



# China, People's Republic of: Fujian Mulan River Basin Integrated Ecological Restoration and Management Project

Project Name	Fujian Mulan River Basin Integrated Ecological Restoration and Management Project				
Project Number	53051-001				
Country	China, People's Republic of				
Project Status	Proposed				
Project Type / Modality of Assistance	Loan				
Source of Funding / Amount	<table border="1"><tr><td>Loan: Fujian Mulan River Basin Integrated Ecological Restoration and Management Project</td><td></td></tr><tr><td>Ordinary capital resources</td><td>US\$ 200.00 million</td></tr></table>	Loan: Fujian Mulan River Basin Integrated Ecological Restoration and Management Project		Ordinary capital resources	US\$ 200.00 million
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Ordinary capital resources	US\$ 200.00 million				
Strategic Agendas	Environmentally sustainable growth Inclusive economic growth				
Drivers of Change	Knowledge solutions Partnerships Private sector development				
Sector / Subsector	Agriculture, natural resources and rural development - Land-based natural resources management - Rural flood protection - Rural sanitation - Rural solid waste management - Water-based natural resources management				
Gender Equity and Mainstreaming	Some gender elements				

Description

The proposed project will improve the delivery of the People Republic of China's (PRC) flagship rural vitalization strategy by cultivating institutional development solution. It aims to overcome the sustainability challenge in rural development and environmental management.

The proposed project particularly aims to assist Xianyou County in Putian City, Fujian Province of the PRC in developing an integrated solution to flood control, ecological restoration, and water quality improvement of Mulan River, taking into consideration of climate change and environmental management to contribute to the achievement of the government's goal of fostering green, sustainable, resilient, and inclusive growth for rural development.

The project will promote financial innovation and an integrated approach for rural vitalization and will bring direct benefits to inclusive development, environmental conservation, and ecological preservation, while targeting global and public goods, and inclusive growth. The project will have three outputs:

Output 1: Innovative financing mechanism piloted. Investments in flood management, ecological restoration, and water quality improvement will reduce physical risk and improve quality of life. This will increase land value and property prices. The funding for investments can be generated from capturing the increase in land value. This output will pilot an innovative and sustainable financing mechanism primarily using land value capture tools to address insufficient long-term funding for investments. The output will include (i) tailoring a method to capture land value increase and/or other potential revenue sources for funding the investments, taking consideration of governance and oversight to ensure inclusiveness; and (ii) establishing a market-oriented financing mechanism based on the revenue generated from the land value capture and/or other sources. The capture of land value increase and/or other revenue sources will provide a stable source of funding for investments in flood management, ecological restoration, and water quality improvement; and the market-oriented financing mechanism will render a sustainable financial incentive to mobilize private sector to participate and invest in environmental management.

Output 2: Institutional capacity for environmental management strengthened. This output will strengthen the Xianyou County Government's (XCG)'s capacity in ecological restoration and management, incorporating climate change and environmental management consideration. It includes (i) integrating climate change and environmental management with flood control, ecological restoration, cultural heritage conservation, and water quality improvement; (ii) strengthening institutional capacity in planning and implementing an integrated approach; (iii) raising awareness of climate change and environmental risks among local governments, communities, businesses, and stakeholders; and (iv) developing and operationalizing river chief smart water system for monitoring, evaluation, and decision support of the integrated approach for the upper and mid reaches of the Mulan River Basin.

Output 3: Flood management, ecological restoration, sanitation, and water resources improvement systems installed. This output will implement (i) flood risk mitigation and water resources improvement measures with a combined grey and green solutions; (ii) ecological conservation and restoration, including wetland placing, greening, and landscaping; (iii) inclusive sanitation which aims to increase access to appropriate sanitation systems, including for public use, whether sewerage or non-sewerage, centralized or decentralized and which considers the most appropriate and innovative technology and service delivery method; (iv) agricultural nonpoint source pollution control; (v) improvement and management of the forest and stand structure; and (vi) cultural heritage conservation for the Mulan River, including restoration of historical bridges and houses. To promote private, institutional and commercial finance, financing facilities may be established as appropriate to deliver this output.

These outputs will result in the following outcome: flood and environmental risks in the Mulan River mitigated. The project will be aligned with the following impact: quality of rural life enhanced.

The project will address two specific institutional issues on environmental management: financing and capacity strengthening. The use of land value capture method will be a demonstrative financial innovation to establish a sustainable financing mechanism for environmental management. The capacity strengthening will reinforce know-how and coordination for planning and implementing integrated approach to environmental management. The experience and knowledge gained through this project can be replicated in other rural areas in the PRC and in the region.

The project will contribute to the PRC's goal of building a harmonious and prosperous society through environmentally sustainable growth. The project is also consistent with (i) the decision of the Third Plenary Session of the 19th Central Committee of the Communist Party of China held in Beijing in February 2018 which highlights natural resources and environmental management and public service management; (ii) the Asian Development Bank's (ADB)'s Strategy 2030, of which (a) addressing remaining poverty and reducing inequalities; (b) tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability; and (c) promoting rural development and food security, are the key operational priorities to guide the project objectives; and (iii) ADB's country partnership strategy for the PRC, 2016 -2020. The project is also consistent with ADB's Water Operational Plan, 2011 -2020.

