



Draft Design and Monitoring Framework

Project Number: 40017
October 2008

PRC: Qingdao Water Resources and Wetland Protection Project

A design and monitoring framework is an active document, progressively updated and revised as necessary, particularly following any changes in project design and implementation. In accordance with ADB's public communications policy (2005), it is disclosed before appraisal of the project or program. This draft framework may change during processing of the project or program, and the revised version will be disclosed as an appendix to the report and

Asian Development Bank

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions And Risks
<p>Impact</p> <ul style="list-style-type: none"> Improved quality of life, sustainable ecosystem, and biodiversity conservation in the Jiaozhou Bay area 	<ul style="list-style-type: none"> Reduced incidence of water-borne diseases by 40% in Jiaozhou City by 2015 Water quality in Jiaozhou rivers restored to Class IV/V by 2015 Water quality in Jiaozhou Bay maintained in non-eutrophic conditions by 2015 Reduced episodes of harmful algae blooms in Jiaozhou Bay by 2015 	<ul style="list-style-type: none"> Annual public health reports by the QMG and JCG Annual state of the environment report by QMG and JCG. Monitoring of Ocean and Fisheries Bureau 	<p>Assumptions</p> <ul style="list-style-type: none"> Jiaozhou Urban Master Plan (2005–2020) is effectively implemented. Focus on the preservation of the quality of the ecosystem is maintained by Jiaozhou as embodied in the 11th FYP QECEP. <p>Risks</p> <ul style="list-style-type: none"> Adequate Government budget is not provided. Over-heated economic growth.
<p>Outcome</p> <ul style="list-style-type: none"> Improved condition of water resources and environment in the Jiaozhou City and the downstream wetlands area 	<ul style="list-style-type: none"> Reduced COD and P discharges by 28% and 43%, respectively, in or around Jiaozhou Bay by 2014 Improved hygienic conditions and reduction of water-borne diseases for 370,000 people in Jiaozhou City by 2014 Enhanced flood protection for about 370,000 people in Jiaozhou City by 2014 Reduced pollution loads in Jiaozhou Bay by 2014 	<ul style="list-style-type: none"> Jiaozhou Environment Protection Bureau and Ocean and Fishery Bureau reports Annual livelihood surveys by the Poverty Alleviation and Development Office of JCG 	<p>Assumptions</p> <ul style="list-style-type: none"> 11th FYP QECEP is effectively implemented. Jiaozhou Water Resources 11th FYP is effectively implemented. Jiaozhou Pollution Control Plan is effectively implemented. Local communities are willing to participate. <p>Risks</p> <ul style="list-style-type: none"> Ineffective enforcement of environmental regulations. Results and recommendations of SEA not implemented. Extension to the wastewater treatment facilities of Jiaozhou are not implemented.
<p>Output 1: Improved Water and Flood Resource Management</p> <ul style="list-style-type: none"> Major river courses rehabilitated/upgraded Flood retention facilities improved Urban storm drainage network 	<ul style="list-style-type: none"> A total of 19.5 km of riverbanks upgraded/rehabilitated in four major rivers by 2011 <ul style="list-style-type: none"> Yunxi River - 9.4 km Hucheng River - 3.9 km Wushui River - 3.2 km Sanli River -3.0 km Existing Erli'he flood retention facilities upgraded from 0.2 million m³ to 0.8 million m³ by 2011 A total of 11.4 km of storm drainage pipelines installed 	<ul style="list-style-type: none"> PQPRs by the JCB Annual development reports by QMG and JCG ADB mission reports (i.e., annual progress, mid-term, and project completion) 	<p>Assumptions</p> <ul style="list-style-type: none"> Institutions have an appreciation and feel the need for improving their capacity on flood management. Adequate counterpart funds are made available on time. <p>Risk</p> <ul style="list-style-type: none"> Implementation of the Project is delayed by external factors.

