



Completion Report

PUBLIC

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People's Republic of China: Mainstreaming Urban Climate Change Adaptation in the People's Republic of China

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TECHNICAL ASSISTANCE COMPLETION REPORT

TA Number, Country, and Name: TA 9353-PRC: Mainstreaming Urban Climate Change Adaptation in the People's Republic of China		Amount Approved: \$500,000.00	
		Revised Amount: Not applicable	
Executing Agency: Ministry of Housing and Urban-Rural Development	Source of Funding: Technical Assistance Special Fund (TASF–other sources)	Amount Undisbursed: \$164,593.87	Amount Used: \$335,406.13
TA Approval Date: 8 August 2017	TA Signing Date: 13 September 2017	TA Completion Date	
		Original Date: 30 September 2018	Latest Revised Date: 31 December 2021
		Financial Closing Date: 13 April 2022	Number of Extensions: 3
TA Type: Knowledge and support TA	Nature of Activity: Capacity development	TA Arrangement: Not applicable	

Description

The technical assistance (TA) was prepared in 2017 after the People's Republic of China (PRC) released its National Climate Change Adaptation Strategy in 2013¹ and Urban Climate Change Adaptation Action Plan (UCCAAP) in 2016,² which was complemented by a national pilot city support program that included 28 cities of the PRC. These plans were championed by the Ministry of Housing and Urban-Rural Development (MoHURD) and released in cooperation with the Climate Change Department of the National Development and Reform Commission (NDRC), and from 2018 supported by the Ministry of Ecology and Environment (MEE) with the Climate Change Department's relocation to MEE. These plans lacked technical guidance, which made its implementation for cities challenging. Against the backdrop of increasing extreme weather events with devastating impacts on lives, livelihoods, and public assets attributable to climate change, the government recognized the urgent need for comprehensive climate change risk and vulnerability assessments, integrated climate adaptation planning, and investments aiming at resilience in the country's various climate zones. The TA focused on the need for capacity building and technical support to pilot cities, as well as improved institutional arrangements enabling effective cross-sectoral cooperation. The TA included plans for training and support to apply the technical guidelines and institutional arrangements in three pilot cities to improve planning and implementation of urban climate change adaptation (UCCA) actions.

Expected Impact, Outcome, and Outputs

The TA's expected impact was improved and mainstreamed urban and urban–rural climate change adaptation systems and capacities in the PRC, which was aligned with directions identified in the Asian Development Bank (ADB) Midterm Review of Strategy 2020,³ the PRC's Thirteenth Five-Year Plan, 2016–2020,⁴ and the PRC's UCCAAP (footnote 2). The intended outcome was enhanced technical guidelines, policies, and institutional arrangements for urban and urban–rural climate change adaptation, and mechanisms for mainstreaming resilience to extreme weather events in the PRC. The three outputs were (i) technical guidelines, policy recommendations, and framework for institutional arrangements enabling mainstreaming of structural and nonstructural actions for UCCA in the PRC delivered; (ii) support to pilot cities in UCCA action planning of structural and nonstructural measures; and testing and refining of technical guidelines, policies, and implementation arrangements completed; and (iii) inclusive capacity development on UCCA accomplished.

Implementation Arrangements

MoHURD was the executing agency of the TA. ADB's East Asia Department administered the TA and engaged (i) a consulting firm, using quality- and cost-based selection method, with a quality–cost ratio of 90:10, from June 2018 to December 2021, including three extensions; (ii) two individual consultants—one international, with actual 3 person-months input (added through minor change in implementation arrangements); and one national, with actual 3 person-months input, and (iii) an international resource person to support preparation of the final dissemination workshop. The consultants were engaged by ADB in accordance with the Guidelines on the Use of Consultants (2013, as amended from time to time). Areas of expertise of the consultants included climate change risk assessment, land use and infrastructure planning for water and transport, river rehabilitation and flood risk management, and technical and economic analyses. MoHURD provided counterpart staff time, meeting rooms, and office support as agreed. With

¹ Government of the PRC, State Council. 2013. *National Climate Change Adaptation Strategy*. Beijing.

² Government of the PRC, National Development and Reform Commission and Ministry of Housing and Urban-Rural Development. 2016. *PRC's Urban Climate Change Adaptation Action Plan*. Beijing (in Chinese).

³ ADB. 2014. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific*. Manila.

