



Technical Assistance Report

Project Number: 49363-001
Capacity Development Technical Assistance (CDTA)
December 2015

People's Republic of China: Strengthening Provincial Planning and Implementation for the Yangtze River Economic Belt

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 4 December 2015)

Currency unit	–	yuan (CNY)
CNY1.00	=	\$0.1566
\$1.00	=	CNY6.3871

ABBREVIATIONS

ADB	–	Asian Development Bank
MOF	–	Ministry of Finance
NDRC	–	National Development and Reform Commission
PRC	–	People's Republic of China
TA	–	technical assistance
TVET	–	technical and vocational education and training
YREB	–	Yangtze River Economic Belt

NOTES

In this report, "\$" refers to US dollars.

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CAPACITY DEVELOPMENT TECHNICAL ASSISTANCE AT A GLANCE

1. Basic Data		Project Number: 49363-001	
Project Name	Strengthening Provincial Planning and Implementation for the Yangtze River Economic Belt	Department /Division	EARD/EAER
Country	China, People's Republic of	Executing Agency	National Development and Reform Commission
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✓ Agriculture, natural resources and rural development	Water-based natural resources management	0.20	
Water and other urban infrastructure and services	Urban policy, institutional and capacity development	0.35	
		Total	0.55
3. Strategic Agenda	Subcomponents	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)	Natural resources conservation Urban environmental improvement		
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Governance and capacity development (GCD)	Institutional development	No gender elements (NGE)	✓
5. Poverty Targeting		Location Impact	
Project directly targets poverty	No	Rural	Medium
		Urban	Medium
6. TA Category:	B		
7. Safeguard Categorization	Not Applicable		
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		0.55	
Capacity development technical assistance: Technical Assistance Special Fund		0.55	
Cofinancing		0.00	
None		0.00	
Counterpart		0.00	
None		0.00	
Total		0.55	
9. Effective Development Cooperation			
Use of country procurement systems	No		
Use of country public financial management systems	Yes		

I. INTRODUCTION

1. In August 2015, the Government of the People's Republic of China (PRC) requested the Asian Development Bank (ADB) to support reducing the economic disparities between the eastern, central, and western subregions of the Yangtze River. During a reconnaissance mission in October 2015, an agreement was reached on the scope, implementation arrangements, and estimated budget for the technical assistance (TA) for Strengthening Provincial Planning and Implementation for the Yangtze River Economic Belt (YREB).¹ The support would help implement the Guidelines on Promoting the Development of the Yangtze River Economic Belt Building on the Golden Waterway, which was issued by the State Council in 2014; and the Economic Development Plan for the Yangtze River Economic Belt, which is expected to be issued by the end of 2015.²

II. ISSUES

2. The government identified the YREB as one of three key growth engines to ensure the PRC's future economic development. The corridor along the PRC's longest river covers more than 2 million square kilometers—one-fifth of the country's total area. This economic backbone accounts for over 40% of the PRC's total population and about 45% of the gross domestic product. The Yangtze River, one of the busiest inland rivers for freight traffic worldwide, is home to the largest hydropower plant in the world and is the source of water for the South–North Water Transfer Project. Ten provinces and one municipality make up the Yangtze economic belt subregion, which includes three major urban agglomeration areas: (i) the Yangtze River Delta Global Mega Agglomeration focused on Shanghai, (ii) the Middle Yangtze City Cluster centered in Wuhan, and (iii) the Yangtze Upper Reaches centered in Chongqing.

3. Development constraints include (i) limited overall institutional coordination for strategic planning for the YREB; (ii) significant regional disparity between the highly developed global agglomeration region of the Yangtze River Delta (eastern subregion) and the central and western subregions (or the middle and upper reaches) of the YREB, with the central and western subregions lagging behind in economic diversification and industrial modernization; (iii) limited integration of waterways, ports, and intermodal logistics; and (iv) increasing environmental pollution and pressure on natural resources.

4. In April 2014, the State Council issued guidelines to enhance the traffic capacity of the river and its tributaries in the YREB. It is envisaged that an integrated transport system will connect roads, railways, waterways, and air routes by 2020. The government plans to boost the development of railways, highways, waterways, and airways along the Yangtze River to build a multimodal transport corridor. The service industry, green energy, and agricultural modernization and industrialization also feature prominently in plans for the YREB, with coordinated urbanization and urban–rural integration along the river, including the Chengdu–Chongqing city cluster and Guizhou and Yunnan provinces. At the same time, water resources will be protected through strict control over pollution along the river.

