

Environmental Monitoring Report

Project Number: 47069-002

March 2018

PRC: Henan Hebi Qihe River Environmental Improvement and Ecological Conservation Project—Semi-Annual Environmental Monitoring Report (to December 31, 2017)

Prepared by the Henan Hebi City Project Management Office for the Asian Development Bank.

This environmental monitoring report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

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CURRENCY EQUIVALENTS

(as of January 31, 2018)

Currency unit – Yuan (CNY) CNY1.00 = \$0.16 \$1.00 = CNY 6.30

ACRONYMS AND ABBREVIATIONS

ADB Asian Development Bank

CSC Construction supervision company

DD Due diligence

DMF Design and monitoring framework EIA Environmental impact assessment

EEMA External Environmental monitoring agency

EMP Environmental Management Plan
EMR Environmental Management Report
EPB Environmental protection bureau

FB Forestry bureau GAP Gender action plan

GRM Grievance redress mechanism

HCG Hebi City Government

HPG Henan Provincial Government

HRUDB Housing and Rural-Urban Development Bureau

IA Implementing agency

Leg Equivalent continuous sound pressure level, in decibels

LIEC Loan implementation environment consultant

MAD Municipal administration division MIS Management information system

MPR Monthly progress report
O&M Operation and maintenance
PIU Project implementation unit

PM₁₀ Particulate matter with diameter <10 μ

PMO Project management office

PPMS Project performance management system

PRC People's Republic of China

RP Resettlement plan

SDAP Social development action plan SPS Safeguard Policy Statement (of ADB)

TSP Total suspended particle
UAB Urban administration bureau
WRB Water resource bureau
WWTP Wastewater treatment plant

NOTE

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I. INTRODUCTION

A. Purpose of report

- 1. The purpose of this environmental monitoring report (EMR) is to describe and assess progress for implementation of the environmental management plan (EMP) for the Henan Hebi Qihe River Environmental Improvement and Ecological Conservation Project, for the reporting period up to December 31, 2017. This EMR is submitted in compliance with the Safeguard Policy Statement (SPS)¹ of the Asian Development Bank (ADB) and the loan agreement between ADB and the project executing agency.
- 2. This is the first EMR for the project. It covers part of the design, bidding, construction, operation phases of each subprojects under the project. The report describes: (i) project readiness with respect to fulfilling environmental requirements; (ii) implementation of mitigation measures; (iii) environmental monitoring activities; (iv) public consultations (including grievance redress); (v) training and capacity building; and (vi) an overall assessment of key achievements, challenges, issues, corrective actions, and lessons learned, during the reporting period.

B. Project subcomponents, outcome and outputs

- 3. Located in the north of Henan Province, Hebi City has a total population of 1.6 million and encompasses 83 kilometers (km), 51% of the Qihe River. Originating from Shanxi Province, the Qihe River flows into the Weihe River and then Hai River and finally into the Bohai Sea. The Qihe River basin in Hebi City has been selected as a national pilot project for achieving "Water Ecological Civilization". The key issues affecting the ecological integrity of the Qihe River include environmental degradation in the upper Qihe River watershed, poor flood management capacity, pollution from wastewater and solid waste, as well as the poor inter-sectoral capacity and coordination mechanisms for river basin and water resource management. Thus, the Hebi City Government (HCG) has been making various efforts on environmental improvement and ecological conservation in the Qihe River Basin.
- 4. The impact of the Henan Hebi Qihe River Environmental Improvement and Ecological Conservation Project will be to restore ecological services in the Qihe River basin and improve the quality of life. The outcome of the project is to demonstrate integrated environmental management in the Qihe River basin. The project has four outputs: (i) restored vegetation and wetlands in the upper Qihe River basin; (ii) improved flood management capacity of the lower Qihe River; (iii) enhanced wastewater and solid waste management in the Qihe River basin; and (iv) strengthened technical and institutional support system, and capacity for integrated management of the Qihe River basin. Detailed introduction on subcomponents and relative activities are summarized in Table 1.

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¹ ADB. 2009. Safeguard Policy Statement. Manila.

Table 1: Summary of project subcomponents and activities

Output	Activity
1	Ecological conservation and environmental management of upper Qihe River
	and its watershed enhanced [Qibin District]
1.1	Qihe River Upstream Ecological Protection
1.1.1	Barren hill greening (1,346 ha; 19 hills)
1.1.2	Barren hill community maintenance (irrigation, pest control, patrol)
1.1.3	Barren hill monitoring of planted vegetation
1.2	Restoration and management of pilot Qihe River National Wetland Park
1.2.1	Habitat restoration and creation (marsh land restoration 36.3 ha; habitat creation:12.3 ha)
1.2.2	Protection of flagship species (fencing 1,589 m; signage: 300)
1.2.3	Re-vegetation and restoration of riverbanks (3.9 km)
1.2.4	Re-vegetation (49.2 ha)
1.2.5	Infrastructure: (i) upgrade existing public access road (3.2 km) and patrol road (6.3 km); construct new patrol road (2.5 km) and walking paths (4.4 km); (ii) research and monitoring center (500m²), field stations (160m²), bird hides, ecological monitoring equipment; (iii) management and service facilities (management office, public toilets, power and water supply, drainage)
1.2.6	Establishment of park management agency and first five-year management plan
1.2.7	Park monitoring program
1.2.8	Community participation in park monitoring (local river guards)
2	Lower Qihe River Mainstream and tributaries improved [Qibin District, Qi
	County, Xun County]
2.1	Qihe Mainstream Watercourse Improvement in Qi County (21 km)
2.1.1	Mainstream bank stabilization (Gabion works – 14 locations along both banks; total works about 4.08 km)
2.1.2	Crest road paving (42 km; 21 km along each bank)
2.2	Four Tributary Watercourse Improvement in Qi County
2.2.1	Channel widening, dredging, bank protection (Side River 9.5 km, Zhaojia Canal 9.8 km, Zhejing River 6.62 km, Hucheng River, including Longxui ditch with a length 5.92; total 31.84 km)
2.2.2	Riverside greening (Side River, Zhaojia Canal; total 11.5 km)
2.3	Five Canal Watercourse Improvement in Qibin District
2.3.1	Canal widening, dredging, bank protection (Tianlai 5.15 km, Mianfeng 0.97 km, Erzhi 0.73 km; total 6.852 km)
2.3.2	Canal repair (Sanzhi 2.84 km, Sizhi 1.6 km; total 4.44 km)
2.3.3	Riverside greening at a total length of 11.3km along Tianlai, Mianfeng, Erzhi Canals and Sanzhi and Sizhi Canals (up to 15 m width on each river side along Tianlai, Mianfeng, and Erzhi Canals, and up to 10 m width along Shanzhi and Sizhi Canals)
2.3.4	Supporting facilities (irrigation, bank-side walkways, landscaping)
3	Wastewater and Solid Waste Management in the Qihe River Basin improved
3.1	Qibin District Wastewater Management
3.1.1	Stormwater pipeline construction (Dalaidian 7.76 km; Juqiao 73.77 km; total 81.53 km)
3.1.2	Sanitary sewer installation (Dalaidian 21.48 km; Juqiao 68.85 km; total 90.33 km. Includes connection to Qibin WWTP + planned Qishuiwan WWTP)
3.2	Qi County Wastewater Management
3.2.1	Qi County WWTP expansion (30,000 tons/d to 60,000 tons/d)

