



# Technical Assistance Report

---

Project Number: 47075  
Capacity Development Technical Assistance (CDTA)  
December 2013

## People's Republic of China: Strengthening Capacity for Wetland Protection for Sanjiang Plain (Cofinanced by the Multi-Donor Trust Fund under the Water Financing Partnership Facility)

Asian Development Bank



## CURRENCY EQUIVALENTS

(as of 5 December 2013)

Currency unit	–	yuan (CNY)
CNY1.00	=	\$0.1642
\$1.00	=	CNY6.0917

## ABBREVIATIONS

ADB	–	Asian Development Bank
HPFD	–	Heilongjiang Provincial Forestry Department
HPG	–	Heilongjiang provincial government
PRC	–	People's Republic of China
TA	–	technical assistance
TMO	–	technical assistance management office

## TECHNICAL ASSISTANCE CLASSIFICATION

<b>Type</b>	–	Capacity development technical assistance (CDTA)
<b>Targeting classification</b>	–	General intervention
<b>Sector (subsector)</b>	–	Agriculture and natural resources (water-based natural resource management)
<b>Themes (subthemes)</b>	–	<b>Environmental sustainability</b> (natural resources conservation, global and regional transboundary environmental concerns), capacity development (institutional development)
<b>Climate change</b>	–	Adaptation
<b>Location (impact)</b>	–	National (medium), rural (high), urban (low), regional (medium)
<b>Partnership</b>	–	Multi-Donor Trust Fund under the Water Financing Partnership Facility

## NOTE

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

<b>Vice-President</b>	S. Groff, Operations 2
<b>Director General</b>	A. Konishi, East Asia Department (EARD)
<b>Director</b>	Y. L. Feng, Environment, Natural Resources, and Agriculture Division, EARD
<b>Team leader</b>	Y. Kobayashi, Senior Water Resources Specialist, EARD
<b>Team members</b>	M. Bezuijen, Environment Specialist, EARD Q. Zhang, Lead Water Resources Specialist, EARD

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



## CONTENTS

	<b>Page</b>
I. INTRODUCTION	1
II. ISSUES	1
III. THE TECHNICAL ASSISTANCE	3
A. Impact and Outcome	3
B. Methodology and Key Activities	3
C. Cost and Financing	4
D. Implementation Arrangements	4
IV. THE PRESIDENT'S DECISION	5
 APPENDIXES	
1. Design and Monitoring Framework	6
2. Cost Estimates and Financing Plan	8
3. Outline Terms of Reference for Consultants	9



## I. INTRODUCTION

1. During the 2012 country programming mission, the Government of the People's Republic of China (PRC) requested capacity development technical assistance (TA) from the Asian Development Bank (ADB) to strengthen capacity for wetland protection for Sanjiang Plain.<sup>1</sup> In August 2013, an ADB fact-finding mission visited the PRC and reached an understanding with the government on the TA's impact, outcome, outputs, cost estimates and financing plan, implementation arrangements, and consultants' terms of reference. The design and monitoring framework is in Appendix 1.

## II. ISSUES

2. Sanjiang Plain is a vast alluvial floodplain of 108,900 square kilometers in the northeast of Heilongjiang Province, where the Heilong, Songhua, and Wusuli rivers join. The plain, one of the PRC's richest areas in globally significant flora and fauna, supports about 40 ecosystems; 1,000 species of plants; and 530 species of vertebrate fauna, including more than 20 globally threatened species on the World Conservation Union Red List. The globally threatened species include waterfowl such as cranes, storks, and swan geese, which require extensive, undisturbed wetlands during their migration and breeding seasons. The Sanjiang Plain wetlands are an important nesting and stopover location at the northern end of the East Asian—Australian flyway for migratory waterfowl, most notably white-naped and red-crowned cranes.

3. However, the wetlands have shrunk to one-fifth of their original size in the last 5 decades because of increasing population, grain production, and exploitation of biological and water resources. Accelerating population growth and increasing grain production threaten the flora and fauna. Local communities exploit biological and water resources within the wetlands for their livelihood through unsustainable farming practices. The limited management capacity of provincial and local government staff has exacerbated the deterioration of wetland resources.