5. The National Development and Reform Commission (NDRC) prepared a preliminary framework of the Outline of Planning on Development Strategy of Yangtze River Economic Belt.

¹ The TA first appeared in the business opportunities section of ADB's website on 5 November 2015.

² http://china.org.cn/business/2014-09/26/content_33619889.htm,
<http://en.xinfinance.com/html/Policy/2015/147831.shtml>, and
http://english.gov.cn/state_council/vice_premiers/2015/11/26/content_281475242726998.htm

The final version will be issued prior to the release of the Thirteenth Five-Year Plan, 2016–2020. In line with the State Council’s guidelines, the planning framework will strengthen access to regions along the upper and middle reaches of the Yangtze and boost growth in inland regions, reducing economic disparities between the eastern, central, and western YREB subregions.

6. The government is seeking support for strengthening the planning for industrial transformation; and recognizes that better coordination, integration, and implementation of holistic development approaches is needed among the provinces.³ Aspects of needed coordination include urban and social development, human resource capacity and workforce development, economic and industrial development, multi-tier and multimodal transport infrastructure development, environmental protection and water resources management, energy supply and management including renewable and low-carbon initiatives, private sector engagement, and cross-provincial institutional arrangements.

7. The TA will contribute to the PRC’s sustainable development agenda, as presented during the Third Plenum of the 18th Central Committee of the Communist Party of China, and the PRC National New-Type Urbanization Plan, 2014–2020. It is in line with ADB’s Midterm Review of Strategy 2020, which emphasized the importance of environmentally sustainable and inclusive growth.⁴ The anticipated interventions will be aligned with and contribute to ADB’s main sector plans, e.g., the Sustainable Transport Initiative Operational Plan; the Water Operational Plan, 2011–2020; the Urban Operational Plan, 2012–2020; Environment Operational Directions, 2013–2020; and the Operational Plan for Agriculture and Natural Resources: Promoting Sustainable Food Security in Asia and the Pacific in 2015–2020.⁵ Where relevant, the TA will also contribute to the implementation of the memorandum of understanding between Hunan Provincial Government and ADB for the promotion of climate technology development and deployment.⁶

III. THE CAPACITY DEVELOPMENT TECHNICAL ASSISTANCE

A. Impact and Outcome

8. The impact will be reduced economic disparities among the eastern, central, and western YREB subregions. The expected outcome will be strengthened investment planning among local governments in the middle and upper reaches of the YREB.⁷

B. Methodology and Key Activities

9. The TA will have three outputs: (i) government directions and priorities for industrial transformation of YREB analyzed, (ii) priorities for investment opportunities for industrial

³ This may include a need for improved coordination, cooperation, and connectivity among the three agglomeration regions.

⁴ ADB. 2013. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific*. Manila.

⁵ ADB. 2010. *Sustainable Transport Initiative Operational Plan*. Manila; ADB. 2011. *Water Operational Plan, 2011–2020*. Manila; ADB. 2013. *Urban Operational Plan, 2012–2020*. Manila; ADB. 2013. *Environmental Operational Directions, 2013–2020*. Manila; ADB. 2015. *Operational Plan for Agriculture and Natural Resources: Promoting Sustainable Food Security in Asia and the Pacific in 2015–2020*. Manila.

⁶ Signed on 22 September 2015. The memorandum of understanding aims at promoting globally advanced and emerging low-carbon technology for investments in Hunan Province, and sharing experiences and practices in low-carbon technology development with other developing countries in the region.

⁷ Development history and experiences in the lower reaches of the Yangtze River will be considered during implementation of the TA, but the investment focus will be for the middle and upper Yangtze River, including the middle Yangtze City Cluster around Wuhan and the upper Yangtze reaches around Chongqing.

transformation in selected municipalities in the middle and upper reaches of YREB identified, and (iii) human resource development needs assessed. The focus of the outputs may be further refined during the TA inception phase. Outputs 1 and 3 aim at planning for medium and long-term industrial transformation in the YREB. Output 2, aiming more specifically at identifying investment opportunities, comprises two phases: (i) selection of target municipalities and municipal clusters, and (ii) identification and conceptualization of investment projects in selected municipalities and municipal cluster.

