 staff of EA/IAs.

#### D. Training

5. The consultant team shall organize training seminars or study tours as listed in the following table. The training contents, participants and frequency will be further discussed and confirmed with PMO and IAs before implementation.

No.	Nonconsulting Service Package	Topics	Agency	No. of participants	Duration	Times
1	GZ-NCServ-1	Environmental protection laws and regulations, enforcement procedures and key issues	Municipal Nature Resource Bureau	50	2 days	5
	GZ-NCServ-2		County/district Nature Resource Bureau	25	1 day	5

No.	Nonconsulting Service Package	Topics	Agency	No. of participants	Duration	Times
2	GZ-NC Serv-3	Hydrological monitoring techniques	Municipal Hydrological Bureau	50	2 days	10
3	GZ-NC Serv-4 GZ-NC Serv-5	Smart water conservancy introduction, remote sensing technology application, standards, and specification introduction, etc.	Municipal Water Conservancy Bureau	50	2 days	5
			County/district Water Conservancy Bureau	50	1 day	5
4	GZ-NC Serv-6 GZ-NC Serv-7	Ecological and environmental supervision, management, and restoration	Municipal Ecology and Environment Bureau	50	2 days	5
			County/district Ecology and Environment Bureau	50	2 days	5
5	GZ-NC Serv-8 GZ-NC Serv-1	Ecological restoration, emerging technologies, greening, mining mountain restoration, etc.	Municipal Nature Resource Bureau	50	2 days	5
			County/district Nature Resource Bureau	50	2 days	5
6	GZ-NC Serv-2 GZ-NC Serv-3	Water and soil conservation technology introduction, including standards, equipment operation and maintenance, informatization, etc.	Municipal Water and Soil Conservation Bureau	50	2 days	5
			County/district Water and Soil Conservation Bureau	50	2 days	3
7	GZ-NC Serv-4 GZ-NC Serv-5	Forest industry development, forest resource management, forest quality promotion, pest control in forest, smart forestry introduction, etc.	Municipal Forest Bureau	50	2 days	5
			County/district Forest Bureau	50	2 days	5
8	GZ-NC Serv-6	Introduction of technical specification and standards of afforestation, afforestation design, etc.	Forest Bureau of Nankang, Huichang, Shangyou and Chongyi County	100	2 days	5

## APPENDIX 4: ADB LIST OF PROHIBITED INVESTMENT ACTIVITIES

The use of ADB funds is strictly prohibited for the following activities (ADB Safeguard Policy Statement, 2009).

1. Production or activities involving harmful or exploitative forms of forced labor<sup>1</sup> or child labor.<sup>2</sup>
2. Production of or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements or subject to international phase-outs or bans, such as (a) pharmaceuticals,<sup>3</sup> pesticides, and herbicides,<sup>4</sup> (b) ozone-depleting substances,<sup>5</sup> (c) polychlorinated biphenyls<sup>6</sup> and other hazardous chemicals,<sup>7</sup> (d) wildlife or wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora,<sup>8</sup> and (e) transboundary trade in waste or waste products.<sup>9</sup>
3. Production of or trade in weapons and munitions, including paramilitary materials.
4. Production of or trade in alcoholic beverages, excluding beer and wine.<sup>10</sup>
5. Production of or trade in tobacco.
6. Gambling, casinos, and equivalent enterprises.
7. Production of or trade in radioactive materials,<sup>11</sup> including nuclear reactors and components thereof.
8. Production of, trade in, or use of unbonded asbestos fibers.<sup>12</sup> NOTE: see project-specific assurance (ESMS Section VII) for use of asbestos.
9. Commercial logging operations or the purchase of logging equipment for use in primary tropical moist forests or old-growth forests.
10. Marine and coastal fishing practices, such as large-scale pelagic drift net fishing and fine mesh net fishing, harmful to vulnerable and protected species in large numbers and damaging to marine biodiversity and habitats.

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<sup>1</sup> All work or services not voluntarily performed i.e., extracted from individuals under threat of force or penalty.

<sup>2</sup> Employment of children whose age is below the host country's statutory minimum age of employment, or, in contravention of International Labor Organization Convention No. 138 "Minimum Age Convention" ([www.ilo.org](http://www.ilo.org)).

<sup>3</sup> A list of pharmaceutical products subject to phaseouts or bans is available at <http://www.who.int>.

<sup>4</sup> A list of pesticides and herbicides subject to phaseouts or bans is available at <http://www.pic.int>.

<sup>5</sup> A list of the chemical compounds that react with and deplete stratospheric ozone resulting in the widely publicized ozone holes is listed in the Montreal Protocol, together with target reduction and phaseout dates. Information is available at <http://www.unep.org/ozone/montreal.shtml>.

