

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets / Indicators ¹	Data Sources / Reporting Mechanisms	Assumptions and Risks
<p>Impact Improved urban environment and improved public health and quality of life for the urban residents in counties of small cities and towns in Hebei Province</p>	<p>By 2015 (baseline year 2005), in core subproject cities and towns in Hebei Province; similar performance targets will be formulated for subsequent subprojects</p> <p>Water quality of drinking water sources improved from Class IV to Class II</p> <p>Total COD discharged reduced by 15%</p> <p>SO₂ in the air decreased by 15%</p> <p>Reduced incidence rate of waterborne diseases in direct project beneficiary areas by 30% in 2020 compared to that in 2007</p> <p>Registered city/town unemployment rate lower than 5%</p> <p>Improved overall public satisfaction with improved services in water, wastewater, solid waste management and heating</p>	<p>Provincial and Municipal Environmental Protection Bureau reports</p> <p>Provincial, city, and county statistical yearbooks</p> <p>Municipal government health bureau data on drinking water quality and incidence of infectious diseases</p> <p>Provincial and Municipal Labor Affairs Bureau</p> <p>Provincial Poverty Relief Office</p> <p>Annual socioeconomic surveys undertaken as part of PPMS</p> <p>Semi-annual reports by the PMOs and IAs</p> <p>Baseline perception surveys conducted in subproject cities and towns</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • Timely implementation of 11th FYP and small city and town Master Plans • Strong provincial economic development trends continue after the 11th FYP • Applicable environmental laws are effectively enforced <p>Risks</p> <ul style="list-style-type: none"> • IAs do not use suitable external monitoring agencies; performance data are not collected • Urban development pressures outpace planned infrastructure development • Weak enforcement of environmental laws and regulations • Lack of effective environmental quality monitoring
<p>Outcome Improved urban infrastructure and municipal services in about 10 small cities and towns in Hebei Province</p>	<p>By 2015 (baseline year 2005), in the core subproject cities and towns in Hebei province; similar performance targets will be formulated for subsequent subprojects</p> <p>All components Public satisfaction with environmental conditions increased:²</p> <ul style="list-style-type: none"> - Bazhou from 20% to 80% - Zhaoxian from 50% to 80% - Zhengding from 60% to 90% - Other subproject cities/towns: TBD³ 	<p>Operating and financial reports of water supply, wastewater, district heating and solid waste management companies</p> <p>Provincial, Municipal and County Statistics Bureau</p> <p>Provincial, Municipal, County Environmental Protection Bureau</p> <p>Provincial, Municipal, County Construction</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • Project financing is provided on time • Relevant authorities offer strong support to the city and town PMOs and IAs on capacity development for project implementation and operation • Effective stakeholder participation and ownership is developed • Different specialist disciplines are well coordinated • Land acquisition and resettlement policies

¹ The target of impact should be 3–5 years after project completion.

² Public Satisfaction in base year 2008 from PPTA survey. Percent improvement from PMOs.

³ TBD – to be determined during subproject appraisal and monitored as part of PPMS.

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	<p>River improvement components Percentage of improved river course (length) or lake perimeter in urbanized areas increased - Bazhou from 20% to 100% - Others cities/towns: TBD - Flood incidence frequency decrease</p> <p>Water supply components Percent change in urban population with access to piped water increased: - Shengfang from 20% to 80% - Others: TBD</p> <p>Ratio of unaccounted-for-water decreased: - Shengfang from 40% to below 20% - Others: TBD</p> <p>Service hours increased: - Shengfang from 6 hours to 24 hours - Others: TBD</p> <p>District heating components Percentage of urban population with access to centralized heating increased: - Zhaoxian from 14% to 80% - Others cities/towns: TBD</p> <p>Solid waste management components Percentage of urban population served by solid waste management collection system increased: - Zhaoxian from 60% to 100% - Zhengding from 70% to 100 % - Other cities/towns: TBD</p> <p>Percentage of solid wastes recycled and use for organic fertilizer production - Zhaoxian from 50% to 90% - Zhengding from 50% to 90% - Other cities/towns: TBD</p> <p>Wastewater management components Percentage of urban population served by wastewater collection system (sewer network) increased: - Zhaoxian from 70% to 100%</p>	<p>Bureau Flood records</p> <p>Annual socioeconomic surveys undertaken as part of PPMS</p> <p>Public health department audits on water quality</p> <p>City/county records/statistics</p> <p>County Water Affairs Bureau</p> <p>County-level Labor Bureau</p> <p>County Poverty Relief Office</p> <p>Annual environmental statistics</p> <p>Municipal records/statistics Statistical records/data of small cities and towns</p> <p>District heating companies</p> <p>ADB project completion report</p>	<p>are effectively implemented; there is acceptance and cooperation from the stakeholders on the implementation process.</p> <ul style="list-style-type: none"> • Project design and construction are implemented effectively <p>Risks</p> <ul style="list-style-type: none"> • Exceptional weather affects the annual effective construction period • Costs are much higher than anticipated