10. Output 1 will analyze government directions and priorities for the industrial transformation of YREB. This output will comprehend existing and planned economic and industrial development (e.g., relocation, upgrading, and innovation) planning and priorities for locations and industries, including analysis of the supporting infrastructure development planning—such as the planning for transport and logistics, policy development for promoting regional cooperation, and the balanced city cluster development within the YREB at large.

11. Output 1 will

- (i) analyze the existing overall economic geography and the main industrial economic development zones and industrial parks within the YREB;
- (ii) assess the competitive advantages of key industries in the YREB nationally and internationally, and identify key factors to strengthen the competitive advantages for the future;
- (iii) analyze priority initiatives within the YREB based on national, provincial, and key municipal level economic and industrial development (e.g., relocation, upgrading, and innovation) planning; and
- (iv) assess investment needs for implementation of the overall envisioned industrial transformation strategy for the YREB in terms of (a) infrastructure (e.g., utility, transport, energy); (b) enabling business environment (e.g., financial services, logistic services, investment policies, facilities, and policies related to external trade and customs); and (c) environmental goods and services.

12. Output 2 will identify investment opportunities for industrial transformation in selected municipalities and municipal cluster in the middle and upper reaches of the YREB. The proposed investments will (i) generate employment opportunities; (ii) facilitate coordinated city-cluster and integrated urban–rural development; (iii) promote spillover effects and linkages from large cities to small cities, towns, and villages; and (iv) have demonstration effects on industrial transformation and could be scaled up to other municipalities and municipal clusters in the YREB. These objectives are key to the government’s goal of reducing economic disparities between the eastern, middle, and western reaches of the YREB. Investment opportunities related to economic development zones and industrial parks will be focused on as a driver for industrial transformation.

13. Output 2 will

- (i) define suitable factors and process to select municipalities for the demonstration of pilot industrial transformation in development zones, in consultation with the NDRC, the Ministry of Finance (MOF), and ADB;
- (ii) short-list candidate municipalities and/or municipal cluster via a thorough assessment based on the selection factors in consultation with the NDRC, MOF, and ADB;
- (iii) consult with short-listed municipal governments to finalize the selection of municipalities;

- (iv) help selected municipal government(s) design comprehensive plan(s) (or make existing plans comprehensive) for industrial transformation which prescribe solutions to various issues that directly and indirectly hinder industrial transformation—such as lack of infrastructure, labor skill mismatch, lack of enabling business environments, weak supply chains, a weak social welfare system, potential environmental impacts, and pressure on natural resources;
- (v) help the municipal government(s) identify investment opportunities for ADB financing that will support the comprehensive industrial transformation plan and promote various development objectives—such as employment generation, integration of industrial development in urbanization, green energy, renewable and low-carbon initiatives, and circular economy;
- (vi) conceptualize those investment opportunities in the form of ADB projects and/or programs, and identify an appropriate financing modality; and
- (vii) make recommendations for future investments for the municipalities and municipal cluster selected and short-listed to ensure longer term support and cooperation.

14. Output 3 will assess human resources development needs taking into account the government directions and priorities for the industrial transformation of the YREB from output 1. The industrial transformation can have significant impacts on the surrounding rural and peri-urban areas, not only in terms of pressures on resources, notably water and food, but also significant implications for needed changes in the labor force and associated education systems.

15. Output 3 will

- (i) assess the existing higher education and technical and vocational education and training system, and how it responds to supporting human resource development, to support the priorities of industrial transformation in the YREB;
- (ii) assess labor market requirements and projections, including emerging occupations, to identify human resources needs in the context of ongoing and planned industrial transformation initiatives in small and medium-sized cities in the middle and upper reaches of the YREB;
- (iii) train project municipal government(s) on human resource development planning; and
- (iv) prepare the outline for a human resources development plan, based on a labor force assessment, conducive to industrial transformation.

16. At the outset of the TA, a consultation and work plan will be prepared. The TA will organize events to discuss with provincial, municipal, and county authorities; sector companies; branch organizations; representatives of industry; research institutes; commercial banks; environmental agencies; and other potential stakeholders to identify urgent investment needs. During the discussion, opportunities for public–private partnerships and different financing and lending modalities will be explored, in line with possible regional and provincial development plans and investment programs.