The project design will incorporate lessons from previous ADB-financed projects and policy-oriented studies on water resources management, environmental and ecosystem improvement, wetland and lake management and restoration, and rural development in the PRC and other developing member countries. Relevant lessons from past and ongoing ADB support in the PRC are (i) application of integrated approach; (ii) use of both structural and nonstructural measures; (iii) revenue generation and full-cost recovery options; (iv) improving data information systems; and (v) institutional coordination improvement.

Project Rationale and Linkage to Country/Regional Strategy

Agricultural production and rural livelihoods have lagged behind industrial production and urban livelihoods in the PRC. As a result, income inequality and poverty are still persistent in rural areas of lesser-developed regions of the PRC. Majority of rural wastewater and wastes directly discharge to the environment without appropriate treatment and disposal. Increasing productivity and value addition through modernization and enhanced market linkages has considerable poverty reduction potential in the PRC where agricultural labor still accounts for more than a fourth of the total employment. Against this backdrop, the Government of the PRC formulated the rural vitalization strategy for 2018 -2022 to promote poverty reduction, rural development, and green and inclusive growth. The rural vitalization strategy focuses on agricultural modernization, rural wastewater and waste management, rural urban integration, ecosystem services protection, rural health and education services development, and rural governance reform. In this connection, ADB and the government have agreed to adopt a framework approach to strategically program ADB's lending support for rural vitalization development initiatives.

Mulan River is one of the main rivers in the Fujian Province. It originates from Xiyuan Town in Xianyou County; flows from west to east through nine townships in Xianyou County and Putian City's downtown area; and finally drains into the Xinghua Bay on the East China Sea. The total length of the main stream of Mulan River is about 105 kilometers, covering a basin area of 1,732 square kilometers. The Xianyou County, located in Putian City, is a mountainous coastal county in the southeast region of Fujian Province. The county has a total geographic area of 1,835 square kilometers, of which about 70% is covered by forest and 20% by cropland. The county is inhabited by 1.18 million registered residents by the end of 2017, of which 52% are rural population. Fujian Province has benefited from rapid development since the 1990s. Yet economic growth and social development in the Xianyou County are lagging and below its potential. Many towns and villages in Xianyou County are left behind from overall development because of continued floods and degraded ecological condition in Mulan River. As a result, income inequality and poverty are still persistent in rural areas in the region, exacerbating growing rural urban disparity in development.

Flood protection, ecological conservation, and water quality improvement has been at the core of a concerted effort supported by the government. Several innovations were pioneered in Mulan River for flood protection. Since 2017, a total of 2,079 small pollution business entities were closed. Garbage collection and processing centers were established. Wastewater treatment along the Mulan River was improved. Nonpoint source pollution was controlled through zero increase on fertilizer use and removal of livestock facilities within 1 kilometer along the main riverbank. A whole river water quality monitoring system was also set up for public monitoring of real-time water quality information. Despite these positive developments and recent achievements, the government still encounters challenges in flood control, ecological protection, and water quality improvement, especially in terms of long-run sustainability.

Key challenges. While the current approach adopted by the government addresses the problem on project-by-project basis, it is less sustainable. Continued underinvestment and lack of an integrated approach are the underlying impediments to providing a sustainable solution to flood management, ecological restoration, and water quality improvement. The underinvestment is a result of limited funding and financing resources and options. Lack of an integrated approach is because of inadequate capacity and coordination. Therefore, institutional development in terms of financing mechanism and capacity strengthening is the core development challenge, requiring a focus shift from business-as-usual to institutional development solution to achieve long-run sustainability for flood management, ecological restoration, and water quality improvement.

Lack of sustainable financing mechanism. Capital investments for flood management, ecological restoration, and water quality improvement is inadequate because of limited funding resources and options as well as lack of financing mechanism for long-run sustainability. The government budget funds all the capital investments. Investments by the government have been project-based, focusing on post-incident response. The lack of funding diversity and long-term funding result in inadequate investments. Currently, private sector investments in flood management, ecological restoration, and water quality improvement are rare, given that those assets lack promising revenue potential; and encounter enormous barriers to access financing in the market. Participation of long-term private, institutional and commercial finance in environmental management is limited due to weak commercial viability of projects and absence of financial framework. Given a limited public sector funding available, new and sustainable funding arrangement and financing mechanism aimed at mobilizing private sector capital is needed to fund long-term investment in flood management and ecological protection. Acknowledging the need for attracting private sector participation and addressing financial market challenge, a sustainable, market-oriented and institutionalized mechanism for financing flood management, ecological restoration, and water quality improvement projects is required. The objective is for this financing mechanism to become part of the government machinery to effectively address financing gap and underinvestment.