<sup>6</sup> A group of highly toxic chemicals. Likely to be found in oil-filled electrical transformers, capacitors, and switchgear dating from 1950 to 1985.

<sup>7</sup> A list of hazardous chemicals is available at <http://www.pic.int>.

<sup>8</sup> A list is available at <http://www.cites.org>.

<sup>9</sup> As defined by the Basel Convention; see <http://www.basel.int>.

<sup>10</sup> Does not apply to project sponsors who are not "substantially involved" in these activities i.e., the activity concerned is ancillary to a project sponsor's primary operations.

<sup>11</sup> Does not apply to the purchase of medical equipment, quality control (measurement) equipment, and any equipment for which ADB considers the radioactive source to be trivial and adequately shielded.

<sup>12</sup> Does not apply to purchase and use of bonded asbestos cement sheeting where the asbestos content is <20%.

## **APPENDIX 5: PROCUREMENT MANUAL**

### **A. Introduction**

1. This procurement manual is prepared to regulate the procurement activities of the Green Financing Mechanism component in the Ganzhou Rural Revitalization Environmental Comprehensive Treatment Project, which will utilize an Asian Development Bank (ADB) financial intermediation loan (FIL). ADB expects that for FILs, the procurement is undertaken by the respective loan beneficiaries in accordance with established private sector or commercial practices, and which are acceptable to ADB.

2. First objective of the manual is to draw attention to Qualified Investees that they have the responsibility to ensure the procurement activities they undertake to implement their Subprojects must:

- (i) Comply with any relevant laws and regulations of the People's Republic of China (PRC) and the municipal or provincial governments in the greater Ganzhou area where the project is located and
- (ii) Adhere to procurement principles and guidance determined by ADB to be applicable to this FIL project.

3. Second objective of the manual is to offer specific guidance on how procurement activities can be undertaken that will ensure compliance with ADB Procurement Policy and regulations.

4. It is not appropriate for this ADB manual to offer specific advice on compliance with the specific requirements of the PRC and local governments' laws and regulations. Such legal compliance is the responsibility of investees and applies not just to procurement activities but is an all-embracing responsibility they have in how they conduct to all their business activities.

5. Notwithstanding the above statement, all the guidance provided in this manual is compatible with current applicable PRC law—and specifically the PRC Tendering and Bidding Law 1999 (effective from 1 Jan 2000), the scope and applicability of which includes all investment projects that utilize foreign capital funds. Qualified Investees should therefore ensure that their procurement staff are familiar with the requirements of this law and its applicable regulations, in addition to being provided with this procurement manual.

6. It is also not the intention of this manual to force changes in the procurement procedures of the investees where they already substantially comply with required ADB procurement principles. However, it is expected that the investees will review their own procurement procedures using the contents of this manual as a guide and adjust their procedures to ensure the required substantial compliance.

7. The contents of this procurement manual will be kept under review during project implementation and can be revised at any time according to the project requirements, or changes in applicable laws and regulations. Any changes in the manual will be jointly approved by GMG and ADB.

### **B. Procurement Objectives**

8. The aim of any procurement process is to ensure the resulting procurement provides the investees with goods, works or services that:

- (i) Are fit for the intended purpose—i.e., they meet required quality, durability, and performance criteria;

- (ii) Provide value for money to the purchaser; and
- (iii) Are procured in a timely and efficient manner.

9. These objectives are wholly compatible with best commercial practice and endorsed by ADB. However, the objectives are not mutually exclusive, and they can conflict to a degree. For example, sophisticated procurement procedures may well be justified for large scale or technically complex procurement but would not be justified on efficiency grounds for simpler small-scale procurement. ADB Procurement Policy and regulations recognize the need for an efficient procurement process by providing simpler procedures for small-scale procurement.

10. Another crosscutting objective of any procurement process is to adequately safeguard investees against the risks of corruption and fraud that could damage the level of subproject performance (as measured in financial terms and/or energy/emissions savings), and potentially the competitiveness of the entire business.

### C. ADB Procurement Principles

11. ADB procurement guidelines are based on the principles of (i) economy, (ii) efficiency, (iii) fairness, (iv) transparency, (v) quality, and (v) value for money. Each of these principles is briefly explained below, while specific guidance on their application is given in Section D of this manual.

12. **Economy.** The principle of economy means considering factors such as price, quality, and any nonprice attributes, as appropriate, without adversely affecting the viability of the project.

13. **Efficiency.** The principle of efficiency ensures that procurement processes are proportional to the value and risks of the required outcome and underlying project activities, considering implementation capacity, time constraints, and cost-effectiveness.