C. Cost and Financing

17. The TA is estimated to cost \$650,000, of which \$550,000 will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF-other sources). The government will provide counterpart support in the form of counterpart staff, meeting venues, local transportation in the provinces, and other in-kind contributions.

D. Implementation Arrangements

18. The TA will be implemented over 15 months from 1 January 2016 to 31 March 2017. The executing agency will be the NDRC, represented by the Foreign Capital Utilization and Overseas Investment Department. The NDRC will be responsible for the overall planning, coordination, and supervision of the TA. The implementing agencies will be municipal governments to be selected under output 2 at an early stage of the TA. Project management offices will be established at the selected municipal governments. The TA will be implemented in close cooperation with the International Economic and Financial Cooperation Department of MOF.

19. The TA will provide 6.5 person-months of international and 29.0 person-months of national consulting services. The consultants will be engaged following ADB's Guidelines on the Use of Consultants (2013, as amended from time to time) through individual consultant selection. This is considered the most efficient method as the consultants will be supervised by different cross-sectoral teams in ADB's East Asia Department. Cross-sectoral teams comprising staff from different divisions have been established upon the request of the government. The Environmental, Natural Resources, and Agriculture Division will take the overall lead for administration of the TA. 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 first quarter of 2016.

20. Resource persons will be engaged to assist in the preparation of presentation materials, and make presentations during the in-country workshops and consultation. One full-time administrative support staff will be engaged for 10 person-months to assist the NDRC in the coordination of the TA, and the organization of workshops and consultations.

21. It is proposed that the NDRC administer the larger consultation workshops, for which an advance payment facility will be established. The NDRC has the capacity to manage the funds, as it has experience working with ADB and other development partners.

22. 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 via various technical reports, knowledge products, and other publications posted on the websites of the NDRC and ADB.

23. To ensure effective and efficient coordination among the NDRC, the local government, and national sector ministries, an inception phase is scheduled during which the consultation and coordination mechanisms will be discussed between the NDRC, ADB, and consultants. A consultation and work plan will be agreed upon, prior to contacting the local government and sector ministries. The final agreements will be discussed and agreed during the TA inception workshop.

IV. THE PRESIDENT'S DECISION

24. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$550,000 on a grant basis to the Government of the People's Republic of China for Strengthening Provincial Planning and Implementation for the Yangtze River Economic Belt, and hereby reports this action to the Board.

DESIGN AND MONITORING FRAMEWORK

Impact the Technical Assistance is Aligned with			
The economic disparities between the eastern, central, and western YREB subregions reduced.			
(Guidelines on Promoting the Development of the Yangtze River Economic Belt Building on the Golden Waterway; Economic development plan for the Yangtze River Economic Belt) ^a			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
Outcome Investment planning among local governments in middle and upper reaches of the YREB strengthened	By 2016: At least two investment projects and/or programs conducive to overall planning for industrial transformation at municipal level conceptualized (2015 baseline: none)	ADB country programming missions	Investment proposals of project municipal government(s) are not suitable for ADB financing
Outputs 1. Government directions and priorities of industrial transformation of YREB analyzed 2. Investment opportunities for industrial transformation in selected municipalities in the middle and upper reaches of YREB identified 3. Human resource development needs assessed	By 2016: 1. Knowledge product on overall industrial transformation in the YREB prepared (2015 baseline: none) 2a. At least two project municipalities and/or municipal cluster in the middle and upper reaches of the YREB selected for planning for industrial transformation (2015 baseline: none) 2b. At least two investment projects and/or program(s) for the industrial transformation identified by concerned municipal government(s) (2015 baseline: none) 2c. Knowledge product on planning for industrial transformation at municipal level prepared (2015 baseline: none) 3a. Human resources development assessment report prepared (2015 baseline: none) 3b. At least two project municipal government(s) trained on human resource development planning	1. Consultant's reports 2a–2c. Consultant's reports 3a–3c. Consultant's reports	Lack of interest from stakeholders to participate actively in prioritization and project identification

	3c. Knowledge product on human resource development needs in the YREB prepared (2015 baseline: none)		
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Key Activities with Milestones

1. Government directions and priorities for industrial transformation of YREB analyzed

- 1.1 Analyze the existing overall economic geography, key industrial clusters, and industrial research and development centers within the YREB (Q1 2016).
- 1.2 Assess national and global comparative advantages of key industries in the YREB (Q1 2016).
- 1.3 Analyze priority initiatives within the YREB based on the national, provincial, and key municipal level economic and industrial development planning (Q2 2016).
- 1.4 Assess investment needs for implementation of the overall envisioned industrial transformation strategy for the YREB in terms of (i) infrastructure, (ii) enabling business environment, and (iii) environmental goods and services (Q3 2016).
- 1.5. Document good practices for industrial transformation as a knowledge product (Q1 2017) (GCD).