Inadequate capacity for integrated approach. Fragmented approach to environmental protection and ecological improvement due to inadequate institutional capacity and coordination is less effective. The unmet requirements of environmental protection in Mulan River restrict local development, resulting in a huge cost due to loss of socioeconomic development opportunity. Currently, the XCG lacks the capacity and internal mechanism for inter-sectoral and inter-agency level coordination for planning and implementing concerted flood control, environmental protection and ecological improvement. The fragmented local plans and implementation in other sectors are less congruent with that in water and environmental sectors, weakening the effectiveness of environmental protection. To effectively address the development constraints caused by continued flood disasters, degraded ecological conditions, lack of inclusive sanitation, and deteriorating water quality, an integrated approach to tackling climate change, environmental degradation, and ecosystem sustainability with strengthened institutional capacity and through a close coordination between various concerned stakeholders is needed. The XCG need to strengthen its governance capacity and establish an appropriate institutional arrangement to develop integrated approach and manage coordinated efforts for environmental protection and ecological improvement, maximizing benefits from resources mobilized. In addition, to ensure the delivery of desired ecological services over sufficiently long period, short, medium, and long-term integrated environment and ecological protection plans with proper monitoring and evaluation mechanism is required.

Natural capital and built infrastructures. Xianyou County is frequently affected by floods. A total of nine severe flooding was reported in the county between 2013 and 2017, causing an accumulative direct economic loss of CNY582 million in damage. Climate change is expected to bring increased extreme rainfall events in the region, resulting in more frequent and severe flooding in the Mulan River Basin. Flood management by solely built infrastructures is less effective in the face of global climate change. Natural capital, such as wetlands and forest, have hydrological functions that can attenuate peak flows during flooding period and increase baseflow during dry period. They also have purification functions, helping improve the quality of water. The Mulan River watershed is subject to ecological degradation, resulting in reduction in soil moisture; reduction of biodiversity and overall vegetation cover; and increase in soil erosions. Many natural wetlands either completely disappear or remain in poor status, exacerbating water pollution. Use of natural capital combined with infrastructure solution, shall be adopted.

The water quality in Mulan River and its tributaries is deteriorating, barely kept in the acceptable limit (Class III) and needs improvement. The lack of separate sewage and storm water facilities causes untreated wastewater to overflow during flooding periods, directly discharging into the rivers from the Xianyou County. The heavy use of nitrogen and phosphorus equivalent fertilizers in agricultural areas coupled with lack of drainage control sends high concentration of nitrogen and phosphorus in the discharged water. The deteriorating water quality increase public health risks, adversely affecting living environment.

ADB has been supporting rural development and environmental management in Fujian Province with a total of two loans for the sector provided to the province since 2004. This project is a pilot adopting a new approach aimed at addressing the long run sustainability for rural development and environmental management. Fujian Province will be an important collaborator and participant in the areas of innovation and knowledge sharing given ADB's long-term partnership and close engagement with the province.

Government's strategy. The State Council of the PRC disclosed a policy on rural vitalization and five-year rural vitalization plan (2018 -2022) in February 2018 and September 2018, respectively. These serve as drivers for the PRC's modernization goals and building a moderately prosperous society. The policy targets the establishment of an institutional framework by 2020, the modernization of rural areas by 2035, and the beautification of the countryside by 2050. The project aligns with the national rural vitalization plan and will contribute to the PRC's goal of building a harmonious and prosperous society through environmentally sustainable growth.

Impact	Quality of rural life enhanced
Outcome	Flood and environmental risks in the Mulan River mitigated
Outputs	Innovative financing mechanism piloted Institutional capacity for environmental management strengthened Flood management, ecological restoration, sanitation and water resources improvement systems installed
Geographical Location	Nation-wide, Xianyou

Safeguard Categories	
Environment	B
Involuntary Resettlement	A
Indigenous Peoples	B
Summary of Environmental and Social Aspects	

Environmental Aspects
Involuntary Resettlement
Indigenous Peoples
Stakeholder Communication, Participation, and Consultation
During Project Design
During Project Implementation

Responsible ADB Officer	Pavit Ramachandran
Responsible ADB Department	East Asia Department
Responsible ADB Division	Environment, Natural Resources & Agriculture Division, EARD
Executing Agencies	Fujian Provincial Government (FPG) ADB Loan Management Office 2/F 115th Guping Road, Fuzhou 350003 Fujian, PRC Xianyou County People's Government No.1 Qingyuan East Road,Licheng Street, Xianyou County,Putian City, Fujian Province,PRC

Timetable	
Concept Clearance	23 Oct 2019
Fact Finding	27 Jul 2020 to 31 Jul 2020
MRM	30 Oct 2020
Approval	-
Last Review Mission	-
Last PDS Update	31 Oct 2019

Project Page	<a href="https://www.adb.org/projects/53051-001/main">https://www.adb.org/projects/53051-001/main</a>
Request for Information	<a href="http://www.adb.org/forms/request-information-form?subject=53051-001">http://www.adb.org/forms/request-information-form?subject=53051-001</a>
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