 3.2.2 Stormwater pipeline construction (132.49 km) 3.2.3 Sanitary sewer installation (69.12 km) 3.3 Solid Waste Management [Qi County, Qibin District] 3.3.1 Urban–15 domestic waste transfer stations (capacity 20 t/d) including equipment for compaction, odor removal, 44 transport vehicles (Qi County) 3.3.2 Rural–upper Qihe: install litter bins, waste transport vehicles in 13 villages (Qibin District–6; Qi County–7) 3.3.3 Rural–lower Qihe: install litter bins, waste transport vehicles in 20 villages (Qi County) 3.3.4 Pilot community-led waste management system – awareness raising and waste collection (Qi County and Qibin District) 3.3.5 Domestic study tours for capacity building of relevant agencies and support the development of a better solid waste management system 4 Institutional and technical support system for integrated management of the Qihe River Basin improved [Qi County, Qibin District] 4.1 Qihe River Ecological Monitoring Program (ecology and hydrology) 4.2 Qihe River Basin Management Information System 4.3 Project start-up support consulting services 4.4 Loan implementation consulting services 4.5 External resettlement monitoring and evaluation 4.6 Training for project management and other training costs 		
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4.6 Training for project management and other training costs	4.5	<u> </u>
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Source: ADB

C. Project implementation progress

5. The project became effective on March 13, 2017. It is composed of 7 subprojects and 1 consultancy service package. Using counterpart funds, 3 subprojects were completed, 2 subprojects are partially completed and 2 subprojects have not started procurement as reported by the time of this EMR preparation. The general status of each subproject is summarized in Table 2.

Table 2 Completion Status of Each Subproject

No	Subproject	Status	Following Action
I	Qihe River Upstream Ecological Protection	Not started	For the completed
Ш	Qihe Mainstream Watercourse Improvement in Qi County	Not started	subprojects, environmental due
III	Qibin District Wastewater Management	Partially completed	diligence audits are planned in April 2018.
IV	Restoration and Management of Pilot Qihe River National Wetland Park	Completed	For the subprojects that have not started, review on subproject contractors'
V	Five Canal Watercourse Improvement in Qibin District	Completed	EMPs, and environmental monitoring will be
VI	Four Tributary Watercourse Improvement in Qi County	Completed	conducted.

VII	Flood Management in Qi County	Partially completed	
VIII	Consultant and Ability Building	In progress	The recruitment of external environmental monitoring agency is in progress.

- 8. According to the procurement plan updated in December 2017, there are a total of 49 contract packages under the project, including 5 goods contracts, 36 civil work contracts and 8 consulting service contracts. As reported, 16 contract packages (4 goods contracts and 12 civil work contracts) were completed using counterpart financing and one civil work contract package was cancelled due to the difficulties in land acquisition. The rest 32 contract packages are either in the process of design and bidding document preparation or have not started.
- 9. Detailed implementation progress for all contract packages is summarized in Table 3.

Table 3: Project implementation progress as of December 31, 2017

Contract No.	Contract Name	Status	Civil Work commence date	Name of contractor	Name of CSC	Implementation Description
I. Qihe River	Upstream Ecological Protection					
SW-E-01		Bidding document preparation	-	-	-	Proposed advertisement date: 2018/03
EC-CW-01-1	Xiaohejian, & Niuhengling in Dahejian Township)	Bidding document preparation	-	-	-	Proposed advertisement date: 2018/03
EC-CW-01-2	IVIII 200 X. IVI 2000 IOO IOO IOO IOO IOO IOO IOO IOO IOO	Bidding document preparation	-	-	-	Proposed advertisement date: 2018/03
EC-CW-02-1	Barren Hills Greening (3) (Xiekuang & Shangyu in Shangyu Township)	Bidding document preparation	-	-	-	Proposed advertisement date: 2018/03
EC-CW-02-2	Barren Hills Greening (4) (Laowangyan, Sangyuan, Baijianshan, Bailongmiao, and Zhifang in Shangyu Township)	Not started	-	-	-	Proposed advertisement date: 2018/09
EC-CW-02-3	Barren Hills Greening (5) (Luchang,	Not started	-	-	-	Proposed advertisement date: 2019/01
EC-CW-02-4	Barren Hills Greening (6) (Xugou & Xuanwuyan Qaurry in Jinshan)	Not started	-	-	-	Proposed advertisement date: 2019/01
II. Qihe Mair	stream Watercourse Improvement					
QM-CW-01	(Xun County)	Bidding document preparation	-	-	-	Proposed advertisement date: 2018/03
QM-CW-02	road construction (Oi County	Bidding document preparation	-	-	-	Proposed advertisement date: 2018/03
QM-CW-03	Riverbank stability reinforcement for 3 locations and 7 km dyke crest	Not started	-	-	-	Proposed advertisement date: 2018/08

Contract No.	Contract Name	Status	Civil Work commence date	Name of contractor	Name of CSC	Implementation Description
	road construction (Qi County Section: 11+000 - 18+000)					
QM-CW-04	Riverbank Stability Reinforcement of 3 locations and 7.5 km Dyke Crest Road Construction (Qi County Section: 18+000 - 25+500)	Not started	-	-	-	Proposed advertisement date: 2018/09
III. Qibin Dis	trict Wastewater Management					
WW-CW-01	Stormwater pipeline and sewer construction (1) (Daliandian District (1))	Partially completed	Oct 2015	Hebi Xiaguang Construction Engineering Co., Ltd	Henan Liyuan Engineering Co., Ltd	Contracted using the counterpart fund
WW-CW-02	Stormwater pipeline and sewer construction (2) (Daliandian District (2))	Cancelled	-	-	-	Cancelled due to unavailability of land
WW-CW-03	Stormwater pipeline and sewer construction (3) (Juqiao District (1))	Will be repackaged	-	-	-	Proposed advertisement date: 2019/05
WW-CW-04	Stormwater pipeline and sewer construction (4) (Juqiao District (2))	Will be repackaged	-	-	-	Proposed advertisement date: 2019/05
WW-CW-05	Stormwater pipeline and sewer construction (5) (Juqiao District (3))	Will be repackaged	-	-	-	Proposed advertisement date: 2019/05
WW-CW-06	Stormwater pipeline and sewer construction (6) (Juqiao District (4))	Will be repackaged	-	-	-	Proposed advertisement date: 2019/09
WW-CW-07	Stormwater pipeline and sewer construction (7) (Main pipes from Juqiao District to Qishuiwan WWTP)	Not started	-	-	-	Proposed advertisement date: 2019/09
IV. Restorati	on and Management of Pilot Qihe R	River National We	tland Park (compl	eted using counterpa	art financing)	
WL-ME-01	Monitoring equipment	Completed	2015	Henan Urban Construction Institute	-	Contract award: 2015/02; Contract completion: 2017/11
WL-CW-01	Qihe River Ecological Wetland rehabiliation (Qibin District)	Completed	2015	JV of Henan First Construction Engineering Group and Henan Construction	Henan Xinhengfeng Construction Supervision Co., Ltd	Contract award: 2015/02 - 2016/03; Contract completion: 2015/10 – 2016/10