⁴ Government of the PRC, State Council. 2015. *National Economy and Social Development Thirteenth Five-Year Plan, 2016–2020*. Beijing.

support from NDRC and MEE and contributions from several colleagues from ADB's Sustainable Development and Climate Change Department, MoHURD and ADB jointly organized annual workshops that were attended by international partners, including Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Local Governments for Sustainability (ICLEI), and domestic academia, such as PRC's Academy for Social Sciences, Beijing University, China Agricultural University, and Northwest Agriculture and Forestry University.

Conduct of Activities

The design and monitoring framework targets were achieved with some delays caused by prolonged consultant recruitment, challenges of selecting pilot cities, and the restrictions related to the coronavirus (COVID-19) pandemic. The TA consultants were able to deliver good quality reports and materials, i.e., technical guidelines, draft UCCAAPs for three pilot cities, as well as training and presentation materials for the knowledge sharing workshops.

For output 1, technical guidelines were prepared starting with a review of global toolkits and adapting them to the PRC national context aiming at operationalizing and mainstreaming UCCA. The guidelines considered the PRC's various geographical climate risks on urban areas, infrastructure, and assets for various types of cities; and risks to public safety and human health. They also considered integrated land use and adaptation planning, and options for ecosystem-based adaptation—especially for planning new urban areas—using green infrastructure in the form of green space and various synergies that ecosystem services provide. The UCCA guidelines included recommendations for planning of new urban areas, actions for retrofitting existing urban areas, and improved institutional arrangements and governance to (i) assess climate change effects; (ii) plan climate-proof and resilient adaptation for existing urban areas; (iii) plan climate-resilient new urban areas integrating land use, transport, and green open space, and applying an ecosystem-based adaptation approach; and (iv) review and improve the city-level early warning system and mechanisms. The guidelines were submitted to MoHURD and shared with other relevant line ministries and thinktanks to solicit comments. The feedback on the guidelines were positive and comments were incorporated in the final version.

For output 2, draft UCCAAPs were prepared for three pilot cities, which were selected to represent various climatic subregions and associated risks in the PRC, i.e., Changde in Hunan Province (major risk of river and urban flooding); Xixian New District in Shaanxi Province (major risk of heatwaves, droughts, and desertification); and Zhuhai in Guangdong Province (major risk of coastal flooding and sea level rise). The TA provided training and support applying the technical guidelines and forming institutional arrangements in the three pilot cities for climate adaptation action and implementation plans, where feasible. The TA consultants (i) engaged the pilot cities directly through their responsible local administrative bureaus, design institutes, and experts on climate change and adaptation-related matters; (ii) helped establish steering groups and working teams for suitable institutional arrangements on adaptation work in the cities; and (iii) provided day-to-day guidance and training in formal workshops (both face-to-face and virtually) to the cities and officers in the relevant bureaus. Support included forecasting climate change and effects for the three cities based on the relevant global scenarios and models by the Intergovernmental Panel on Climate Change; assessing risks to lives and livelihoods, urban land, infrastructure, and assets in various sectors; offering a matrix of adaptation options to climate change impacts; discussing and supporting priorities for action and investments; and supporting the preparation of a climate change adaptation action plan with time-bound actions and a prioritized financing plan.

For output 3, capacity development was provided through the (i) day-to-day technical guidance to the pilot cities; (ii) consultations with MoHURD and their associated think tanks; (iii) trainings and workshops for the three pilot cities; and (iv) four annual TA workshops arranged with MoHURD. The initial TA knowledge sharing workshop in Changde in Q3 2017 was organized by Changde City, MoHURD, and ADB, with high-level participation and with more than 300 participants from MoHURD, NDRC, ADB, provincial governments, and all 28 pilot cities. ADB provided funding with GIZ as co-organizer; while ICLEI, PRC's Academy for Social Sciences, national academia, and other experts presented and participated in the workshop. Additional workshops were held in Xixian (Q4 2018) and Tangshan (Q4 2019), the latter as part of a larger international urban day congress. The final two training events were held virtually due to COVID-19 related travel restrictions. In 2020, a highly interactive training workshop was delivered in all pilot cities, with positive feedback from the participants. In 2021, a high-level dissemination workshop was arranged virtually with more than 400 participants.

The TA completion date was extended three times. There were minor delays due to slightly prolonged consultant recruitment process and the challenges of selecting pilot cities due to realignment of government line agencies and changed responsibilities for climate adaptation to different local sector bureaus. The COVID-19 pandemic and related lockdowns and travel restrictions added to the delay in implementation very significantly. This impacted the support to the pilot cities and required remote assistance and creative solutions of working face-to-face when travel was subsequently allowed for national consultants. International consultants were no longer able to travel to the field from the start of the pandemic onwards. This slowed the interaction and coordination work, and progress was delayed by more than a year.