14. **Fairness.** The principle of fairness means (a) equal opportunity for and treatment of eligible bidders; (b) equitable distribution of rights and obligations between borrowers and bidders; and (c) credible mechanisms for addressing procurement-related complaints and providing recourse. ADB encourages open competition as the preferred procurement approach, whenever possible, to maximize fairness of the opportunity to bid.

15. **Transparency.** The principle of transparency means ensuring, through appropriate documentation and review of activities in the procurement process, that (a) relevant procurement information is made publicly available to interested parties, in a consistent and timely manner, through readily accessible and widely available sources at no (or reasonable) cost; (b) appropriate reporting of procurement activity; and (c) use of confidentiality provisions in contracts only where justified.

16. **Quality.** This principle requires that the procurement arrangements<sup>4</sup> are structured to procure inputs and deliver outputs of appropriate standard in a timely and effective manner to achieve the project outcomes and development objectives, considering the context, risk, value, and complexity of procurement.

17. **Value for money.** This principle enables the borrower to obtain optimal benefits through effective, efficient, and economic use of resources by applying, as appropriate, the Core Procurement principles and related considerations, which may include life cycle costs and socioeconomic and environmental development objectives of the borrower. Price alone may not sufficiently represent value for money.



18. It is generally accepted by procurement experts that these principles, if properly applied, will ensure the procurement objectives set out in Section B of this manual are realized by the investees and represent best procurement practice. However, in setting the requirement that “FIL procurement is undertaken by the respective loan beneficiaries in accordance with established private sector or commercial practices, acceptable to ADB,” ADB recognizes that it may be in the interests of commercial borrowers of ADB funds to apply these principles in a more flexible manner than as stipulated in ADB’s detailed procurement guidelines that have been designed with public procurement primarily in mind.

## **D. Specific Guidance on FIL Procurement**

19. This section of the manual builds on the earlier content by providing some specific guidance to investee companies. The section first gives guidance on how generally accepted procurement objectives might be best achieved and then considers each of the ADB procurement principles in turn and gives guidance on compliance.

### **1. Ensuring the Procurement Results are Fit for Purpose**

20. For potential suppliers to provide equipment or goods or services that meet the needs of the purchaser, it is vital that purchasers clearly articulate their needs and expectations to those potential suppliers. Therefore, appropriate written information should be provided to potential suppliers. A good written specification of purchaser needs will enhance the prospects for those needs being successfully met and will also provide a basis for any procurement disputes to be adjudged and settled in a fair way.

21. Feasibility study reports will need to be prepared and approved for all the subprojects. These feasibility study reports will document the performance expectations of the Subproject and therefore, it is important that, as a minimum, these expectations are included in relevant procurement specifications.

22. For the procurement of key equipment and/or civil works that are critical to the performance of the subproject then the procurement documentation should include a more detailed design specification. This should be prepared by qualified technical staff in conjunction with procurement staff.

23. For the procurement of services (such as technical support to assist the implementation of the subproject), it is important to ensure the potential service providers are suitably qualified, and that the scope of work and the required outputs/deliverables of the service provider are clearly defined.

### **2. Achieving Value for Money**

24. Value for money (VFM) is normally considered to be achieved if the purchaser feels they have paid a fair price for what they have received. However, some would argue that VFM is only achieved if one pays the lowest available price.

25. VFM is a more complex concept to assess than simply through a purchase price comparison alone. For example, for an equipment purchase, the costs or downtime for equipment servicing, and the availability of spare parts may be important factors to the purchaser. Additional length of a performance guarantee (over and above anything specified by the purchaser) might also legitimately influence the purchaser to not purchase based on the cheapest price. If VFM is

to be assessed on a scientific basis then a risk-based approach over the equipment life cycle should be used, but even then, there will be subjectivity over matters, such as assessing the level of risk and the value of maintaining a long-lasting and trusted purchaser-supplier relationship.

26. Specific guidance on making VFM judgments is as follows:

- (i) Consider what factors will affect the VFM judgment in advance of procurement and where possible include these into the product specification. Also, ask all potential suppliers to provide supplementary information considered relevant to the purchase decision in addition to the basic supply price (e.g., response time to breakdowns, guarantee terms, service frequencies, downtime and costs, delivery periods and costs of spare parts).
- (ii) Establish a company procurement committee to evaluate VFM and make procurement decisions as a means of reducing the individual subjectivity in VFM assessments. Ensure that records are kept of decisions made and the reasons for them, so that independent or higher-level reviews can assess their reasonableness.
- (iii) Use open procurement (see below) wherever possible so that the lowest available specification compliant price is known thus making the price premium paid for non-quantifiable VFM factors readily identifiable.
- (iv) Only use sole supplier purchasing where either (a) an existing competitively let rolling supplier contract already exist, or (b) there has been recent similar procurement made via open procurement, or (c) extenuating circumstances apply that justify short-cutting normal procedures and company standing orders allow for this (note: such a situation under the FIL is extremely unlikely and such short-cutting is normally only justified in response to an emergency).