2. Investment opportunities for industrial transformation in selected municipalities in the middle and upper reaches of YREB identified

- 2.1 Define suitable factors and process to select municipalities for the demonstration of pilot industrial transformation through well-established development zones, in consultation with NDRC, MOF, and ADB (Q1 2016).
- 2.2 Short-list candidate municipalities and/or municipal cluster via a thorough assessment based on the selection factors in consultation with NDRC, MOF, and ADB (Q1 2016).
- 2.3 Consult with short-listed municipal government(s) to finalize the selection of municipalities (Q2 2016).
- 2.4 Help selected municipal governments design comprehensive plans (or make existing plans comprehensive) for the industrial transformation, which prescribe solutions to various development issues that directly and indirectly hinder the industrial transformation (Q2 2016) (GCD).
- 2.5 Help the municipal government(s) identify investment opportunities for ADB financing that will support the comprehensive industrial transformation plan and promote various development objectives (Q3 2016) (GCD).
- 2.6 Conceptualize those investment opportunities in the form of ADB projects and/or programs, and identify an appropriate financing modality (Q3 2016).
- 2.7 Provide recommendations for future investments for the municipalities and municipal clusters selected and short-listed to ensure longer term support and cooperation (Q1 2017).

3. Human resource development needs assessed

- 3.1 Assess the existing higher education and technical and vocational education and training system, and how it responds to supporting human resource development, to support the priorities of industrial transformation in the YREB region (Q1 2016).
- 3.2 Assess labor market requirements and projections, including emerging occupations, to identify human resources needs in the context of ongoing and planned industrial transformation initiatives in small and medium-sized cities in the middle and upper reaches of the YREB (Q2 2016).
- 3.3 Train project municipal government(s) on human resource development planning (Q2 2016) (GCD).
- 3.4 Prepare the outline for a human resources development plan based on labor force assessment conducive to the industrial transformation (Q3 2016) (GCD).
- 3.5 Document good practices for industrial transformation as a knowledge product (Q4 2016) (GCD).
- 3.6 Prepare a final report on human resources development needs for industrial transformation in the YREB (Q1 2017) (GCD).

Inputs

ADB: \$550,000

Note: The government will provide counterpart support in the form of counterpart staff, meeting venues, local transportation in the provinces, and other in-kind contributions.

Assumptions for Partner Financing

Not applicable.

ADB = Asian Development Bank, BTOR = back-to-office report, GCD = governance and capacity development, MOF = Ministry of Finance, NDRC = National Development and Reform Commission, Q = quarter, YREB = Yangtze River Economic Belt.

^a Also referred to as the Outline of Planning on Development Strategy of Yangtze River Economic Zone http://en.xinfinance.com/html/In_depth/2015/147954.shtml.

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	146.0
ii. National consultants	169.0
b. International travel	30.0
c. Local travel	28.0
d. Reports and communications	10.0
2. Workshops and consultations ^b	70.0
3. Miscellaneous administration and support costs ^c	44.0
4. Contingencies	53.0
Total	550.0

Note: The technical assistance (TA) is estimated to cost \$650,000, of which contributions from the Asian Development Bank (ADB) are presented in the table above. The government will provide counterpart support in the form of counterpart staff, meeting venues, local transportation in the provinces, and other in-kind contributions. The value of government contribution is estimated to account for 15.4% of the total TA cost.

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

^b Workshops and consultations will be organized and conducted in the target provinces in the middle and upper reaches of the Yangtze River Economic Belt. Expenditures may include the engagement of resource persons, event organizers, travel costs of ADB resource persons, and possibly limited representation costs, such as alcohol beverages under workshops, training, and seminars.

^c Includes full-time project management support, translation, and dissemination.

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. Introduction

1. It is estimated that the technical assistance (TA) will require 6.5 person-months of international and 29.0 person-months of national consulting services. Two international and three national individual consultants will be required for the TA. The consultants will be engaged following the Guidelines on the Use of Consultants (2013, as amended from time to time) of the Asian Development Bank (ADB) through individual consultant selection. It is anticipated that the consultants will be mobilized during the first quarter of 2016.