4. The PRC government has adopted several important national policies and legal measures to guide and direct habitat restoration and biodiversity conservation. The Wild Animal Protection Law of 1988 has reduced the overexploitation of wildlife from hunting and egg collecting. In 1993, the PRC ratified the Convention on Biological Diversity; and in 1994, it issued the Biodiversity Conservation Action Plan and the Nature Reserve Protection Regulation. In 1996, the Heilongjiang provincial government (HPG) issued the Regulation of Nature Reserves establishing priority wetland nature reserves;<sup>2</sup> and in 1998, the Decision on Wetland Conservation suspending further conversion of wetlands to farmland.<sup>3</sup> In 2002, the National Wetland Conservation Action Plan was approved, outlining priority actions to guide conservation, use, management, and institutional frameworks. The plan was reinforced a year later with the issuance by HPG of one of the PRC's first wetland regulations, the Regulations on Wetland Conservation of Heilongjiang Province. The protected wetland area of Sanjiang Plain currently includes 24 nature reserves, which cover 11,675 square kilometers or 10.7% of the plain. Despite the impressive legal steps, wetland restoration and protection are still new concepts in the PRC. Wetland restoration programs have been planned, but sound wetland management expertise and scientific knowledge are scarce.

---

<sup>1</sup> The TA first appeared in the business opportunities section of ADB's website on 16 August 2013.

<sup>2</sup> Nature reserves are specially designated areas protected by the PRC's Nature Reserve Protection Regulation to conserve wetland habitats.

<sup>3</sup> Heilongjiang Party Committee. 1998. *Document No. 21*. Harbin.

5. Since wetland management expertise and scientific knowledge needed to be developed to reverse the continuing trend toward reduction and degradation of the Sanjiang Plain wetlands and protect wetland-dependent wildlife species, an ADB loan for \$15 million cofinanced by a Global Environment Facility grant of \$12.14 million for the Sanjiang Plain Wetlands Protection Project was approved in 2005. The project comprised five components: (i) watershed management, (ii) wetland nature reserve management, (iii) alternative livelihood programs, (iv) education and capacity building, and (v) project management. The HPG was the executing agency.

6. Under the project, various pilot wetland protection activities were conducted in six model nature reserves: Angbanhe, Dajiahe, Naolihe, Qixinghe, Xingkaihu, and Zhenbaodao. The Ramsar Convention Bureau listed Xingkaihu as a wetland of international importance in 2002 before the project commenced; Qinghe and Zhenbaodao were listed in 2011 during project implementation. Lessons during project implementation were introduced in ADB reviews on reviving lakes and wetlands.<sup>4</sup>

7. The project was completed successfully in August 2012. In the six model reserves, pilot activities were successfully conducted, including watershed management, wetland restoration, wildlife species recovery, reduction of resource exploitation, and alternative livelihoods development. Eight key globally threatened species in Sanjiang Plain were monitored during project implementation; this is ongoing.<sup>5</sup>

8. To expand these successes under the Sanjiang Plain Wetlands Protection Project to other nature reserves through capacity development, dissemination of the wetland protection models developed under the project, and sharing of knowledge accumulated under the project, including providing information useful for considering future investment projects, the HPG requested ADB's continuous support through this TA.

9. The PRC's Twelfth Five-Year Plan, 2011–2015 supports the long-term goal of building a harmonious and moderately prosperous society through livelihood improvement, with regionally balanced and environmentally sustainable growth. ADB has been supporting projects on lakes and wetland protection in the PRC. ADB's country partnership strategy, 2011–2015 for the PRC supports the government's overarching strategic goal of building a harmonious and moderately prosperous society by focusing on three strategic pillars: inclusive growth, environmentally sustainable growth, and regional cooperation and integration. The TA is fully consistent with the PRC's plan and the country partnership strategy by promoting sustainable management of natural resources and protecting globally significant biodiversity in Sanjiang Plain.

### III. THE TECHNICAL ASSISTANCE

#### A. Impact and Outcome

10. The impact will be improved management of natural resources to protect globally significant biodiversity in Sanjiang Plain. The outcome will be capacity established for continued implementation and expansion of achievements of the Sanjiang Plain Wetlands Protection Project.

---

<sup>4</sup> ADB. 2008. *Reviving Lakes and Wetlands: Lessons Learned from the People's Republic of China*. Manila.

<sup>5</sup> The eight key globally threatened species are Baikal teal, hooded crane, lesser white-fronted goose, scaly-sided merganser, oriental stork, red-crowned crane, swan goose, and white-naped crane. As of 31 October 2013, scaly-sided merganser, oriental stork, and red-crowned crane are on the list of endangered species; and hooded crane, lesser white-fronted goose, swan goose, and white-naped crane are on the list of vulnerable species. Baikal teal was moved from the list of endangered to vulnerable species.

## **B. Methodology and Key Activities**

11. The TA outputs will be (i) expansion of relevant HPG staff capacity for wetland protection developed under the Sanjiang Plain Wetlands Protection Project; and (ii) expansion and dissemination of wetland protection models developed under the Sanjiang Plain Wetlands Protection Project and sharing of knowledge developed or accumulated for Sanjiang Plain. The TA will be implemented over 13 months. From TA commencement to the end of the first month, consultants will (i) review past and ongoing wetland protection activities for Sanjiang Plain and other wetlands in the PRC; and identify achievements and remaining challenges, particularly those under the project; (ii) assess HPG, local government, and nature reserve staff capacity for wetland protection, and identify training needs; (iii) prepare a training program for decision makers and nature reserve staff; and (iv) prepare an outline of a knowledge product on wetland protection.