Contract No.	Contract Name	Status	Civil Work commence date	Name of contractor	Name of CSC	Implementation Description
				Engineering Design Co., Ltd; 2. Henan Traffic Construction Engineering Co., Ltd; 3. Shenzhen Wenke Garden Co., Ltd; 4 Henan Longyu Road and Bridge Engineering Co., Ltd		
WL-CW-02	Qihe River Ecological Wetland rehabiliation (Qi County)	Completed	2015	Local farmers	Qi County FB	Contract award: 2015; Contract completion: 2017/08
V. Five Cana	Watercourse Improvement in Qibi	n District (compl	eted using counte	erpart financing)	I	
QB-CW-01	Watercourse improvement, greening and associated facilities (Tianlai Canal)	Completed	Sep 2016	Hunan Sixth Engineering Co., Ltd	Henan Guangda Construction Management Co., Ltd	Contract award: 2016/09; Contract completed
QB-CW-02	Watercourse improvement, greening and associated facilities (Mianfeng, Erzhi, Sanzhi and Sizhi Canals)	Completed	Sep 2016	Hunan Sixth Engineering Co., Ltd	Henan Guangda Construction Management Co., Ltd	Contract award: 2016/09; Contract completed
VI. Four Trib	utary Watercourse Improvement in	Qi County (comp	leted using count		,	
QX-CW-01	Watercourse dredging, improvement and greening works (Side River)	Completed	Sep 2015	1. Henan Tianyu Hydraulic Engineering Construction Co., Ltd; 2. Puyang Huanglong Hydraulic and Hydro-power Engineering Co., Ltd; 3. Guangrao Tengda Hydraulic Construction Co., Ltd; 4. Henan Wenshui Hydro-	Henan Riyue Construction Engineering Management Co., Ltd	Contract award: 2015/09; Contract completion: 2016/06

Contract No.	Contract Name	Status	Civil Work commence date	Name of contractor	Name of CSC	Implementation Description
				power Engineering Co., Ltd.		
QX-CW-02	Watercourse dredging, improvement and greening works (Zhaojia Canal)	Completed	2017	Henan Zhenghai Industrial Co., Ltd (Zhaojia Canal)	Henan Riyue Construction Engineering Management Co., Ltd	Contract award: 2017/01-10; Contract completed
QX-CW-03	Watercourse dredging, improvement and greening works (Zhejing River, Hucheng River and Longxu Ditch)	Completed	2017	Henan Zhenghai Industrial Co., Ltd (Zhejing River)	Henan Riyue Construction Engineering Management Co., Ltd	Contract award: 2017/09-10; Contract completed
VII. Flood M	anagement in Qi County (partially o	completed using of	counterpart finance	eing)		
WW-E-01	Equipment for Qi County WWTP expansion (from 30,000 m³/day to 60,000m³/day)	Completed	Sep 2016	China Energy Conservation Water Engineering Co., Ltd	Gansu Lanye Construction Supervision Co., Ltd	Contract award: 2016/09; Contract completion: 2017/11
SW-E-02	Equipment for 7 solid waste transfer stations (20 ton/day/station) in Qi County	Completed	-	Henan Yisheng Sanitation Machinery Co., Ltd	Henan Taichang Construction Management Consulting Co.	Contract award: 2014; Contract completion: 2015
SW-E-03	Equipment for 8 solid waste transfer stations (20 ton/day/station) in Qi County	Completed	-	Henan Zhongyi Sanitation Equipment Co., Ltd	Henan Daming Construction Design Co.	Contract award: 2015; Contract completion: 2016
WW-CW-08	Qi County WWTP Expansion Civil Works (30,000 m ³ /d)	Completed	Sep 2016	China Energy Conservation Water Engineering Co., Ltd	Gansu Lanye Construction Supervision Co., Ltd	Contract award: 2016/09; Contract completion: 2017/11
WW-CW-09	Stormwater pipeline and sewer construction (8) (Rural-Urban Integrated Demonstration District)	Not started	-	-	-	Proposed advertisement date: 2019/09
WW-CW-10	Stormwater pipeline and sewer construction (9) (Heqi Industry Cluster District)	Not started	-	-	-	Proposed advertisement date: 2019/09

Contract No.	Contract Name	Status	Civil Work commence date	Name of contractor	Name of CSC	Implementation Description
WW-CW-11	Stormwater pipeline and sewer construction 10 (Old urban area of Qi County Capital Town (1))	Not started	-	-	-	Proposed advertisement date: 2019/09
WW-CW-12	Stormwater pipeline and sewer construction 11 (Old urban area of Qi County Capital Town (2))	Not started	-	-	-	Proposed advertisement date: 2019/09
WW-CW-13	Stormwater pipeline and sewer construction 12 (Old urban area of Qi County Capital Town (3))	Not started	-	-	-	Proposed advertisement date: 2019/09
WW-CW-14	Stormwater pipeline and sewer construction (Tiexi District of Qi County (1))	Not started	-	-	-	Proposed advertisement date: 2019/09
WW-CW-15	Stormwater pipeline and sewer construction (Tiexi District of Qi County (2))	Not started	-	-	-	Proposed advertisement date: 2019/09
WW-CW-16	Stormwater pipeline and sewer construction (Tiexi District of Qi County (3))	Not started	-	-	-	Proposed advertisement date: 2019/09
WW-CW-17	Stormwater pipeline and sewer construction (Main pipes to Qi County WWTP)	Completed	Apr 2017	Henan Wan'an Industrial Co., Ltd	Henan Yihao Engineering Project Management Co., Ltd	Contract award: 2017/04; Contract completion: 2017/06
SW-CW-01	7 Solid Waste Stations Civil Works (20ton/day/station) in Qi County	Completed	2014	Hebi Hongrong Construction Co.	Henan Taichang Construction Management Consulting Co.	Contract award: 2014; Contract completion: 2015
SW-CW-02	8 Solid Waste Stations Civil Works (20ton/day/station) in Qi County	Completed	2015	Henan Rongtai Municipal Garden Engineering Co.	Henan Daming Construction Design Co.	Contract award: 2015; Contract completion: 2016
VIII. Consul	ant and Ability Building					
CP1	Community Participation Environmental Management Mechanism	Not started	-	-	-	Proposed advertisement date: 2019/02