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installed/upgraded	by 2011		
<p>Output 2: Strengthened Wastewater Management and Pollution Control</p> <ul style="list-style-type: none"> Urban wastewater drainage network upgraded 	<ul style="list-style-type: none"> A total of 27.7 km of wastewater drainage pipelines installed by 2011 	<ul style="list-style-type: none"> PQPRs by JCB ADB mission reports (i.e., annual progress, mid-term, and project completion) 	<p>Assumption</p> <ul style="list-style-type: none"> Institutions and local communities have an appreciation and feel the need for wastewater management and pollution control. <p>Risk</p> <ul style="list-style-type: none"> Economic development is accorded higher priority over water resource and environmental protection by JCG.
<p>Output 3: Integrated Water and Ecosystem Management</p> <ul style="list-style-type: none"> Shaohai Lake and Jiaozhou Bay ecosystem protection measures developed Water resources and flood management strengthened in Jiaozhou Environmental management and pollution control strengthened in Jiaozhou SEA on Jiaozhou Bay Development prepared 	<ul style="list-style-type: none"> About three artificial wetlands established and habitats enhanced by 2011 Operations manual for Shaohai Lake ecosystem management in place by 2013 Integrated information system for flood, water, and wastewater management developed and operated by 2012. A total of 30 persons trained within JCG by 2014 A total of 5 communities and surrounding industries mobilized for trainings and awareness raising activities by 2011 Public education and awareness program implemented by 2012 Wastewater service corporatized by 2014 Wastewater tariffs reformed by 2014 Environmental monitoring plan is enforced by 2011 SEA incorporating integrated planning methodologies approved by relevant authorities by 2011 	<ul style="list-style-type: none"> PQPRs by JCB ADB mission reports (i.e., annual progress, mid-term, and project completion) 	<p>Assumptions</p> <ul style="list-style-type: none"> All concerned local governments along the Jiaozhou Bay area feel the need of the SEA study. Institutions and local communities have an appreciation and feel the need for ecosystem management . <p>Risks</p> <ul style="list-style-type: none"> Development along Jiaozhou Bay does not proceed as envisioned and as planned. Delay in implementation of the proposed SEA. Trained staff being reassigned for other positions/institutions and prevented from performing the duties they are trained for.

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions And Risks
Output 4: Strengthened Project Management Capacity <ul style="list-style-type: none"> Project management support provided 	<ul style="list-style-type: none"> PMOs and PMOs established and operational by 2009; adequate budgetary resources allocated; office equipment and vehicles procured by 1Q 2009; 92 person-months of consulting services provided by 2014 A total of \$0.2 million provided for logistical support (i.e., computers, equipment, etc.) 	<ul style="list-style-type: none"> PQPRs by JCB ADB mission reports (i.e., annual progress, mid-term, and project completion) 	Assumptions <ul style="list-style-type: none"> PMO and PMO staff are appointed on time and most stay with the Project throughout its implementation. Relevant staff are nominated on time for training. Risk <ul style="list-style-type: none"> Adequate counterpart funds are not made available on time.
Activities with Milestones <p>Component 1: Improved Water Resources and Flood Management</p> <p>1.1 Four river courses, totaling 19.5km, rehabilitated and completed by 2011. 1.2 Erli'he flood water retention facilities are upgraded by 2011. 1.3 Urban stormwater drainage network, totaling 11.4km, upgraded by 2011.</p> <p>Component 2: Strengthened Wastewater Management and Pollution Control</p> <p>2.1 About 15.9 km of urban interceptor sewer constructed by 2011. 2.2 About 11.8 km of additional trunk sewerage system constructed by 2011.</p> <p>Component 3: Integrated Water and Ecosystem Management</p> <p>3.1 Shaohai Lake and Jiaozhou Bay ecosystem protection 3.1.1 Artificial wetlands between the four river courses and Shaohai lake constructed by 2011. 3.1.2 Shaohai Lake Ecosystem Management System developed by 2014. 3.2 Strengthening capacity for water resources and flood management in Jiaozhou. 3.2.1 Integrated information system for flood, water, and wastewater management is developed in Jiaozhou City by 2014. 3.2.2 Emergency response measures, flood zone mapping, stormwater source control, and improved control structure regulation developed by 2014. 3.3 Environmental management and pollution control in Jiaozhou. 3.3.1 Participation of community and industrial enterprises in environmental management and pollution control strengthened through training and awareness raising by 2014. 3.3.2 Wastewater services in Jiaozhou City are corporatized and strengthened by 2014. 3.3.3 Wastewater tariff reform is conducted by 2014. 3.3.4 Environmental monitoring plan enforced by 2014. 3.4 SEA is developed by 2014.</p> <p>Component 4: Strengthened Project Management Capacity</p> <p>4.1 Municipal PMO and city PMO established by 1Q 2009. 4.2 PMO and PMO staffed and provided with initial training by 1Q 2009. 4.3 Consultant for project implementation and capacity building engaged by 1Q 2009.</p>			Inputs (\$million) <p>ADB loan: 45.0 Jiaozhou: 60.8</p> <p>Total Cost: 105.8</p> <p>Civil works: 67.2 Survey and Design: 1.9 Management and Supervision: 3.0 Vehicles: 0.2 Equipment and Materials: 7.8 Consulting Services: 1.8 Capacity Building: 0.1 Monitoring and Reporting: 0.2 Contingencies: 17.8 Interest during Implementation: 5.7 Commitment Charges: 0.1</p>

¹¹ FYP QECEP = 11th Five-Year Qingdao Ecological Conservation and Environmental Protection, ADB = Asian Development Bank; COD = chemical oxygen demand, GDP = gross domestic product, IA = implementing agencies, JCB = Jiaozhou Construction Bureau, JCG = Jiaozhou County Government, km = kilometer, mu = 0.067 hectare, P = phosphorus, PIU = project implementation unit, PMO = project management office, PQPR = project quarterly progress report, QMG = Qingdao Municipal Government, SEA = strategic environmental assessment.