



Technical Assistance Report

Project Number: 51014-001
Knowledge and Support Technical Assistance (KSTA)
September 2017

People's Republic of China: Supporting the Application of River Chief System for Ecological Protection in Yangtze River Economic Belt

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 11 September 2017)

Currency unit	–	yuan (CNY)
CNY1.00	=	\$0.1539
\$1.00	=	CNY6.4960

ABBREVIATIONS

ADB	–	Asian Development Bank
CWRC	–	Changjiang Water Resources Commission
PRC	–	People's Republic of China
TA	–	technical assistance
YREB	–	Yangtze River Economic Belt

NOTE

In this report, "\$" refers to United States dollars.

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KNOWLEDGE AND SUPPORT TECHNICAL ASSISTANCE AT A GLANCE

1. Basic Data		Project Number: 51014-001	
Project Name	Supporting the Application of River Chief System for Ecological Protection in Yangtze River Economic Belt	Department /Division	EARD/EAER
Nature of Activity	Policy Advice	Executing Agency	Changjiang water Resources Commission
Modality	Regular		
Country	China, People's Republic of		
2. Sector		ADB Financing (\$ million)	
✓ Agriculture, natural resources and rural development	Land-based natural resources management		0.20
	Water-based natural resources management		0.20
		Total	0.40
3. Strategic Agenda		Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project	Low
Environmentally sustainable growth (ESG)	Eco-efficiency Environmental policy and legislation Natural resources conservation		
4. Drivers of Change		Gender Equity and Mainstreaming	
Governance and capacity development (GCD)	Institutional development	Some gender elements (SGE)	✓
Knowledge solutions (KNS)	Pilot-testing innovation and learning		
5. Poverty and SDG Targeting		Location Impact	
Geographic Targeting	Yes	Rural	Medium
Household Targeting	No	Urban	Medium
SDG Targeting	Yes		
SDG Goals	SDG6, SDG13, SDG15		
6. Risk Categorization		Low	
7. Safeguard Categorization Safeguard Policy Statement does not apply			
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		0.40	
Knowledge and Support technical assistance: Technical Assistance Special Fund		0.40	
Cofinancing		0.00	
None		0.00	
Counterpart		0.00	
None		0.00	
Total		0.40	

I. INTRODUCTION

1. The proposed knowledge and support technical assistance (TA) will support the strengthening of the “river chief system” and improve river health in the Yangtze River Economic Belt (YREB) in the People’s Republic of China (PRC).¹ The TA will assist the Yangtze (also known as Changjiang) Water Resources Commission (CWRC), a river basin authority under the Ministry of Water Resources of the PRC, to improve the monitoring, supervision, and evaluation of the river chief system, and the coordination mechanism among the provinces, for effective application of the system in the Yangtze River basin.²

2. Given that the PRC’s water and ecological status remains fragile and the environmental safety situation is grim, the State Council of the PRC recently formulated a strategy to improve river health conditions and ecological safety.³ The strategy statement implies the identification of ecological thresholds and their calibration in all ecologically fragile regions nationwide by 2020. The strategy has prioritized the regions, including the YREB, with important ecological functions. Recently, the Ministry of Environmental Protection, the National Development and Reform Commission, and the Ministry of Water Resources jointly released a YREB environmental protection plan to complement the national strategy on river health and ecological safety.⁴ The Government of the PRC requested a TA from the Asian Development Bank (ADB) for strengthening the application of the river chief system, which becomes fundamental for effective implementation of the environmental protection plan and sustainable water resources management in the YREB. The TA is included in the country operations business plan for the PRC, 2017–2019.⁵

II. ISSUES

3. The government has identified the YREB as one of the three key growth engines in ensuring the PRC’s future economic development. The YREB comprises nine provinces (Anhui, Guizhou, Hubei, Hunan, Jiangsu, Jiangxi, Sichuan, Yunnan, and Zhejiang) and two centrally administered municipalities (Chongqing and Shanghai). It covers over 2 million square kilometers along the Yangtze River—one-fifth of the country’s total area. The YREB, as the country’s economic backbone, accounts for over 40% of the PRC’s total population and about 45% of the gross domestic product. The Yangtze River basin has high biodiversity, including more than 370 fish species, 100 species of aquatic plants, and 145 species of amphibians. The river provides 40% of the PRC’s freshwater resources, serves as the source of drinking water for over 400 million people, accounts for 20% of the total wetland areas in the PRC, and nurtures 60% of the total fishery resources across the country.