Technical Assistance Assessment Ratings

Criterion	Assessment	Rating
Relevance	The TA is rated <i>highly relevant</i> . The TA was fully aligned with the government's National Climate Change Adaptation Strategy (footnote 1) and the UCCAAP (footnote 2). The latter was complemented by a national pilot city support program with 28 cities selected. The TA adapted its implementation to the constraints posed by the COVID-19 pandemic. The innovative and practical technical guidance document adapted international best practice policies to the PRC's needs. It helped the government with their own objective to develop such guidance. The document assisted the cities in gradually addressing their challenges on how to assess risks, develop, and implement urban adaptation locally. The TA was timely and transformative in helping address the rapidly changing climate; and underscored the urgency to build resilience against very likely, more frequent, and more severe extreme weather events with hazards and likely disasters. The currently published Intergovernmental Panel on Climate Change Assessment Report 6 states that East Asia and the PRC will be affected more than the global average. The TA is highly relevant for the international community to learn from the PRC's policies and pilots and apply and adapt the lessons captured.	Highly relevant
Effectiveness	The TA is rated <i>effective</i> . The outcome and outputs and associated targets were essentially achieved. Without COVID-19, the intensity of the work with the pilot cities would have been even stronger and the level of engagement in capacity development would have benefited even more government staff from on-the-job training by TA specialists.	Effective
Efficiency	The TA is rated <i>less than efficient</i> . While the TA utilized only 67.1% of the budget to fully achieve the outputs and outcome, there was a significant delay of more than 3 years to complete the TA. At the onset of implementation, there were procurement delays and a minor delay in identifying the three pilot cities. The COVID-19 pandemic and related restrictions contributed to the prolonged TA implementation. Since 2020, international consultants were not able to travel to the pilot cities, and national specialists were only allowed to travel occasionally and with quarantine restrictions. TA savings was a result of (i) low bid price of winning firm, (ii) planned workshops and trainings were done virtually, (iii) one national consultant was not engaged, and (iv) no survey was requested by the pilot cities.	Less than efficient
Overall Assessment	The TA is rated <i>successful</i> . The work carried out under the TA continues to be of high relevance. UCCA, in the world's most populated country with its already high urbanization ratio of more than 62% and continued urbanization expected in the coming years, will remain an important area of activity. It is also one of the priority areas in the PRC's Fourteenth Five-Year Plan, 2021–2025 with a longer-term perspective to 2035. ⁵ While flood hazards both related to coastal and river flooding may lead to increased risks as a result of climate change and sea level rise, drought hazards and extreme heat will become key concerns in particular for cities and public health. Building urban resilience against these hazards remains very important, which the TA contributed to methodically with the technical guidelines and practically supporting three cities with UCCAAP preparation. Despite the challenges of restricted travel and field inputs due to COVID-19, the consulting team and ADB project team were able to provide effective capacity development, including guidance, on-the job training, and technical materials. The TA products are being shared and disseminated nationally. Workshops were successfully organized, including a kick-off workshop in one of the pilot cities (Changde), with high-level participation from ministries, provincial and city governments, and ADB (with more than 300 participants). A final virtual dissemination workshop was carried out with about 400 participants and high-level participation from two ministries, provincial and city governments,	Successful

⁵ Government of the PRC. 2021. [The Outline of the Fourteenth Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Long-Range Objectives Through the Year 2035](#). Beijing (in Chinese).

Criterion	Assessment	Rating
	and ADB. A knowledge product will be prepared in 2023 to promote further south-south sharing and replication.	
Sustainability	The TA is rated <i>likely sustainable</i> . Mainstreaming of UCCA is likely to be a high priority and would be implemented in most cities in the PRC. The contributions from the TA through technical guidelines, including recommendations for policy and institutional arrangements and capacity built in pilot cities will continue to be useful and relevant for MoHURD and cities in the PRC. Improved institutional arrangements introduced under the TA with clear responsibilities for adaptation that are directly supervised and coordinated by a vice-mayor can be considered more sustainable. Further, support for urban climate change adaptation, as a priority policy area by provincial and national governments, is likely to continue.	Likely sustainable