Contract No.	Contract Name	Status	Civil Work commence date	Name of contractor	Name of CSC	Implementation Description
CS1	Project implementation consulting services for project management support and capacity development	On-going	-	ESD China Limited	-	ESD was commissioned on October 26, 2017 as the project management consultant.
CS2	External resettlement and social monitoring services	Recruitment in progress	-	-	-	The advertisement for CS2 contract package has been published in ADB CMS by December 2017.
CS3	Project Startup consulting services	Completed	-	-	-	Contract award: 2016/05 Contract completion: 2017/11
CS4	Qihe River Ecological Monitoring and Management Program (plants, organisms, water quality, wetland, and mainstream watercourse improvement in the Qihe River Basin)	Not started	-	-	-	Proposed advertisement date: 2019/05
CS5	Qihe River Basin 3D Digital System Development	Not started	-	-	-	Proposed advertisement date: 2019/05
	Training	In progress	-	-	-	
	External environmental monitoring	Bidding document preparation	-	-	-	Financed by national funds

II. INSTITUTIONAL SETUP AND RESPONSIBILITIES FOR EMP IMPLEMENTATION AND SUPERVISION

- 10. The project environmental management plan (EMP) is the primary reference document for the government and ADB to effectively manage all environment-related mitigation, monitoring, reporting, and training activities for the project. Timely and effective implementation of the EMP is a key condition of the loan agreement between the government and ADB. The EMP was prepared as part of the environmental impact assessment in 2015 and was updated in December 2017. The content of the EMP includes: institutional roles and responsibilities for EMP implementation; mitigation measures for environmental safeguard risks; environmental monitoring and reporting; training and capacity building; grievance redress mechanism (GRM); public consultation; cost estimates; and, other information e.g. terms of reference for key positions.
- 11. **Project institutional arrangements.** The EMP describes the roles and responsibilities of relevant agencies for EMP implementation.
- 12. **PMO** and **PIU** Environment Officer: The principal person responsible for EMP coordination is the PMO Environment Officer, acting on behalf of the City PMO. On-site implementation of the EMP is coordinated by the implementing agencies (IAs), contractors, and construction supervision companies (CSCs). As the IAs, Qi County PMO, Qibin District PMO and Xun County PMO have all appointed one Environment Officer, respectively. In addition, each PIU has also appointed one PIU Environment Officer to coordinate EMP at local level.
- 13. Loan Implementation Environment Consultant (LIEC): The LIEC will advise the PMO, PIUs, contractors, and construction supervision companies on all aspects of environmental management and monitoring for the project. Currently, the environmental expert, Mr. Yu Jialiang and the assistant, Ms. Yu Wencan from ESD will perform as the LIEC of the project.
- 14. Construction Contractors and Construction Supervision Companies (CSCs): Construction contractors are responsible for implementing relevant EMP mitigation measures during construction, under the supervision of the CSCs and PIUs. Contractors shall develop site-specific EMPs on the basis of this project EMP. CSCs will be selected through the PRC bidding procedure by the PIUs. The CSCs are responsible for supervising construction progress and quality, and EMP implementation on construction sites. Each CSC shall have at least one environmental engineer on each construction site.
- 15. Table 4 summarizes the information of relevant dedicated correspondents of the project.

Table 4: Information of dedicated environmental management correspondents (Up to December 2017)

Contract No.	Contract Name	Environmental Management Roles	Organization	Name of Responsible Person	Tel
-	-	City PMO Environment Officer	Hebi City PMO	Ms Lisha WANG	15703926676
-	-	Qi County PMO Environment Officer	Qi County PMO	Ms Yonghong LI	13893205566

Contract No.	Contract Name	Environmental Management Roles	Organization	Name of Responsible Person	Tel		
-	-	Qibin District PMO Environment Officer	Qibin District PMO	Mr Yang YANG	15939298556		
-	-	Xun County PMO Environment Officer	Xun County PMO	Mr Yi ZHANG	15039238156		
			Qi County FB	Mr Xinyu ZHANG	13783929978		
			Qi County WRB	Mr Yuezhen CHEN	13939201665		
		PIU Environment Officer	Qi County UAB	Mr Enlin WANG	13403928666		
			Qi County HRUDB	Mr Yong CHANG	15139229969		
-	-				Qibin District FB	Ms Qingxue TAN	15939298556
			Qibin District MAD	Ms Shujun ZHANG	18239209969		
			Qibin District HRUDB	Mr Zhenfa GUO	15939298556		
			Xun County WRB	Mr Yi ZHANG	15039238156		
			URCAB of the Demonstrative Area	Mr Zhuangkun SU	15003925769		
CS1	Project implementation	LIEC	ESD	Mr Jialiang YU	18930979609		
UST	consulting services	Assistant	ESD	Ms Wencan YU	15221579969		

III. ENVIRONMENTAL MANAGEMENT DURING THE REPORTING PERIOD

16. This section summarizes the progress made to implement the project EMP during the current reporting period.

Completed subprojects (counterpart financing)

17. Prior to the commencement of project implementation consulting service in October 2017, 3 subprojects (Restoration and Management of Pilot Qihe River National Wetland Park, Five Canal Watercourse Improvement in Qibin District, and Four Tributary Watercourse Improvement in Qi County) were completed and 2 subprojects (Qibin District Wastewater Management and Flood Management in Qi County) were partially completed using counterpart funds during 2014 to 2017. As reported, all the required environmental protection measures in the general EMP and EIA had been carried out during the implementation of the above-mentioned subprojects. Environmental due diligence audits on each of the completed subprojects will be performed after all relevant documents can be provided for review by the PMOs and local administrative authorities.

Uncompleted/not started subprojects

18. By December 2017, subprojects including Qihe River Upstream Ecological Protection and Qihe Mainstream Watercourse Improvement in Qi County, and installation of stormwater pipelines in Qi County and Qibin District under subprojects of Qibin District Wastewater Management and Flood Management in Qi County have not started construction. Design and bidding documents for these subprojects are in progress of preparation. All the documents will be or is being reviewed to ensure the compliance with EMP and EIA requirements. In addition, individual EMP for each subproject will be prepared and required to be implemented during subproject implementation.