¹ In 2016, the State Council of the PRC designated the heads of local governments (provincial, municipal, and county or township) as river chiefs who are accountable for the management and protection of watercourses, as well as for restoring water ecology, in their jurisdictions. River chiefs will report progress to the central government annually. C. Jiwen. 2017. *River Chief System: Legal Basis and Practical Problems*. Development Research Center of the State Council of the PRC. 2 February. http://en.drc.gov.cn/2017-03/24/content_28691359.htm.

² The TA first appeared in the business opportunities section of ADB’s website on 25 July 2017.

³ Huaxia. 2017. China to complete drawing ecological “red line” by 2020. *Xinhuanet*. 7 February. http://news.xinhuanet.com/english/2017-02/07/c_136038742.htm.

⁴ Xinhua. 2017. China releases Yangtze environmental protection plan. *China.org.cn*. 22 July. http://www.china.org.cn/china/2017-07/22/content_41264661.htm.

⁵ ADB. 2017. *Country Operations Business Plan: People’s Republic of China, 2017–2019*. Manila. The TA was listed under the nonlending products and services as the Study on Water Ecosystem Safety Guarantee System of Yangtze River Economic Belt.

4. Rapid economic development and urbanization in the YREB region, including expansion of resource-intensive industries, has resulted in the depletion of natural resources, particularly degradation of the ecological system. In 2014, the water quality of 23% of the total measured sections of the Yangtze River was rated at class IV and below.⁶ Improper management and utilization of riparian resources has negative implications for aquatic habitat. More than 51,200 artificial reservoirs with dams of various sizes, and sediment extraction of over 100 million tons annually from the river, have resulted in changed flow patterns and affected drainage connectivity to varying extents. However, these regulated reservoirs help mitigate flood and drought disasters in the downstream locations by optimizing the water volume.

5. For large rivers that span regions, river chiefs will be responsible for coordinating the management of interlinked bodies of water. Responsibilities of the river chiefs include water resource protection, pollution prevention and control, and ecological restoration.⁷ These administrative approaches have proven effective in the pilot projects, including in the Chishui River basin in the YREB, but the constructive evaluation and supervision system is yet to be developed and made operational nationwide.⁸ Institutional capacity, legal support, technical capacity, and public awareness need to be further strengthened to rationalize the system. There is also a need to understand the diversity of the basin within its wide range of natural, socioeconomic, administrative, and cultural landscapes. Further, there is a need to synergize the river chief system within existing institutional structures and establish proper links to recent national initiatives, including the YREB master plan and environmental protection plan.

6. The Chishui River, a major tributary of the upper Yangtze River, originates in Yunnan province and flows through Guizhou and Sichuan provinces into the Yangtze River mainstream. The counties in the Chishui River basin are relatively poor. The river chief system in the Chishui River was piloted in Guizhou province in 2012 and has since been extended into a basin-wide program. Given the fact that the Chishui River basin is ecologically sensitive, spans three provinces, has low rates of urbanization, and has a relatively underdeveloped economy, it is considered as a model representation for ecological protection and restoration. Implementing the river chief system has resulted in initial improvements in ecological function and river health in the Chishui River basin. However, there is a need to develop indicators and methodologies for monitoring and evaluation to better quantify ecological and river health improvements. There is a need to strengthen the existing mechanism for coordination among provinces in the river basin for effective application of the river chief system. The outcomes from the Chishui River basin can provide a baseline for application of the river chief system and its performance evaluation to be adopted in the YREB. In the context of the river chief system being applied nationwide as a new approach to river management, the function and role of the CWRC in integrated river basin management, including Chishui River basin management, can be reinforced rather than undermined to avoid any potential fragmentation with individual sub-basins.

