II. Sectoral and Institutional Context

Ranked as one of China’s 20 fastest growing cities, Ma’anshan is a prefecture-level city in the Yangtze Delta in Anhui Province in Eastern China, comprising three urban districts and three rural counties. Its total land area is 1,686 square kilometers, with the urban area constituting 340 square kilometers; the built-up area is 78 square kilometers and by 2020 it is expected to grow to about 124 square kilometers. Ma’anshan has a population of 2.3 million, 68% of which is urbanized, and a per capita GDP of US$9,300. The city was established in 1956, with the start of iron ore mining by the State owned, Ma’anshan Iron and Steel Company (Ma Steel). It has since diversified its economy to automotive, textile, chemical and hi-tech industries. Considered the gateway to Anhui Province, it has a good transport network - expressways, rail, an impending high-speed train, and a deep water port -- that has supported its current economic growth. Surrounded by hills, rivers and well kept public gardens, the city is attempting to improve its environmental asset to attract visitors and create a livable city for its residents. In 2010, the Central Government targeted Ma’anshan as one of the cities in the Yangtze River delta for rapid industrial and urban development.

The development of the city has occurred along the 26 km long Cihu River, a tributary of the Yangtze, covering a catchment area of 126.64 km² comprising of hilly areas (81 km²) and low lying areas (44 km²) and can be divided into three broad sections: (a) the lower reach (6.24 km) near the Yangtze River containing the older heavy industries (b) the middle reach (6.7 km) forming the built-up residential urban areas, and (c) the upper reach (13 km) is a hilly, comprising of the rural areas and mining lands. A key challenge for Ma’anshan is in integrating these three areas as part of a wider city system, in both land-use and infrastructure planning, as well as infrastructure investment and management.

The Municipal Urban Development Master Plan (2002-2020) updated in 2011 and Cihu River Basin Ecological Environmental Integrated Rehabilitation Plan are enabling the Ma’anshan Municipal Government (MMG) to develop the city by adopting an integrated river basin improvement approach. The Plan is under implementation, and has thus far invested over US$230 million in projects designed to: control key
pollution sources, improve environmental conditions, and rehabilitate land degraded by mining on a pilot basis, and strengthen city management. Over the last decade the city has invested in improving its road network, water supply facilities and some urban drainage. Wastewater facilities are currently being completed to meet the medium-term treatment requirements and surface water quality standards. The built up areas of the city already have separate storm and sewage systems, an achievement that is unmatched by cities of its size; areas being newly developed will also have such a system, with the pipes installed as roads are constructed.

Nevertheless, the city is facing several challenges resulting from rapid urbanization and city expansion, including: (i) decreasing level of protection against flooding due to weakened embankments (dykes); (ii) frequent inundation in urban areas due to reduced capacity of the Cihu river and its tributaries to drain storm water; (iii) inadequately designed urban storm drainage systems; (iv) poor water quality in canals and tributaries of Cihu River caused by untreated wastewater and solid waste; and (iii) siltation and water pollution in the Cihu River arising from mining activities in the upper reaches of the Cihu River.

Weakened capacity of the river system to accommodate storm flows: Historically, the many tributaries, natural canals and ponds served as natural drainage channels to the Cihu River. However, ever increasing construction resulting from urbanization is leading to increased encroachment on the river banks, weakening them. Soil erosion from the mining areas and urbanization is causing siltation in the river. River dykes along the lower reaches of the Cihu River, (i.e., the built up areas) provide protection against 1 in 50 year to 1 in 100 year flood events, but this level of protection has significantly decreased due to weakened embankments and siltation, primarily from soil erosion. The same level of protection is not available in the upper reaches of the Cihu River, (the rural areas now incorporated into the municipality), and where city expansion is now taking place. These factors have progressively constrained the capacity of the river system to accommodate peak storm flows and provide a satisfactory level of protection, increasing the future risk of flooding in the city.

Inadequate drainage system creates risk for future floods. Although flood risks to the city are from the much larger Yangtze, its aging drainage system exacerbates the occurrence of urban floods. Ma’anshan’s drainage system was designed to handle storm events of 3 to 5 years and is unable to cope with the increasing amounts of rainfall. The 18 pump stations along the Cihu River, with a total installed capacity of about 52 m3/sec, were designed to remove about 25% of the total discharge flow of the river in low lying areas. But these systems are unable to cope with the increased runoff from storm events because they have aged and have inadequate capacity given the current size of the city. Although the city has separate storm drains, the collection of storm water is inadequate because storm drains conforming to the drainage master plan, are constructed only when roads are built, resulting in water standing for longer periods than desirable. Finally, as rural areas urbanize rapidly, dykes built for draining farmland are neither appropriate nor adequate.