### **3. Timeliness and Efficiency of Procurement**

27. For the procurement process to operate in a timely and efficient manner, the subproject will need to be planned and budgeted, so procurement activities are carefully scheduled to be compatible with the subproject implementation plan and that financial commitments can be met when due.

28. It follows that procurement plans should (i) be linked to the financial plans, (ii) allow a realistic time for the completion of individual activities, and (iii) as far as possible avoid a "log jam" of activity in the procurement department.

29. Efficiency of procurement will be achieved where (i) companies develop standardized procedures and procurement documentation, (ii) the number of procurement packages are minimized without unduly restricting competitiveness, (iii) adopting simplified procurement procedures for small low value procurement, and (iv) the use of existing rolling annual or multi-year supplies of services and supplies for which a company has a regular demand.

### **4. Use of Competitive Procurement**

30. Effective competition undoubtedly reduces prices by forcing suppliers to innovate and become more efficient. Purchasers will only be able to benefit from reductions that are available if they use procurement procedures based on competitive bidding or shopping.

31. Competitive procurement is most achieved in a project setting through advertising and an open invitation for suppliers to request tender document and submit bids.

32. For some critical and specialist procurement packages a multi-stage procurement process may be advantageous whereby potential suppliers are first invited to pre-qualify by demonstrating they have the required skills and experience. Then all pre-qualified suppliers would be invited to submit bids.

33. Preparing bids for some procurement packages can impose a heavy workload and expense on potential suppliers, and this can discourage some good quality suppliers from bidding if they feel their chance of being successful is low. Purchasers can guard against the risks this situation creates restricting the number of suppliers invited to bid to a small number (typically three to five) of those most qualified to be the supplier.

34. However, before deciding on the detailed procurement procedures to use they should ensure investee companies should consult any applicable government laws and regulations on the procurement methods permissible in specific circumstances. This especially applies to state-owned enterprise (SOE) investee companies who will undoubtedly operate in a more regulated procurement environment than wholly private enterprises.

## **5. Fairness and Equal Opportunity**

35. All eligible bidders should have an equal and fair opportunity. Procurement processes are designed and implemented that avoid preferential or discriminatory measures that might favor or adversely affect certain participants.

36. Fairness and equal opportunity go hand in hand with procurement procedures that require open competitive bidding. It also goes hand in hand with transparency in procurement (see below).

37. Further measures to promote fairness and equal opportunity include:

- (i) Ensuring that potential suppliers have adequate time to submit bids or expressions of interest (the actual time allowed should depend on the complexity of the procurement and the level of detail requested in bids/expression of interest);
- (ii) The terms of purchase contracts used are equitable to both sides;
- (iii) The purchasing organization has a grievance redress mechanism (GRM) to deal with cases of alleged unfairness, mis procurement, or other abuses. This mechanism should operate to be independent of the purchasing function; and
- (iv) Subject only to issues of commercial confidentiality, unsuccessful bidders may request and receive feedback on why they were unsuccessful.

## **6. Transparency in Procurement**

38. Transparency of procurement processes are those governed by clear rules that are easily accessible and can be consistently applied. This will show that the purchaser is fair and provides equal opportunity to all, as evidenced by their open and fair in procurement activity.

39. Transparent procurement involves contract opportunities (procurement plans and individual bid opportunities) being advertised widely, and results are published (or at least made available to the unsuccessful bidders).

- (i) Transparency in procurement has a few potential benefits to purchasers.
- (ii) Competition is increased.
- (iii) Suppliers can more readily identify the bids most suited to them allowing them to select which bids to make and better tailor bids to meet the purchaser's needs.

From the purchaser side this reduces the number of poor quality or unqualified bids and should increase bid quality.

- (iv) They gain a reputation for openness and fairness in how their businesses are operated and if they practice local procurement policies (where allowed by applicable regulations) for the support they provide the local community.
- (v) Open and transparent processes are less susceptible to abuse through fraud and corruption and such abuse is more likely to be detected.

## **E. Required Organizational Capacity and Arrangements**

40. The investee companies need to assess whether they possess adequate procurement capacity in terms of:

- (i) functional responsibilities;
- (ii) internal processes;
- (iii) resources and skills;
- (iv) information management; and
- (v) experience and performance.

41. For the selection of qualified investees, ADB has assessed organizational capacity of proposed investee companies. The capacity building suggestions of these assessments may be of guidance to others and can be shared by contacting the Management Company for relevant guidance.

42. If investee companies conclude it is uneconomical to build the required internal procurement capacity, then they should consider recruiting the services of a procurement agent to fill the gap.