A. Assessment of project readiness

- 19. This is the first key step prior to the start of project civil works, to ensure that preparations for EMP implementation have been completed. The assessment indicators are defined in the EMP, which include whether: (i) the EMP mitigation measures have been incorporated in the detailed design; and (ii) the PMO and PIUs have included project-specific clauses for environment safeguards to be incorporated in the bidding documents.
- 20. Due diligence (DD) audits for compliance assessment on the completed or in-progress subprojects using counterpart funds will be carried out after all the documents can be provided for review.
- 21. An assessment of project readiness on the subprojects that have not started was conducted and the details are presented in Table 5.

Table 5: Project Readiness Assessment

Indicator	Assessment Target	Target Review for Subprojects not Started	Target Review for Completed Subprojects/Contract Packages
EMP update	The EMP was updated after technical detail design, and approved by ADB	Yes	To be assessed in DD audits
Compliance with loan covenants	loan project design and		To be assessed in DD audits
Public involvement	Meaningful consultation completed	Yes	To be assessed in DD audits
effectiveness	GRM established with entry points	Yes	To be assessed in DD audits
	LIEC is in place	Yes	Yes
Environmental supervision in	Environment Officer appointed by PMO	Yes	Yes
place	EMS and CSCs contracted by PMO	In progress	To be assessed in DD audits

	EMC appointed by each PIUs	In progress	To be assessed in DD audits
Bidding documents and contracts with environmental safeguards	Bidding documents and contracts incorporating the impact mitigation and environmental management provisions of the EMP.	In progress	To be assessed in DD audits
Site construction planning (Environmental)	Site environmental management and supervision plan prepared for each work site by the PMO, PIUs and contractors.	In progress	To be assessed in DD audits
EMP financial support	The required funds have been set aside by contractors, PMO and PIUs to support the EMP implementation	In progress	To be assessed in DD audits

B. Implementation of the project mitigation measures

22. In regards to the completed subprojects/contract packages, key requirements on mitigation measures are listed in the EMP and due diligence audits are planned in April 2018 to review whether required mitigation measures had been carried out for the following 12 civil work contracts:

Subproject IV: Restoration and Management of Pilot Qihe River National Wetland Park

- 1) WL-CW-01: Qihe River Ecological Wetland rehabilitation (Qibin District)
- 2) WL-CW-02: Qihe River Ecological Wetland rehabilitation (Qi County)

Subproject V: Five Canal Watercourse Improvement in Qibin District

- 3) QB-CW-01: Watercourse improvement, greening and associated facilities (Tianlai Canal)
- 4) QB-CW-02: Watercourse improvement, greening and associated facilities (Mianfeng, Erzhi, Sanzhi and Sizhi Canals)

Subproject VI: Four Tributary Watercourse Improvement in Qi County

- 5) QX-CW-01: Watercourse dredging, improvement and greening works (Side River)
- 6) QX-CW-02: Watercourse dredging, improvement and greening works (Zhaojia Canal)
- 7) QX-CW-03: Watercourse dredging, improvement and greening works (Zhejing River, Hucheng River and Longxu Ditch)

Subproject VII: Flood Management in Qi County (WWTP and SWT)

- 8) WW-CW-08: Qi County WWTP Expansion Civil Works (30,000 m³/d)
- 9) WW-CW-17: Stormwater pipeline and sewer construction (Main pipes to Qi County WWTP)
- 10) SW-CW-01: Solid Waste Stations Civil Works (20 ton/day/station) in Qi County
- 11) SW-CW-02: Solid Waste Stations Civil Works (20 ton/day/station) in Qi County

• Subproject III: Qibin District Wastewater Management

- 12) WW-CW-01: Stormwater pipeline and sewer construction (1) (Daliandian District (1))
- 23. For subprojects have not started construction, the monitoring on implementation of mitigation measures will be carried out at all project phases covering design, pre-construction, construction and operation. This EMR mainly focuses on the compliance check on the implementation status of mitigation measures in design and pre-construction phases for the following uncompleted subprojects within the reporting period. Details are presented in Table 6.

Subproject I: Qihe River Upstream Ecological Protection

This subproject includes 6 civil work contracts, all of which have not started construction. The design and bidding documents are in progress of preparation.

• Subproject II: Qihe Mainstream Watercourse Improvement in Qi County

This subproject includes 4 civil work contracts, all of which have not started construction. The design and bidding documents are in progress of preparation.

Subproject III: Qibin District Wastewater Management

This subproject includes 7 civil work contracts, among which one package was completed using counterpart funds, one package was cancelled due to the difficulties in land acquisition, and procurement of the other 5 packages has not started.

• <u>Subproject VII: Flood Management in Qi County (stormwater and sewage pipeline installation)</u>

There are 8 civil work contract packages under the pipeline installation components and no procurement for all of them has started.

Table 6: Project Impacts and Mitigation Measures and Implementation Status at Design and Pre-construction Phase for the Uncompleted/Not Started Contract Packages for the Subproject I, II, III and VII (up to December 2017)

Item	Potential Impacts and Issues	Mitigation measures prescribed in EMP	Implementation status/Compliance
A. DESIGN PHASE			
Design for barren hills greening	Introduction of weed species to local vegetation communities	Only utilize native plant species of local provenance, as listed in Table IV-2 in Section IV of EIA. These are native species selected adapted to the local climate and soil conditions.	Being implemented
Design for Qi River mainstream improvement	Eco-friendly design	Technical design of embankments shall be adequate and stable enough to withstand the strong force of heavy storm water flow but maximize the adoption of eco-friendly embankment designs	Being implemented
Wastewater and stormwater collection pipeline	Pipe burst	Design of the stormwater and wastewater collection pipelines must be adequate to prevent pipe burst	Being implemented
B. PRE-CONSTRUCTION	ON PHASE		
Institutional	Lack of environment management capacities within PMO and PIUs	-PMO to appoint qualified environment specialist on its staff -Each PIU to appoint qualified environment specialist on its staff -LIEC to conduct environment management training	Compliant with
Strengthening	Environment Monitoring Station (EMS)	-PMO to contract EMS to conduct independent verification of the project's environment performance and compliance with the approved EMP	Being implemented
EMP update	EMP does not reflect the final project design	Review mitigation measures defined in the EMP, update as required to reflect detailed design, disclose the updated EMP on project website, and include the updated EMP in all bid documents	Being implemented
Grievance redress mechanism (GRM)	Handling and resolving complaints	Establish the project GRM; train all PMO and PIU staff in the GRM; disclose GRM to affected people before construction begins; maintain a complaint register to document all complaints	Being implemented
Tender documents and works contracts	Environmental clauses for tender documents and contracts	Put into tender documents and works contracts the respective environmental clauses listed in the EMP	Being implemented

Note: The implementation status of mitigation measures of completed subprojects/contract packages will be reviewed in due diligence audits.