The challenges in the city’s drainage infrastructure system are further exacerbated by institutional fragmentation where two separate agencies are responsible for storm drainage management and planning. The Urban Housing and Construction Bureau is responsible for the system in urban areas, and the Water Resources Bureau is responsible for the less urbanized parts of the city. Consequently, comprehensive planning for a drainage system that covers the entire municipality and integrating the drainage functions of both the network and the river has not been done.

The network of tributaries and canals that feed into the Cihu River is heavily polluted by industrial and household wastewater discharged by those that are not yet connected to the wastewater network. Water quality in the tributaries is worse than Class 5, i.e., not suitable for most uses, including irrigation. Under the ongoing wastewater management improvements, Ma’anshan Municipal Government is extending secondary networks in the city, and has plans to intercept wastewater discharges to the tributaries. Historically, the Environmental Protection Bureau (EPB) has not been actively monitoring the water quality in these tributaries/canals though it has recently started to do so.

The 34 km of tributaries and drainage canals play an important function in the city’s storm water drainage management. With rapid urbanization, tributaries are getting littered with garbage, and some are built over illegally, thereby depriving them of their natural drainage function. Thus, restoration of the tributaries and canals to serve their drainage and natural detention are essential to enable the river system to manage storm flows more effectively.

Soil erosion from degraded mine lands is causing siltation and pollution of the Cihu River. With its legacy as a mining town, Ma’anshan has a large area of abandoned land degraded by the activities legal and illegal mining companies that pollute the river. The municipality has made effective investments to treat acid pollution in the river during the mining activities. It also intends to oversee the rehabilitation of about 10 km2 of degraded mine land to reduce the sources of siltation in the river. Its Land Administration Bureau has already carried out some pilot reclamation of abandoned mined-out land and converting it into a green space. However, the city lacks a comprehensive approach for rehabilitating these lands in order to prevent future contamination of the river. MMG seeks guidelines for ecologically restoring such guidelines based on international best practice.

III. Project Development Objectives
The project development objective is to improve drainage and flood protection capacity in selected areas of Ma’anshan City.

IV. Project Description
Component Name
A: Cihu River Rehabilitation and Drainage Improvement
B: Rehabilitation of Tributaries and Drainage Canals
C: Environment Management and Monitoring
D: Capacity Building and Project Implementation Support

V. Financing (in USD Million)
For Loans/Credits/Others Amount
Borrower 111.00
International Bank for Reconstruction and Development 100.00
VI. Implementation

A municipal level Project Leading Group (PLG) has been established and is chaired by the Vice Mayor of Ma’anshan and includes representatives from the Municipal Development Reform Commission (DRC), the municipal Finance Bureau, the Water Resources Bureau, the Environmental Protection Bureau (EPB), Housing and Urban-Rural Construction Commission, Water Resources Bureau, Bureau of Planning, Land Resources Bureau, Huashan District, Cihu Hi Tech Development District, Xiushan New District and the Municipal City Development Group. Other agencies and institutes may be included as appropriate. The PLG will provide policy-level support and guidance on strategic issues and will oversee timely implementation of the project.

Overall project management and coordination will be under the Ma’anshan Municipal Project Management Office (PMO) located in the Development and Reform Commission, in joint coordination with the Water Resources Bureau. It will act as the main contact point for the World Bank and the government on all matters associated with the project, including monitoring and evaluation, reporting, financial management, procurement and environmental and social safeguards aspects. The PMO is also responsible for hiring and managing independent external monitoring of safeguards implementation, a tendering agent to assist bid document preparation for implementing units.

The Project Implementing Agency will be the (i) The Ma’anshan Caishi River and Cihu River Comprehensive Development Co. Ltd, owned by the WRB acting as its agent, will be responsible for implementing Components 1 and 2 and (ii) The EPB will be responsible for implementing Component 3. Component 4 will be implemented by the PMO.

A result-based monitoring and evaluation system (M&E) will be developed and established under the project with assistance from the Project Management Consultant. The system will include a database of overall project outcome indicators to measure the achievement of the overall project objectives, and the changes in performance, behavior, or status of resources. In collaboration with the Project Implementing Agencies, the PMO will be responsible for collection and collation of these data and analysis of results through this M&E system. In addition, external evaluation reports on environmental and social safeguards implementation and construction supervision will provide analysis that enables the PMO to closely monitor the project. Finally, semi-annual progress reports, a midterm review report and an implementation completion report will be prepared by the Project Consultant on behalf the PMO.

VII. Safeguard Policies (including public consultation)

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VIII. Contact point

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