⁶ Up to class III water is suitable for drinking and swimming as per the PRC's Environmental Water Quality Standard (GB 3838-2002). In the Yangtze River basin, the volume of domestic waste water has increased by 59% since 2003; about 40,000 chemical companies have been established; and agricultural waste, particularly the manure discharged into the river, has increased about 10 fold from 156 kilograms per square kilometer between 1970 and 2016.

⁷ The guidelines on the river chief system disclosed by the State Council of the PRC outline six main tasks: (i) strengthening water resources protection, (ii) enhancing riverbank management and protecting water bodies, (iii) strengthening water pollution control, (iv) improving water environment governance, (v) promoting water ecological rehabilitation, and (vi) enhancing law enforcement and supervision. The Ministry of Water Resources highlights four major responsibilities for the CWRC: coordination, guidance, supervision, and monitoring.

⁸ Z. Jinran. 2017. Assessment to ensure river chief system on schedule. *China Daily Asia*. 22 March. http://www.chinadailyasia.com/nation/2017-03/22/content_15589721.html.

7. The TA supports the government's efforts to strengthen river governance, particularly the river chief system. The TA will mainly support the development of river health monitoring and evaluation methods and tools, which are prerequisites for the effective application of the river chief system in the YREB. The TA will foster synergies in promoting ecological civilization, with explicit targets specified in the PRC's Thirteenth Five-Year Plan, 2016–2020.⁹ In September 2016, the National Development and Reform Commission issued the YREB Master Plan, 2016–2030 to guide future development of the YREB toward the overarching goal of ecological restoration and green development.¹⁰ The plan sets targets for ecological environment: (i) by 2020, (a) over 75% of the region's water bodies will meet class III standard or above, and (b) forest coverage will reach 43%; and (ii) by 2030, (a) all water bodies will achieve class III quality standard, and (b) ecosystem function will be significantly enhanced. Since 2016, the government has started implementing the river chief system nationwide. The TA will be timely in demonstrating the new benchmarks for the implementation of the policies, strategies, and action plans in the YREB.

8. This TA builds on a number of previous ADB engagements in water sector reform in the PRC.¹¹ ADB has put knowledge at the center of its operations in the PRC by (i) helping translate innovative ideas into actual projects and programs for implementation, (ii) supporting transformative and demonstration projects and programs, and (iii) supporting institutional reform efforts. Specifically, ADB's country partnership strategy for the PRC, 2016–2020 also calls for managing climate change and the environment, fostering knowledge cooperation, and supporting institutional and governance reform.¹² The project is consistent with ADB's Water Operational Plan, 2011–2020, which emphasizes integrated water resources management and climate change adaptation.¹³ The government and ADB are proposing a strategic framework to support green development, with emphasis on ecological conservation through environmental protection and rehabilitation of the YREB (footnote 9). Support for river governance, particularly in successful implementation of the river chief system, will serve as an anchor for future engagement in water sector development and inclusion in the PRC.

III. THE TECHNICAL ASSISTANCE

A. Impact and Outcome

9. The TA is aligned with the following impact: ecological protection and sustainable development of the YREB achieved.¹⁴ The TA will have the following outcome: river health monitoring and supervision mechanism in the YREB improved.¹⁵

B. Outputs, Methods, and Activities

10. **Output 1: Application of the river chief system in the YREB assessed.** Under this output, the following activities will be conducted: (i) assessing the current status of the river chief system in the YREB including review of (a) current applications of the river chief system in the

⁹ An. 2015. Highlights of proposals for China's Thirteenth Five-Year Plan. *Xinhuanet*. 4 November. http://news.xinhuanet.com/english/photo/2015-11/04/c_134783513.htm.