C. Implementation of the project monitoring program

- 24. The project monitoring program comprises three types of monitoring: (i) internal monitoring and supervision; (ii) external monitoring; and (iii) compliance monitoring.
- 25. **Internal monitoring.** During construction, the CSCs and PIUs are responsible for conducting internal environmental monitoring to ensure the contractors are implementing mitigation measures in accordance with the EMP and contractual arrangements. Supervision results shall be reported to PIUs through the internal monthly progress report prepared by the contractors and CSCs. The PIUs will submit internal quarterly progress report with EMP implementation progress to PMO. Trainings had been provided to the PMOs, PIUs, and IAs. PIUs had designated environmental officers for the update of environmental monitoring on a quarterly basis after newly awarded contract packages under subproject I, II, III and VII started construction.
- 26. **External monitoring.** External monitoring is the measurement of specific environmental variables (e.g. air quality, dust levels, noise emissions) to ensure that the construction activities do not cause specified parameters exceeding legal standards.
- 27. It is expected to recruit an external environmental monitoring agency in early 2018 and this agency will conduct periodic environmental monitoring in accordance with the environmental monitoring program as shown in Table 7 for the contract packages being/to be carried out under subprojects I, II, III and VII (stormwater and sewage pipeline installation).
- 28. In regards to the completed subprojects/contract packages, the external monitoring activities will be assessed during the due diligence audits planned in April 2018. The due diligence audits will include not only environmental compliance review but also evaluation on the subprojects' environmental benefits and outcome.
- 29. **Compliance monitoring.** Compliance monitoring is the overall assessment of whether all EMP measures are being complied with, and is conducted by the PMO Environment Officer, supported by the LIEC. This monitoring does not involve quantitative measurement of environmental variables, but is based on visual inspection, site visits, and review of the progress reports for internal and external monitoring. The LIEC was recruited in October 2017. During the reporting period, the LIEC: i) conducted site visits to the project sites; (ii) held discussions with the PMO Environment Officer and PIUs; and (iii) assisted the PMO Environment Officer in preparing the first semi-annual EMR to ADB.
- 30. Due diligence (DD) audits will be performed on the subprojects/contract packages that have been completed using counterpart funds. The DD audits will be conducted via site visits, stakeholders interview and document review, including but not limited to project designs, EIA, local inspection acceptance, environmental and ecological monitoring records, etc. Additional post environmental or ecological monitoring may be required for an environmental benefit evaluation based on any findings or review comments of DD audits on each of the completed subprojects.

Table 7: Environmental Monitoring Program for the Contract Packages being/to be Carried-out for Implementation of Subprojects I, II, III and VII (pipeline installation)

Subproject	Phase	Factor	Indicators	Location	Frequency	
Qi River		Air Quality	Dust, TSP, PM ₁₀	Construction sites where there is resident areas within 300 m	1 day per month during construction	
Mainstream Watercourse Improvement	Constru ction	Noise	Leq	Construction sites where there is resident areas within 200 m	2 times per day (day time, night time), 2 consecutive days every month	
Wastewater	Constru	Air Quality	Dust: TSP, PM ₁₀	Construction sites where there is resident areas within 300 m	1 day per month during construction	
Management	ction		Noise	Leq	Construction sites where there is resident areas within 200 m	1 day per month during construction

Note: The implementation of environmental monitoring for completed subprojects/contract packages will be reviewed in due diligence audits. Additional environmental monitoring on the completed subprojects/components may be required for further compliance check and/or environmental benefits evaluation.

- 31. **Results of environmental monitoring.** All civil work contracts financed by ADB have not started construction, therefore no environmental monitoring activities were carried out in the reporting period for these subprojects
- 32. After recruitment of the external environmental monitoring agency (EEMA), the required monitoring will be carried out by the EEMA for newly awarded contracts and the corresponding monitoring results will be included in the next EMR if any.
- 33. For the completed subprojects comprising of 12 civil work contracts using counterpart financing, DD audits will be performed after all the relevant documents can be provided for review. DD audit report(s) for evaluation on each subprojects' compliance will be prepared.

D. Public consultations and grievance redress mechanism

- 34. This section describes the public consultations undertaken during the reporting period and implementation of the project grievance redress mechanism (GRM).
- 35. **Public consultations.** Public consultations undertaken for the project include: (i) information disclosure; (ii) questionnaire surveys; (iii) informal visits to villages and households in the project area; and (iv) stakeholder meetings attended by residents and other concerned stakeholders, including a questionnaire survey after the meetings. Information disclosure of the project introduction and related environmental issues was conducted twice on the Hebi EPB website (http://www.hbhb.gov.cn/) in December 2013 and May 2015, respectively. No objection to the project was received during disclosures. Discussion forums with 81 (Qibin District) and 83 (Qi County) stakeholders from government departments and village representatives were conducted on May 26-27, 2015. Questionnaire surveys were conducted during May to June 2015. The forums provided residents and other stakeholders within and near the project sites

the opportunity to learn more about the project, including the work schedule in the coming months. All participants expressed support for the project.

36. During construction, the project will continue public consultations and raising awareness of project activities. The public consultation and participation plan in construction and operation phases is shown in Table 8. The PIUs are responsible for public participation. They will be supported by the PMO Environment Officers, PMO Social Officers and the LIEC.

Table 8: Public Consultation and Participation Plan for the Project Implementation

Organizer	Approach	Times/Frequency	Subjects	Participants
Construction				
PMO, PIUs, LIEC	Questionnaire survey, site visits, informal interviews	during peak	Construction impacts; adjusting mitigation measures if necessary; feedback	Workers and residents in construction areas
	Public workshops	As needed Once during peak construction based on public consultation	EMP implementation progress; construction impacts; adjusting mitigation measures if necessary; feedback	Residents, affected persons, social sectors
Operation				
PMO, PIU,	Public consultation and site visits	At least once in first year of operation	Effects of mitigation measures, impacts of operation, feedback	Residents, affected persons adjacent to project facilities
operators of project facilities	Public workshop	As needed based on public consultation	Effects of mitigation measures, impacts of operation, feedback	Residents, affected persons, social sectors
	Public satisfaction survey	At least once after one year of operation	Comments and suggestions	Project beneficiaries

37. **Grievance redress mechanism.** In addition to the PRC's public environmental complaint hotline (12369A), a project-specific grievance redress mechanism (GRM) has been developed in compliance with ADB's SPS (2009) requirement to address environmental, health, safety and social concerns associated with project construction, operation and land acquisition arrangements. The GRM has been implemented since November 2017 (Figure 1) with correspondents designated. No grievance was reported in the reporting period.