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	- Other cities/towns: TBD Percentage of urban wastewater treated increased: - Zhaoxian from 70% to 100% - Other cities/towns: TBD		
<p>Outputs For Core Subprojects:</p> <p>Bazhou County Component 1. Mangniu River Improvement River bed is dredged and embankments are constructed</p> <p>Sewer networks constructed; rubber dams are installed</p> <p>Flooding of the urbanized area becomes less frequent</p> <p>Component 2. Shengfang Water Supply Project New water supply system and associated facilities operational</p> <p>Zhaoxian County Component 1: Wastewater Treatment</p>	<p>By 2015</p> <p>Construction/rehabilitation of 66 km sewers, improvement of 6.7 km river course</p> <p>Wastewater collection rate increased from 60% in 2007 to 80% in 2015</p> <p>Sewer network coverage in urban area increased by 33%; total sewer coverage in urban area increased from 30% in 2005 to 63%</p> <p>% of urban river bed that is improved increases from 10% to 100% in 2015</p> <p>Major flood incidence decreases from than once every 10 years to once every 50 years</p> <p>Length of river in urbanized areas that is improved increases from 20% to 100% in 2015</p> <p>Construction of 14 wells, pump stations, water treatment plant with capacity 20,000 m³/d, and distribution pipeline network (47 km)</p> <p>Water supply coverage rate increased from 55% in 2007 to 90% in 2010</p> <p>Population having access to centralized drinking water supply increased by 99,000, and service area increased by 17.5 km²</p> <p>Phase II extension (50,000 m³/d) of the existing WWTP by constructing primary and secondary (biological) treatment works</p> <p>Wastewater treatment rate increases from 75% in 2007 to</p>	<p>From All:</p> <p>Regular IA reports on contract expenditure and works progress</p> <p>Monitoring of project implementation and progress by ADB Review Missions</p> <p>Works supervision; construction; completion and acceptance records</p> <p>Information from final accounts of works</p> <p>Monitoring reports on institutional development including number of staff trained, areas of training, and strengthened organizations and procedures</p> <p>County Public Affairs Management Bureau [all components]</p> <p>County Water Affairs Bureau</p> <p>County District Heating Company</p> <p>County Wastewater Company</p> <p>County Development and Reform Commission [all components]</p> <p>County Construction Bureau [all components]</p> <p>County records and documents</p>	<p>Assumptions</p> <ul style="list-style-type: none"> Project financing is provided on time Relevant authorities offer strong support to the city and town PMOs and IAs on capacity development for project implementation and operation Effective stakeholder participation and ownership is developed Different specialist disciplines are well coordinated Land acquisition and resettlement policies are effectively implemented; there is acceptance and cooperation from the stakeholders on the implementation process Project design and construction are implemented effectively <p>Risks</p> <ul style="list-style-type: none"> Local geological conditions affect construction activities Exceptional weather affects the annual effective construction period Costs are much higher than foreseen

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<p>Component 2: District Heating Heat sub-stations and distribution network constructed</p> <p>Residents receive adequate heating services</p> <p>Reduction in use of coal for residential heating</p> <p>Component 3: Solid Waste Management Solid waste processing and recycling plant and composting facility constructed</p> <p>Zhengding County Component 1: Solid Waste Management Solid waste processing and recycling plant and composting facility constructed</p> <p>Improved solid waste management collection and treatment</p> <p>For all subprojects: Institutional capacity for project management is improved</p>	<p>100% in 2015</p> <p>Population having access to centralized wastewater treatment services increased by 33,000; service area increased by 6.4 km²</p> <p>Rehabilitation and expansion of urban heating system, including construction of two primary heat sub-stations (total capacity 372 MW), 21 km of transmission and distribution pipelines, and 63 secondary heat sub-stations</p> <p>Centralized municipal heating coverage rate increased from 14% in 2007 to 80% in 2015.</p> <p>Centralized heating service area increased by 1,658,000 m²</p> <p>Additional (Phase II), 100 t/d, solid waste processing and recycling plant</p> <p>Solid waste non-hazardous treatment rate increases from 0% in 2007 to 100% in 2015</p> <p>Population receiving solid waste treatment services increased by 200,000</p> <p>New solid waste processing and recycling plant (600 t/d) and collection and transfer works: transfer stations, compression trucks, and skips</p> <p>Solid waste non-hazardous treatment rate increases from 70% in 2007 to 90% in 2015</p> <p>Population receiving solid waste treatment services increased by approximately 150,000</p> <p>Hebei PMO and the subproject city and town PMOs and IAs:</p> <ul style="list-style-type: none"> • PPMS established in 2009 is refined • Project implementation is undertaken in timely manner • Adequate provision of counterpart staff and 		