¹⁰ Government of the PRC. 2016. *Outline of the YREB Development Plan, 2016–2030*. Beijing.

¹¹ ADB. 2017. *Technical Assistance to the People's Republic of China for Preparing Yangtze River Economic Belt Projects*. Manila (TA 9311-PRC).

¹² ADB. 2016. *Transforming Partnership: People's Republic of China and Asian Development Bank, 2016–2020*. Manila.

¹³ ADB. 2011. *Water Operational Plan, 2011–2020*. Manila.

¹⁴ Government of the PRC, National Development and Reform Commission. 2016. *Yangtze River Economic Belt Development Plan, 2016–2030*. Beijing.

¹⁵ The design and monitoring framework is in Appendix 1.

basin, and (b) existing links between the river chief system and integrated river basin management; and (ii) developing a case study on the river chief system in the Chishui River basin including (a) a comparative analysis of the river governance with international and national good practices; and (b) identification of issues, gaps, challenges, and potential measures in the effective application of the river chief system in the Chishui River basin.

11. **Output 2: Monitoring mechanism for the river chief system demonstrated in the Chishui River basin.** Under this output, the following activities will be conducted: (i) gathering and documenting good practices and approaches in river health monitoring for potential adaptation and application in the Chishui River basin; (ii) piloting a set of monitoring indicators and methodologies for the river chief system, including a river health report card; and (iii) formulating a proposal for improving the coordination mechanism between the CWRC and provinces in the basin for river health under the river chief system.¹⁶

12. **Output 3: Implementation of the river chief system in the Yangtze River Economic Belt promoted.** Under this output, the following activities will be conducted: (i) formulating policy recommendations for implementing the Chishui River Comprehensive Plan,¹⁷ (ii) formulating recommendations for applying the river chief system with monitoring provisions and harmonizing the system with integrated river basin management in the YREB based on the lessons from the Chishui River case study, and (iii) disseminating TA outcomes.

C. Cost and Financing

13. The TA is estimated to cost \$500,000, of which \$400,000 will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF-other sources). The key expenditure items are listed in Appendix 2.

14. The government will provide counterpart support in the form of counterpart staff, office space, office supplies, domestic transportation, and other in-kind contributions.

D. Implementation Arrangements

15. The TA will be implemented over 24 months from 1 October 2017 to 30 September 2019. ADB will administer the TA. The Ministry of Water Resources of the PRC will provide policy and institutional support for TA implementation. The CWRC, as the executing agency, will establish a project leading group, chaired by the vice-commissioner of the CWRC, which will be responsible for the overall planning, coordination, and supervision of the TA implementation. The project leading group will comprise members from bureaus of construction management; planning and design; water resources; soil conservation; water resources protection; hydrology; and the Changjiang Institute of Survey, Planning, Design, and Research. A project management unit will be established in the CWRC's Bureau of International Cooperation, Science, and Technology. The project management unit, with a unit head, project officer, and administrative staff, will supervise (i) the TA activities to be carried out by the project consultants; and (ii) day-to-day

¹⁶ The report card, an application of river health indicators, identifies what is important to the ecological services, creates a common understanding of the sub-basin's health, and fosters a shared vision for its future. Each river health indicator is indexed to summarize and rank specific observations. The weighted mean of those indices under different sets of indicators result in a composite index, known as a river health report card, to represent the river health quality of any river section. The river health report card is a good tool to evaluate the performance of the river chief system.

¹⁷ The YWRC has drafted eight comprehensive river basin development plans for the first-class sub-basins, including the Chishui River basin in the Yangtze River basin. The know-how from the case study is equally important to improve all comprehensive river basin development plans in the YREB, including those prepared by local governments.

operations with ADB, consultants, related agencies, and provincial governments. The project management unit will serve as secretariat for the project leading group. The implementation arrangements are summarized in the following table.