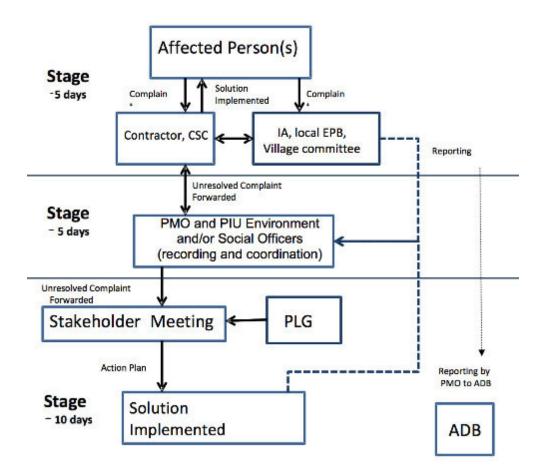


Figure 1 Grievance Redress Mechanism

E. Training and capacity building

- 38. The project agencies have no previous experience with ADB-funded projects or safeguard requirements. To ensure effective implementation of the EMP, the capacity of PMO, PIUs, O&M Units, contractors, CSCs, and local bureaus (especially forestry bureau and water resources bureau) will be strengthened.
- 39. Within the reporting period, one training on EMP had been organized by the LIEC on December 21, 2017 with 15 participants from PMO and other relevant departments of IAs and PIUs. Copy of the training records can be referred to in the Appendix 1.
- 40. According to the EMP, a series of trainings (Table 9) regarding EMP update and implementation, grievance redress mechanism, environmental aspects of facilities operation, wetland management, flood management, as well as MIS operation, etc will be provided during the project implementation.

Table 9: Environmental Safeguards Training Plan

Training	Attendees	Contents	Times	Period (days)	No. of persons
EMP update and implementation	PMO, PIUs, contractors, CSCs, local EPB	Development and update EMP, roles and responsibilities, monitoring, supervision and reporting procedures, review of experience (after 12 months)	Twice - Once prior to, and once after one year of project implementation	2x0.5	40
Grievance Redress Mechanism	PMO, PIUs, contractors, CSCs, local EPB	Roles and responsibilities, procedures, review of experience (after 12 months)	Twice - Once prior to, and once after one year of project implementation	2x0.5	40
Environmental aspects of facilities operation	PMO, O&M unit	Environmental housekeeping; Sludge treatment and disposal process; Safety operation regulations Emergency preparedness and breakdown response procedures	Once during project operation	1	50
Wetland management	PMO, PIUs, river guards, EPBs, QRMO	Basic principles of wetland management; maintaining the restored habitats; wetland species protection	Continuous during project implementation	Continuous	tbd
Flood management and operation of MIS	PMO, PIUs, EPBs, QRMO	Operation of the Qi River MIS for flood warning and forecasting	Continuous during project implementation	Continuous	tbd

^{41.} According to the project demands, LIEC (ESD) has proposed an environmental management training plan, which will be included in the overall project management training for the upcoming 6 months, as shown in Table 10.

Table 10: Environmental Management Training Plan proposed to be included in the overall Project Management Training

Cent	Centralized Training						
No	Item	Main Content	Time	Location	Participant	Trainer	
1	Project Management Training	Monthly Progress Report (MPR), project progress monitoring and report procedures, quality control, guidelines for prior or post review, ADB-format contract management, contract variation management	Mar 2018	TBD	PMO/ PIU Staff	Project Deputy Manager/ Procurement Expert	
2	Project Procurement /Contract Management Training	Procurement principles and procedures, preparation of procurement plan and documents, revisions of ADB's newly revised Procurement Guideline and Consulting Services Guideline, procurement of goods and civil works, procurement of consulting services, bid evaluation, etc. Use of ADB Loan Contracts and FIDIC Contract Terms Environmental Management System and Social Impact Management	Mar 2018	TBD	PMO/ PIU Staff	Procurement and Contract Management Expert	
3	Financial Management Training	Financial management training and disbursement process training	Mar 2018	TBD	PMO/ PIU Staff	Financial Management Expert	
4	Environment al Management Training	Environmental Management Plan introduction, update and implementation EMP development and update, roles and responsibilities, monitoring, supervision and reporting procedures, lessons learned Grievance Redress Mechanism: Roles and responsibilities, regulation, and lessons learned Internal environmental monitoring: Internal monitoring method Preparation of internal monitoring report	Mar 2018	TBD	PMO, PIUs, contractors, construction supervision company, local environmental protection agency	Environmental Management Expert	

		External environmental monitoring: External monitoring method Preparation of external monitoring report Monitoring during construction and implementation period: Construction monitoring Implementation monitoring				
5	Resettlement /Social Impact Management Training	ADB policy on involuntary resettlement, contents of resettlement, resettlement internal monitoring, resettlement external monitoring and monitoring report preparation, definition of social assessment, social impact assessment methods, social impact monitoring content, social impact monitoring indicators, social impact monitoring report preparation	Mar 2018	TBD	PMO/ PIU Staff	Resettlement/ Social Impact Management Experts
6	PPMS	DMF introduction Indicator selection and baseline determination Establishment of performance management team	Mar 2018	TBD	PMO/ PIU Staff	Deputy Project Manager
	he-Job Training	201				
On-t	On-the-Job training will be based on specific issues and needs in the actual work process.					

F. Compliance with loan and project assurances

42. The project agreement between the government and ADB includes assurances (or "covenants") for environmental safeguards and related to environmental issues. These relate to the timely and effective implementation of the EMP. Compliance with these assurances is a condition of the loan and project agreements. The environmental safeguard assurances for the project and the status of compliance with these assurances during the reporting period are listed in Table 11.

Table 11: Environmental Safeguard Assurances and the Compliance Status

		Status of Compliance		
Assurance	Section Reference	Subprojects in progress/not started	Completed Subprojects/Contract Packages	
PROJECT AGREEMENT				
SCHEDULE: Execution of Project; E	nvironmen	tal, Social, Financial a	and Other Matters	
Environment				
HPG and HCG shall ensure, and shall cause the Project Implementing Agencies to ensure, that the preparation, design, construction, implementation and operation of the Project and all Project facilities comply with (a) all applicable laws and regulations of the PRC relating to environment, health and safety; (b) the Environment Safeguards; and (c) all measures and requirements set forth in the EIA and EMP, and any corrective or preventative actions (i) set forth in a safeguards monitoring report (as require by ADB); or (ii) agreed between ADB and HPG or HCG	20	General training has been provided, and the project procurement and implementation will be performed in line with ADB environmental safeguard assurances.	DD audits will be performed on the completed subprojects/contract packages to review the compliance status.	
HPG and HCG shall implement the following measures in the preconstruction phase to ensure the Project's environment management readiness: (a) appoint one qualified environment officer, satisfactory to ADB, in each of the Hebi City PMO and in each PIU; (b) recruit at least one loan implementation environment consultant (as part of the loan administration consultant services); (c) ensure that the Project Implementing Agencies have arranged contractual agreements with local environment monitoring stations to conduct the environmental impact monitoring described in the EMP; (d) adjust environmental mitigation and monitoring measures in the EMP(s) based on final engineering design, as necessary; and (e) prior to commencing any Project works, prepare the site environmental management and supervision plan.	21	is in progress; (d) To be complied with after	 (a) Being complied with (b) Being complied with (c) To be check in DD audits (d) To be check in DD audits (e) To be check in DD audits 	