2. Resource persons will be engaged, as required, to assist in the preparation of presentation materials and to make presentations during the in-country workshops and consultations for the Yangtze River Economic Belt (YREB). One full-time project management support staff will be engaged for 13 person-months to assist the National Development and Reform Commission in the coordination of the TA, and to assist the project implementation specialist on the organization of workshops and consultations.

3. The outline terms of reference are indicated below. For output 2, the consulting services aim at identifying investment opportunities for industrial transformation in selected municipalities in the middle and upper reaches of YREB, which comprise two phases: (i) selection of target municipalities and/or municipal cluster, and (ii) identification and conceptualization of ADB investment projects in selected municipalities and/or municipal cluster. For outputs 1 and 3, the consulting services aim at studying the medium and long-term industrial transformation in the YREB, which will help the Government of the People's Republic of China (PRC) and ADB discuss future country programming. English proficiency is required for international consultant positions. The consultants will submit their draft and final reports in English language to the government and ADB. All consultants will discuss with ADB and submit a work plan at the inception of their contracts. The consultants will translate their final reports into Chinese and these will be made available online by ADB.

B. Terms of Reference

4. **Regional economic development specialist and team leader** (international, 4.5 person-months). The regional economic development specialist will take charge of overall TA implementation. The specialist will have a postgraduate degree; and at least 15 years of experience in research and on projects working on regional and urban economic development for industrial clusters, preferably including economic development zones and industrial parks. Required is a profound knowledge of the challenges facing upper middle-income regions and a sound understanding of the processes undergone by highly industrialized and post-industrialized regions to advance toward a knowledge-based economy with strongly interlinked industrial research, development, and production. The specialist is required to fully understand from international best practice cases the mechanisms and needs of industrial transformation and associated urban and city cluster development. Experience with related projects supported by ADB in the PRC will be an advantage. The specialist will

- (i) discuss and prepare a consolidated work plan;
- (ii) compile information on the existing overall economic geography, key industrial clusters, economic development zones and industrial parks, and industrial research and development centers within the YREB;
- (iii) identify priority initiatives, programs, and projects for industrial transformation and development in the forms of industrial relocation from eastern to western YREB,

- industrial upgrading, and economic zones development in the middle and upper reaches city clusters in the YREB based on the relevant strategies and plans of the national, provincial, and key municipal governments;
- (iv) assess potentials and comparative advantages of key industries in the YREB in the national and global markets (e.g., access to markets, key production input sourcing, human resources);
 - (v) identify key investment needs for implementation of the overall industrial transformation and development in the middle and upper reaches of the YREB in terms of (a) infrastructure (e.g., utility, transport, and energy); (b) enabling business environment (e.g., financial services, logistic services, investment policies, facilities, and policies related to external trade and customs); and (c) environmental goods and services;
 - (vi) assess likely impacts of the priority economic development zones and industrial clusters on (a) employment generation through forward and backward industrial linkages, and (b) environment (e.g., water and land resources), and further assess responding needs for environmental protection and urban–rural public infrastructure to mitigate the impact;
 - (vii) summarize international best practices for industrial transformation by presenting an analysis of key elements and mechanisms relevant for success, including economic sustainability and job creation;
 - (viii) visit the selected municipalities to discuss issues and needs for the industrial transformation of the municipalities and/or municipal cluster;
 - (ix) design a comprehensive plan (or improve existing plans) for industrial transformation and development, which prescribes solutions to various development issues, including lack of infrastructure, labor skill-mismatch, lack of enabling business environments, weak supply chains, weak social welfare system, potential environmental impacts, and pressure on natural resources;
 - (x) help the municipal government(s) identify potential investment opportunities for ADB financing to support the comprehensive industrial transformation plans and possibly contribute to development objectives such as employment generation, integration of industrial development in urbanization, green energy, renewable and low-carbon initiatives, and circular economy;
 - (xi) conceptualize those investment opportunities in a form of possible ADB projects and programs and identify an appropriate financing modality;
 - (xii) identify likely impacts from the planned industrial transformation and recommend possible measures for mitigation, i.e., through improving urban services and enhancing environmental protection and management;
 - (xiii) make recommendations for other future investments for the shortlisted municipalities and/or municipal cluster to promote longer term support;
 - (xiv) provide training to the concerned government agencies on strategies to enhance and specify government plans; and
 - (xv) coordinate the team, and prepare and consolidate a final report on industrial transformation and priority areas and investment opportunities in the YREB.