Implementation Arrangements

Aspects	Arrangements		
Indicative implementation period	October 2017–September 2019		
Executing agency	Changjiang (Yangtze) Water Resources Commission of the Ministry of Water Resources		
Consultants ^a	To be selected and engaged by ADB.		
	Individual consultant selection	30 person-months	\$250,000
Disbursement	The TA resources will be disbursed following ADB's <i>Technical Assistance Disbursement Handbook</i> (2010, as amended from time to time). Advance payment facility will be established.		

ADB = Asian Development Bank, TA = technical assistance.

^a Lump sum payments and/or output-based contracts will be considered for consulting services under the TA in line with the Midterm Review Action Plan Nos. 2.9.2. and 2.10.2 (ADB, 2014. *Midterm Review of Strategy 2020: Action Plan*. Manila).

Source: Asian Development Bank.

16. **Consulting services.** The TA will require 3 person-months of international and 27 person-months of national consulting services. Six national consultants and two international consultants will be required for TA implementation. The consultants will be engaged as individual consultants in accordance with ADB Procurement Policy (2017, as amended from time to time) and the associated project administration instructions and TA staff instructions. This is considered the most efficient method as the consultants will be supervised by ADB in close coordination with the executing agency. Disbursements will be in line with ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time). It is anticipated that the consultants will be mobilized during the fourth quarter of 2017.

17. The TA will follow the standard monitoring and supervision procedures for ADB-administered TA. Best practices and lessons will be disseminated through technical workshops and through various technical reports, knowledge products, and other publications to be posted on the CWRC and ADB websites.

18. To ensure effective and efficient coordination among the CWRC, provincial governments, and line agencies, an inception phase is scheduled during which the consultation and coordination mechanisms will be discussed among the CWRC, ADB, and consultants. A consultation and work plan will be agreed upon prior to contacting the provincial governments and line agencies. The final agreements will be discussed and agreed during the TA inception workshop.

IV. THE PRESIDENT'S DECISION

19. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$400,000 on a grant basis to the Government of the People's Republic of China for Supporting the Application of River Chief System for Ecological Protection in Yangtze River Economic Belt, and hereby reports this action to the Board.

DESIGN AND MONITORING FRAMEWORK

Impact the TA is Aligned with Ecological protection and sustainable development of the Yangtze River Economic Belt achieved (Yangtze River Economic Belt Development Plan, 2016–2030) ^a			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
Outcome River health monitoring and supervision mechanism in the YREB improved	By 2020: a. A river health monitoring and supervision mechanism adopted by CWRC (2017 baseline: NA) b. At least eight river sub-basins in the YREB adopted the TA recommendations on river chief system monitoring (2017 baseline: 0)	a–b. CWRC annual report and ADB review missions	Government support on ecological protection and restoration is not sustained
Outputs 1. Application of the river chief system in the YREB assessed 2. Monitoring mechanism for the river chief system demonstrated in Chishui River basin 3. Implementation of the river chief system in the YREB promoted	By 2019: 1a. Preliminary review and assessment of existing river governance in the YREB completed (2017 baseline: NA) 1b. Case study on river chief system performance monitoring in Chishui River basin completed (2017 baseline: NA) 2a. A set of indicators and methodologies for river chief system monitoring developed (2017 baseline: NA) 2b. River health report card in transprovincial sections of the Chishui River established (2017 baseline: NA) 2c. Recommendation for improving coordination between CWRC and provinces in the Chishui River basin on monitoring and sharing data formulated (2017 baseline: NA) 3a. Policy recommendations for operationalizing Chishui River comprehensive plan provided (2017 baseline: NA) 3b. Policy recommendations for harmonizing river chief system with integrated river basin management in the YREB drafted (2017 baseline: NA) 3c. River chief offices in 11 provincial governments in the YREB report increased	1a–b. TA review reports by ADB missions 1a–b. CWRC's reports on TA progress 1a–b. TA consultants' quarterly progress reports 2a–c. TA review reports by ADB missions 2a–c. CWRC's reports on TA progress 2a–c. TA consultants' quarterly progress report 3a–c. TA review reports by ADB missions 3a–c. TA consultants' quarterly progress report	Inadequate cooperation from sector ministries and provincial governments in information and data sharing