		Status of Compliance		
Assurance	Section Reference	Subprojects in progress/not started	Completed Subprojects/Contract Packages	
HPG and HCG shall ensure that before and during construction of each component of the Project, the Hebi City PMO will train the relevant Project Implementing Agencies and PIUs to implement the relevant parts of the EMP.	22	A specific training on EMP has been provided for PMOs, IAs and PIUs in December 2017 before construction. During the upcoming construction period, more trainings on EMP will be provided as necessary.	DD audits will be performed on the completed subprojects/contract packages to review the compliance status.	
Safeguards - Grievance Redress Mo	echanism			
HPG and HCG shall ensure, and shall cause the Project Implementing Agencies to ensure that a safeguards grievance redress mechanism acceptable to ADB is established in accordance with the provisions of the EIA, EMP and RPs at each PMO, within the timeframes specified in the relevant EIA, EMP and RPs, to consider safeguards complaints.	35	GRM had been established, and the environmental officer of PMO was designated as the GRM contact.	DD audits will be performed on the completed subprojects/contract packages to review the compliance status.	
Public Awareness				
HPG and HCG shall undertake, and shall cause the Project Implementing Agencies to undertake public awareness campaigns through information disclosure, education, and consultation on the project and its benefits, including but not limited to information related to the EMP, RPs, SDAP and GAP.	36	Two rounds of information disclosure for the project's EIA was conducted in 2013 and 2015. Discussion forums and questionnaire surveys were conducted in 2015 to raise public awareness of the project.	Two rounds of information disclosure for the project's EIA was conducted in 2013 and 2015. Discussion forums and questionnaire surveys were conducted in 2015 to raise public awareness of the project.	
		The public consultation will be continued during construction period.	More details will be reviewed in the DD audits.	

G. Follow-up Issues Documented in the Mission MOU

43. During November 29 to December 1, 2017, a Loan Review Mission from the Asian Development Bank (ADB) visited Hebi City to review and discuss the (i) financial issues including status of setting-up the project's advance (imprest) account and provision of counterpart funding;

(ii) update of scope and likely outcomes of the project; (iii) update of preparation status of necessary preliminary engineering designs, detailed engineering designs, and first bidding documents for ADB's review; (iv) contract variations and/or design changes, if any; (v) update of the project implementation plan; (vi) update of procurement plan; (vii) confirmation on contract awards and disbursement targets; (viii) compliance with loan covenants including setting up project performance monitoring system and reporting requirements; and (ix) revision of project administration manual. Environmental issues identified by the Mission were documented in the mission MOU. Corrective actions taken are summarized in Table 12.

Table 12 Response to ADB Mission MOU on Nov 29 – Dec 1, 2017 (in aspect of environmental management)

By When	By Whom	What	Response
2018/2/28	PMO and ESD	submit the first semi-annual environmental monitoring report	Referred to this EMR
2018/1/31	PMO	recruitment of the external environment monitoring agency	In Progress
2018/5/31	PMO/LIEC	the LIEC will prepare due diligent report(s) on the completed work and submitted to the ADB for review	In Progress for document request and collection

IV. CONCLUSTIONS AND RECOMMENDATIONS

- 44. Within the reporting period of this EMR, 3 subprojects were completed and 2 subprojects are partially completed using counterpart funds, while 2 subprojects have not started procurement. Environmental officers have been designated in PMOs, IAs and PIUs to coordinate EMP implementation. GRM has been established as required. No grievance was reported in the reporting period.
- 45. Due diligence audits are planned in April 2018 to assess the compliance status of all completed subprojects/contract packages with EMP requirements. Accordingly, due diligence report(s) will be prepared.
- 46. Regarding the subprojects in the process of design and bidding document preparation or have not started by December 2017, specific EMPs will be prepared for each subproject and be included in the bidding documents and the contractor's contracts. Each contractor will be required to assign staff on site to take charge of daily environmental inspection. Construction supervision companies will also be contracted to supervise the EMP implementation of contractors. An external environmental monitoring agency will be recruited in early 2018 to undertake all monitoring works during construction and operation periods as specified in the EMP. All monitoring results will be included in the next EMP if any.
- 47. In addition, to strengthen the management capacity of PMOs, IAs and PIUs, trainings in format of seminars will be carried out by the project implementation consultant as planned and on-the-job training will be continued during project implementation.

APPENDIX 1. TRAINING ACTIVITIES

会议地点: 水利局会七楼	EIZE			2017年12月21	H
单 位	姓名	职务	移动电话	办公电话	
速度是五行事	胡翁		13937158603		
	龙辑	120	13939237870		
堪然在来放处	裁注源 []	水道	17739258851		1
进身、飞行过后	传过我	3 V.	13903929811		
	3424		17739258880		
STREET	李和		1773925815		1
并张焕 园	東江河		N I I I I I I I I I I I I I I I I I I I		
市任津昌	韩涛		18/11/21/36		1
XIS ENES	72194				1
市发次套	花色学	1640	No. of the last		
其限区建行办	杨洋		15939798556		1
- in 2/4/80	当生		15939280840		1
没是则以为	問为		13979208855		1
·其型,政府	郑志芬.				K
度もれるりで	茶板袋.				4
連見水利乃	Pavali			- 1	
浅里城街局	逐步				1
1世里 西园古。	易根心		3-4-	Mark!	-
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亚行贷款淇河项目移民、环境及社会培训会议签到表

会议地点: 水利局会七楼议室

2017年12月21日

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亚行贷款淇河项目移民、环境及社会培训会议签到表 会议: 亚行四楼楼议室 2017年12月21日 单位 姓名 职务 移动电话 办公电话 Bajer はれる自己、 温息,1天1万 老松俊 PHYTHE 进出的高 中起 世县往建局 13/3/21277 淡れなから From & 数生源 1773905885/ 港港区南北台 1773945856 28年 对多次和业员 像暗图 张毅 浚州别号 15039238156 第四省初级, 物弘, 13908170348 学事 [18 80] 念面公司 机咖啡

亚行贷款淇河项目移民、环境及社会培训会议签到表

3	会议: 亚行四楼楼议室				2017年12月21
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