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	<p>resources to implement the Project</p> <ul style="list-style-type: none"> • Review and improvement of cost control measures every 2 years • Tariffs are reviewed annually and local residents are aware of the results of the annual tariff review process, public consultation process established • A 5-year (2009–2014) training plan for project management, O&M, financial management and institutional development is implemented • Organization structure and financial management systems are enhanced 		
<p>Activities with Milestones</p> <p>Subproject 1: Bazhou City</p> <p>1.1 River Improvement and Sewerage Network Rehabilitation</p> <p>Activity (1) Design the facilities, acquire land and procure the works by 2009.</p> <p>Activity (2) Rehabilitate 2.7 km of Mangniu River.</p> <p>Activity (3) Construct and rehabilitate 66 km of city sewer networks by 2011.</p> <p>1.2 Water Supply</p> <p>Activity (4) Design the facilities, acquire land, and procure the works by 2009.</p> <p>Activity (5) Construct 14 wells, pump stations, and WTP by 2011.</p> <p>Activity (6) Construct water supply distribution pipeline by 2011.</p> <p>Subproject 2: Zhaoxian County</p> <p>2.1 District Heating</p> <p>Activity (7) Design the facilities, acquire land and procure the works by 2009.</p> <p>Activity (8) Construct two central heating stations with capacity 382 MW.</p> <p>Activity (9) Construct district heating stations with heat exchangers.</p> <p>Activity (10) Construct 20 km of transmission and distribution pipelines.</p> <p>2.2 Solid Waste Treatment</p> <p>Activity (11) Design the facilities, acquire land and procure the works by 2009.</p> <p>Activity (12) Construct a 100 t/d solid waste processing and recycling plant by 2011.</p> <p>2.3 Wastewater Treatment</p> <p>Activity (13) Design the facilities, acquire land and procure the works by 2009.</p> <p>Activity (14) Construct WWTP extension with 100,000 m³/d capacity by 2011.</p> <p>Subproject 3: Zhengding County</p> <p>3.1 Solid Waste Management</p> <p>Activity (15) Design the facilities, acquire land and procure the works by 2009.</p> <p>Activity (16) Construct new solid waste processing and recycling plant by 2011.</p> <p>Activity (17) Construct new solid waste collection and transfer works, including transfer stations.</p> <p>Activity (18) Procure and install new solid waste collection equipment, including compression trucks and skips by 2011.</p> <p>Institutional Capacity Building for Project Management</p> <p>Activity (19) Strengthen financial management and corporate governance in water and wastewater agencies/companies in any subproject city or town with water supply or wastewater component by 2015.</p> <p>Activity (20) Complete organizational arrangements for Hebei PMO to be able to implement the Project by 2009.</p>			<p>Inputs</p> <p>ADB</p> <ul style="list-style-type: none"> • Provide \$100 million loan with timely disbursement based on the construction schedule of the works: <ul style="list-style-type: none"> - Civil works: \$23.5 million - Capital goods: \$64.1 million - Consulting services: \$2.5 million - Financial charges during implementation: \$10.0 million • \$0.25 million grant from Water Financing Partnership Facility for strengthening operational and financial sustainability of service utilities. <p>Government and IAs</p> <ul style="list-style-type: none"> • \$149.65 million equivalent in counterpart funds with timely disbursement based on the construction schedule of the works.

Activity (21)	Complete necessary organizational arrangements for IAs (hiring staff; setting up accounting systems; and improving financial, administrative, and human resource policies and procedures) by 2009.	
Activity (22)	Develop plans, budgets, and procedures for loan implementation and project control in Hebei PMO by 2010.	
Activity (23)	Complete Hebei PMO and IA staff training (training in ADB procedures, procurement, traffic management, road maintenance, water supply, pollution control, environmental monitoring, and financial management) by 2015.	
Activity (24)	Hebei PMO and IAs refine the PPMS and establish targets and procedures no later than 6 months after loan effectiveness.	

ADB = Asian Development Bank, COD = chemical oxygen demand, FYP = Five-Year Plan, IA = implementing agency, km = kilometer, km² = square kilometer, m² = square meter, m³/d = cubic meter per day, MW = megawatt, PMO = project management office, PPMS = project performance management system, PPTA = project preparatory technical assistance, O&M = operation and maintenance, SO₂ = sulfur dioxide, t/d = ton per day, TBD = to be determined, WTP = water treatment plant, WWTP = wastewater treatment plant.