5. **Project formulation specialist and deputy team leader** (national, 10 person-months). The project formulation specialist will support the team leader for the overall TA implementation and will assume a leading role for output 2. The specialist will have a master's degree in economics, business administration, public administration, or related field. The specialist will have at least 10-year experience working with international or foreign organizations. The specialist will have a proficient command of English. Work experience with the PRC and/or local governments will be desirable. The specialist will specifically

- (i) discuss and finalize the selection factors and selection of municipalities and/or municipal clusters with the support of the China Association of Development Zones, and in consultation with the National Development and Reform Commission, the Ministry of Finance, and ADB at an early stage;
- (ii) coordinate with the selected municipal government(s) and organize visits of the consultant team to the municipalities to discuss issues and needs for the industrial transformation and development of the municipalities and/or municipal clusters;
- (iii) coordinate with the selected municipal government(s) and organize visits of the consultant team and resource persons, as needed, to the municipalities to discuss issues and needs for the industrial transformation of the municipalities and/or municipal clusters;
- (iv) provide inputs and coordinate the team for designing of comprehensive plan (or improvement of an existing plan) for industrial transformation and development, which prescribes solutions to various development issues such as lack of infrastructure, labor skill-mismatch, lack of enabling business environments, weak supply chains, weak social welfare system, potential environmental impacts, and pressure on natural resources;
- (v) coordinate the team to help the municipalities and/or municipal cluster identify investment opportunities specifically for ADB financing which will support the comprehensive industrial transformation plan and promote various development objectives such as employment generation, integration of industrial development in urbanization, green energy, renewable and low-carbon initiatives, and circular economy;
- (vi) coordinate the team to help conceptualize those investment opportunities in a form of ADB projects and/or programs and identify an appropriate financing modality;
- (vii) identify likely impacts from the planned industrial transformation and anticipate measures for mitigation, i.e., through improving capacities of urban services and enhancing environmental protection and management as appropriate; and
- (viii) coordinate the team to make recommendations for other future investments for the municipalities and/or municipal clusters selected and shortlisted to ensure a longer term support and cooperation; and
- (ix) support the team leader with the overall tasks, including report preparation, and represent the team leader, as needed.

6. Urban and regional planning specialist (national, 10 person-months). The urban and regional planning specialist will support the team leader for output 1 and contribute to output 2. The specialist will have a postgraduate academic degree; and at a minimum 10 years of experience working with cities and city clusters on urban and economic development planning and implementation. Required are a profound knowledge of the recent economic, industrial, and development history, and current strategies and plans in the PRC. The specialist is required to have a sound understanding of industrial relocation and upgrading strategies and projects, and knowledge of national and provincial plans for economic and urban development, including the PRC's National New-Type Urbanization Plan, 2014–2020, with several city clusters planned along the YREB. Work experience with international agencies and development partners like ADB will be an advantage. English language proficiency is required. The specialist will work closely with the regional economic development specialist. The specialist will

- (i) collect information on and review the existing overall economic geography, key industrial clusters, economic development zones and industrial parks, and industrial research and development centers within the YREB;

- (ii) cooperate with the team leader to identify priority initiatives, programs, and/or projects for industrial transformation and development in the forms of industrial relocation from east to west, industrial upgrading, and economic zones development in the middle and upper reaches city clusters in the YREB based on the relevant strategies and plans of the national, provincial, and key municipal governments;
- (iii) interview concerned government agencies on initiatives of industrial development and transformation in the form of industrial relocation from east to west; and industrial upgrading and economic zone development in the YREB middle and upper reaches city clusters;
- (iv) provide PRC best practice cases for industrial transformation, integrated with and supported by urban development, analyzing factors for sustainable job creation;
- (v) participate in team visits to the municipalities to discuss issues and needs for the industrial transformation of the municipalities and municipal cluster;
- (vi) provide substantive inputs from an urban development perspective for (a) designing of comprehensive plans (or improving of existing plans) for industrial transformation; (b) helping the municipal government(s) identify investment opportunities specifically for ADB financing to support the comprehensive industrial transformation plans and promote various development objectives, including employment generation, integration of industrial development in urbanization, green energy, renewable and low-carbon initiatives, and circular economy; (c) conceptualizing those investment opportunities in the form of ADB projects and programs and identify appropriate financing modalities; and (d) the identification of likely impacts from the planned industrial transformation and drafting measures for mitigation, i.e., through improving of urban services and enhancing environmental protection and management, as appropriate;
- (vii) together with the international regional economic development specialist, (a) provide training to the concerned government agencies on city cluster and urban development; (b) introduce advanced concepts of circular economy, zero-waste developments, integration of industrial upgrading and urban and regional development; and (c) sharing relevant lessons from other cities and regions in the PRC and internationally;
- (viii) provide inputs for report preparation; and
- (ix) conduct other tasks as assigned by the team leader and the deputy team leader.