Lessons Learned and Recommendations

Design and planning	Improving project readiness is necessary at the onset to ensure that pilot cities are selected, and institutional arrangements are established and agreed to enable prompt TA implementation, which may be included in the design process. Another recommendation is to plan a longer implementation period at the TA concept stage.
Implementation and delivery	Establish robust working relationships and adaptability between TA consultants and city officials wherever possible, to enable close communication even when physical meetings are not possible and find effective ways of building relationships through virtual forms of communication.
Management of staff and consultants	Consultant selection and team composition can be optimized through combination of firm and individuals. Individual consultants can be selected after engagement of the firm to complement weaknesses and strengths of the firm and its team.
Knowledge building	Large and high-level workshops can bring together expertise, leadership, and technical administrators on all levels. Such workshops, site visits, and good practice cases are very efficient in reaching many people, especially those engaged in resilience building. Good quality consultant reports and presentation materials are critical.
Stakeholder participation	MoHURD and MEE are key national stakeholders who will remain as the authorities for delivering urban resilience in the PRC. It was critical to engage with the cities at a high-level and through a lead agency who would arrange other local bureaus to coordinate. A more direct cooperation of technical experts with line bureaus is more efficient and should be agreed from the onset.
Partnership	Working with partners was beneficial for donor coordination and improved outreach, as well as for effectiveness and efficiency of capacity building. Workshops were coordinated with GIZ. Pilot city selection was coordinated to be complementary to GIZ's cooperation with MoHURD. Cooperation with ICLEI was useful for tapping into expertise on engaging with cities on resilience training. A One-ADB team, with members from the Sustainable Development and Climate Change Department, contributed with expertise to the success and high-quality of the workshops.
Replication and scaling up	The objective of the TA was mainstreaming UCCA in the PRC which has been achieved through the implementation of the TA and the domestic pilot city program to which the TA contributed. Further mainstreaming, replication, and scaling up will be implemented as UCCA is included as one of the priorities in the PRC's Fourteenth Five-Year Plan, 2021–2025 (footnote 5). Replication and scaling up in other DMCs should be promoted through sharing lessons and twinning partnerships between provincial and municipal governments of various DMCs.
Post-TA financial resource	A next step of supporting UCCA in the PRC by ADB would be to prepare ensuing projects financed by ADB and/or other international finance institutions. That could be directly through transaction TA funding or other specific pre-feasibility study funding. Per candidate city an amount of at least \$300,000 would be needed for such studies or transaction TA of at least \$600,000 per candidate city to enable a reasonable level of breadth and depth of assessment and planning.

Follow-up Actions

The recommended follow-up actions are (i) further disseminate the technical guidelines and the pilot institutional arrangements for replication in the PRC and in other DMCs; and (ii) prepare a high-quality knowledge product and publication materials to share the results, experience, and lessons learned; and (iii) highlight the TA achievements in the country partnership strategy (CPS) midterm and final reviews.

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DESIGN AND MONITORING FRAMEWORK

Impact the TA is Aligned with Urban and urban-rural climate change adaptation systems and capacities in the PRC improved and mainstreamed (PRC's Thirteenth Five-Year Plan, 2016–2020) ^a		
Results Chain	Performance Indicators with Targets and Baselines	Achievements
Outcome Technical guidelines, policies, and institutional arrangements for urban and urban-rural climate change adaptation, and mechanisms for mainstreaming resilience to extreme weather events in the PRC enhanced	By 2019 a. Technical guidelines, policy recommendations, institutional arrangements, and early warning and response mechanisms reviewed and considered for endorsement by MoHURD and National Development and Reform Commission (2017 baseline: 0) b. At least three pilot cities developed UCCA assessment and plan using technical guidelines, policies, and recommended institutional arrangements (2017 baseline: 0)	a. Achieved. Technical guidelines, including policy recommendations and recommendations for institutional arrangements for urban climate change adaptation, were submitted to MoHURD and related think tanks. The agencies reviewed the guidelines for their consideration of further refinement and release. b. Achieved. The three pilot cities of Changde, Xixian, and Zhuhai have carried out climate risk assessments and each developed a UCCAAP with support from the TA consultants. The technical guidelines were applied and used to structure the work and the plan report documents, i.e. the three pilot cities' draft urban climate change adaptation action plans. Effective institutional arrangements and responsibilities for climate change adaptation were established.
Outputs 1. Technical guidelines, policy recommendations, and framework for institutional arrangements enabling mainstreaming of structural and nonstructural actions for UCCA in the PRC delivered 2. Support to pilot cities in UCCA action planning of structural and nonstructural measures; and testing and refining of technical guidelines, policies, and implementation arrangements completed 3. Inclusive capacity development on UCCA accomplished	By 2018 1a. Report discussed, completed, and shared with MoHURD, ADB, and other concerned line agencies (2017 baseline: 0) 1b. Report is gender-responsive and recommends specific actions to strengthen women's and vulnerable groups' resilience to climate change in urban and urban-rural settings (2017 baseline: 0) 2a. UCCA assessment and plans for at least three pilot cities prepared (2017 baseline: 0) 2b. At least two pilot cities consider impacts and actions for women and vulnerable groups (2017 baseline: 0) 3a. At least 30 officials from concerned national, provincial, and municipal agencies, including pilot cities (of which at least 30% are women) report improved knowledge and skills on UCCA policies, guidelines, planning, and implementation (2017 baseline: 0)	1a. Achieved. MoHURD received the technical guidelines and shared with other agencies during the TA implementation period. 1b. Achieved. Specific actions benefiting women are pointed out in the technical guidelines and the UCCAAPs for the three pilot cities and these aspects will also be further strengthened in the planned ADB knowledge product. 2a. Achieved. Three pilot cities prepared a UCCAAP with support from the TA consultants. 2b. Achieved. All three pilot cities specifically included considerations benefiting women and vulnerable groups. 3a. Achieved. More than 50 officials (with 20 women) reported improved knowledge on policies and technical assessment and adaptation planning based on post-workshop survey of the final dissemination workshop.