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
	awareness on study results (2017 baseline: NA)		
Activities with Milestones			
Output 1: Application of the river chief system in Yangtze River Economic Belt assessed			
1.1 Review international practices in river governance (Q4 2017–Q1 2018).			
1.2 Assess the implementation status of laws and policies for river chief system in the YREB (Q4 2017–Q4 2018).			
1.3 Conduct a case study on the river chief system in the Chishui River basin (Q2 2018–Q4 2018).			
1.4 Identify key issues and constraints on integrating the river chief system with integrated river basin management (Q3 2018–Q4 2018).			
Output 2: Monitoring mechanism for river chief system demonstrated in Chishui River basin			
2.1 Review international best practices in river health monitoring (Q4 2017–Q2 2018).			
2.2 Assess the applicability of best practices, including river health report card practice, in the Chishui River basin (Q2 2018–Q1 2019).			
2.3 Develop a set of monitoring indicators and methodologies for the river chief system in the Chishui River basin (Q2 2018–Q1 2019).			
2.4 Establish a river health report card on a trial basis in transprovincial sections of the Chishui River (Q3 2018–Q2 2019).			
2.5 Recommend an effective coordination mechanism between the CWRC and provinces in the Chishui River basin in monitoring and sharing data related to the river chief system (Q2 2019).			
Output 3: Implementation of river chief system in Yangtze River Economic Belt promoted			
3.1 Provide policy recommendations to the CWRC to operationalize the Chishui River comprehensive plan (Q1 2019–Q3 2019).			
3.2 Draft recommendations for harmonizing the river chief system with integrated river basin management in the YREB (Q1 2019–Q3 2019).			
3.3 Develop a framework for upscaling outcomes from the Chishui River case study to the YREB (Q4 2018–Q3 2019).			
3.4 Disseminate the TA outcomes to other river basins in the PRC and beyond (Q1 2018–Q3 2019).			
Inputs			
ADB: \$400,000 (TASF-other sources)			
Note: The government will provide counterpart support in the form of counterpart staff, office space, office supplies, domestic transportation, and other in-kind contributions.			
Assumptions for Partner Financing			
Not Applicable.			

ADB = Asian Development Bank, CWRC = Changjiang (Yangtze) Water Resources Commission, NA = not applicable, PRC = People's Republic of China, Q = quarter, TA = technical assistance, YREB = Yangtze River Economic Belt.

^a Government of the PRC, National Development and Reform Commission. 2016. *Yangtze River Economic Belt Development Plan, 2016–2030*. Beijing.

Source: Asian Development Bank.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Amount
Asian Development Bank^a	
1. Consultants	
a. Remuneration and per diem	
i. International consultants	60.0
ii. National consultants	135.0
b. Out-of-pocket expenditures	
i. International and local travel	30.0
ii. Reports and communications	25.0
2. Surveys	42.0
3. Training, seminars, workshops, forum, and conferences	50.0
4. Miscellaneous administration and support costs ^b	30.0
5. Contingencies	28.0
Total	400.0

Note: The technical assistance (TA) is estimated to cost \$500,000, of which contributions from the Asian Development Bank are presented in the table above. The government will provide counterpart support in the form of counterpart staff, office space, office supplies, domestic transportation, and other in-kind contributions. The value of government contribution is estimated to account for 20% of the total TA cost.

^a Financed by the Asian Development Bank's Technical Assistance Special Fund (TASF-other sources).

^b Miscellaneous administration and support costs include general operating costs, office supplies, interpretation, and translation costs.

Source: Asian Development Bank estimates.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/LinkedDocs/?id=51014-001-TARreport>

1. Terms of Reference for Consultants