7. Labor market and technical and vocational education and training specialist (international, 2 person-months). The labor market and technical and vocational education and training (TVET) specialist will take a lead for output 3 and contribute to outputs 1 and 2. The specialist undertake an assessment of the labor force requirements linked to industrial transformation of the region, and prepare an outline for a human resources development plan. The specialist will also consider and identify higher education and technical and vocational education strategies to strengthen human resources to support industrial transformation, with a focus on identifying specific selected projects. The specialist will work under the guidance of ADB staff and liaise with provincial development and reform commissions and other relevant departments' staff (education and human resources). The specialist will facilitate a workshop to share the findings of the assessment, where specific investment strategies will also be identified. The specialist will have at least 15 years of relevant international experience. A master's degree in economics or a related field is preferred. Work experience with ADB or other multilateral institutions and prior experience of working in the PRC's TVET or on labor market issues in TVET will be an advantage. The specialist will

- (i) assess overall human resource needs for the industrial transformation in the middle and upper reaches of the YREB and provide necessary inputs to the team for output 1 from human resource development perspective;
- (ii) conduct an institutional assessment of human resources planning and TVET or education systems in at least two provinces with regards to the industrial transformation in the middle and upper reaches of YREB;
- (iii) develop a blueprint or outline for human resource development strategies;
- (iv) participate in team visits to the municipalities to discuss issues and needs for the industrial transformation of the municipalities and municipal cluster;
- (v) provide substantive inputs from human resource development and social welfare perspective for (a) designing of a human resource development strategy conducive for industrial transformation; (b) training on human resource development planning for project municipal government(s); (c) helping the municipal government(s) identify investment opportunities specifically for ADB financing, which will support the comprehensive industrial transformation plans and promote various development objectives; and (d) conceptualizing those investment opportunities in a form of ADB projects and programs and identify appropriate financing modalities; and
- (vi) prepare a final report on the labor market and TVET in the YREB.

8. Labor market and technical and vocational education and training specialist (national, 9 person-months). The labor market and/or TVET specialist will support the international labor and TVET specialist for output 3 and contribute to outputs 1 and 2. The specialist will support the international counterpart specialist in undertaking an assessment of the labor force requirements linked to industrial transformation of the region, and prepare an outline for a human resources development plan. The specialist will have at least 10 years of professional experience. A master's degree in economics or a related field is preferred. Work experience with ADB or other multilateral institutions will be an advantage. A working level of English is required. The specialist will

- (i) cooperate with the international labor and TVET specialist to assess overall human resource needs for the industrial transformation in the middle and upper reaches of the YREB and provide necessary inputs to the team for output 1 from human resource development perspective;
- (ii) provide inputs for the institutional assessment of human resources planning, and TVET and education systems in at least two provinces with regards to the industrial transformation in the middle and upper reaches of YREB;
- (iii) prepare an outline for human resource development strategies;
- (iv) participate in team visits to the municipalities to discuss issues and needs for the industrial transformation of the municipalities and municipal cluster;
- (v) cooperate with the international labor and TVET specialist to provide substantive inputs from human resource development and social welfare perspectives for (a) designing a human resource development strategy conducive for industrial transformation; (b) training on human resource development planning for project municipal government(s); (c) helping the municipal government(s) identify investment opportunities specifically for ADB financing which will support the comprehensive industrial transformation plans and promote various development objectives; and (d) conceptualizing those investment opportunities in a form of ADB projects and programs and identify appropriate financing modalities; and
- (vi) contribute to preparing a final report on the labor market and TVET in the YREB.