Actual Key Activities with Milestones**1. Technical guidelines, policy recommendations, and framework for institutional arrangements enabling mainstreaming of structural and nonstructural actions for UCCA in the PRC delivered**

- 1.1 International and national policies, regulations, institutional arrangements, responsibilities, and mechanisms for UCCA mainstreaming reviewed (November 2019)
- 1.2 International, national, and ADB best practices for UCCA tool kits, planning, implementation, and early warning and response systems reviewed (November 2019)
- 1.3 Lessons with respect to applicability in the PRC identified (November 2019)
- 1.4 Technical guidelines draft report completed and included in TA interim report (December 2019)
- 1.5 Policy recommendations draft report completed and included in TA interim report (December 2019)
- 1.6 Framework for institutional recommendations report completed and included in TA interim report (December 2019)
- 1.7 Lessons from pilot cities reflected and technical guidelines, recommendations for policies, and institutional arrangements revised (November 2021)
- 1.8 Draft reports discussed with MoHURD, ADB, and line agencies; and comments incorporated in revised TA interim report (November 2021)

2. Support to pilot cities in UCCA action planning of structural and nonstructural measures; and testing and refining of technical guidelines, policies, and implementation arrangements completed

- 2.1 Selection criteria for pilot cities agreed based on different types of climate change risks, city types and sizes, and development level (October 2018)
- 2.2 At least three pilot cities selected based on agreed selection criteria (July 2019)
- 2.3 Workplan for support of UCCA pilot cities developed and initial training events completed (September 2019)
- 2.4 Support of pilot cities in planning and implementation of structural and nonstructural measures of UCCA carried out applying the TA interim report findings (December 2020)

3. Inclusive capacity development on UCCA accomplished

- 3.1 Inception workshop to confirm scope and discuss work plan, training, consultation, and dissemination plan carried out (October 2018)
- 3.2 Interim workshop to present and discuss TA draft interim report completed (October and December 2019)
- 3.3 Dissemination workshop to present TA draft final report completed (November 2021)
- 3.4 Comments discussed in the workshops provided to consultants, and TA final report delivered (December 2021)
- 3.5 TA final report disseminated to MoHURD and other concerned line agencies, provincial, and municipal level agencies, and other stakeholders (June 2022)

Actual Inputs

Asian Development Bank: \$335,406.13

Government: \$88,000 (in-kind contribution from the government in the form of counterpart staff and workshop arrangement contributions)

ADB = Asian Development Bank, MoHURD = Ministry of Housing and Urban-Rural Development, PRC = People's Republic of China, TA = technical assistance, UCCA = urban climate change adaptation, UCCAAP = urban climate change adaptation action plan.

^a Government of the PRC, State Council. 2015. *National Economy and Social Development Thirteenth Five-Year Plan, 2016–2020*. Beijing.

Source: ADB.

TECHNICAL ASSISTANCE COST

Table A2.1: Technical Assistance Cost by Activity
(\$'000)

Item	Amount	
	Original	Actual
1. Consultants	370.00	299.55
2. Surveys	10.00	0.00
3. Training, seminars, workshops, forums, and conferences	70.00	35.86
4. Contingencies	50.00	0.00
Total	500.00	335.41

Source: Asian Development Bank.

Table A2.2: Technical Assistance Cost by Fund
(\$'000)

	TASF	Other Sources
1. Original	500.00	
2. Actual	335.41	
3. Unused	164.59	

TASF = Technical Assistance Special Fund.

Source: Asian Development Bank.