12. From the beginning of the second month to the end of the fifth month, the consultants will draft the knowledge product to supplement ADB reviews on reviving lakes and wetlands (footnote 4). It will include sections for watershed management (particularly forest improvement), wetland restoration, wildlife species recovery, reduction of resource exploitation, and alternative livelihoods (particularly ecotourism and water- and land-intensive eco-greenhouse agriculture) including achievements, suggested revisions to the achievements, remaining challenges, lessons from the Sanjiang Plain Wetlands Protection Project, and key messages for future wetland protection. Two workshops will be held at the beginning and end of this period for consultation on the knowledge product. The draft knowledge product will be discussed by decision makers and nature reserve staff through training courses. The consultants will revise the knowledge product incorporating comments from ADB, HPG, local governments, nature reserves, and other specialists. From the beginning of the 6th month to the end of the 10th month, the knowledge product will be edited, formatted, and printed by ADB. It will be launched at an international workshop during the 11th month.

13. From the beginning of the 2nd month to the end of the 10th month, the consultants will provide decision makers and nature reserve staff with training. At least one training course will be provided to decision makers, including mayors of cities and counties where important wetlands exist; and key senior officers of the HPG to raise their awareness of the importance of wetland protection. At least one training course will be provided to nature reserve staff on (i) wetland restoration, (ii) recovery of wildlife species and reduction of resource exploitation, (iii) monitoring of wildlife species, and (iv) development of alternative livelihoods. During this period, the consultants will assist HPG, local government, and nature reserve staff in continuously implementing and expanding the project achievements for wetland restoration, wildlife species recovery, reduction of resource exploitation, and monitoring of wildlife species.

## **C. Cost and Financing**

14. The TA is estimated to cost \$625,000, of which \$200,000 will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF-other sources); and \$300,000 equivalent will be financed on a grant basis by the Multi-Donor Trust Fund under the Water Financing Partnership Facility and administered by ADB. Funding from the Multi-Donor Trust Fund will be used to produce the knowledge product.<sup>6</sup>

---

<sup>6</sup> Contributors: the governments of Australia, Austria, Norway, Spain, and Switzerland.

15. The government will provide counterpart support in the form of office accommodation; domestic transportation, remuneration, per diem for counterpart staff, and other in-kind contributions. The detailed cost estimates and financing plan are in Appendix 2.

#### **D. Implementation Arrangements**

16. The HPG will be the executing agency. The Heilongjiang Provincial Forestry Department (HPFD) will be the implementing agency. The HPG, particularly HPFD, is responsible for protecting wetlands through Heilongjiang Province; and has shown strong capacity to execute the project.

17. A TA management office (TMO) will be established at HPFD to administer the day-to-day TA activities and coordinate with ADB. HPFD will assign an experienced full-time staff member to serve as TMO director and counterpart staff to work closely with the TA consultants. It will provide office space, access to communications and copiers, and logistical support for TA implementation. The TMO director will manage and liquidate funds provided by ADB for training, seminars, and conferences.

18. A steering committee will be established under the HPG to guide TA implementation. The committee members will be senior representatives of the HPG, including the Heilongjiang Provincial Development and Reform Commission, the Heilongjiang Provincial Finance Department, and HPFD. The steering committee will meet at the inception, interim, midterm, and final stages of TA implementation; and when important TA outputs are produced.

19. Consultant recruitment will be conducted from January to April 2014. The TA will be implemented from 12 May 2014 to 11 June 2015 (tentative). The consultants will submit an inception report within a month after TA commencement, a draft knowledge product within 4 months after TA commencement, and interim report within 5 months after TA commencement. A draft final report will be submitted within 11 months after TA commencement, and a final report at TA conclusion. The inception, interim, and draft final reports, including the draft knowledge product will be subject to review by ADB and the HPG. All reports and the draft knowledge product will be written in English and translated into Chinese. Three copies of each of the reports and draft knowledge product will be submitted to ADB in English, and five copies in both English and Chinese will be submitted to the HPG. In addition, soft copies of the draft knowledge product will be submitted to ADB in a format suitable for editing and publication. The outline terms of reference for consultants are in Appendix 3.

20. The TA will be carried out by a team of consultants engaged through a firm, providing 8.5 person-months of international and 16.0 person-months of national consulting services. ADB will engage the consultants following the Guidelines on the Use of Consultants (2013, as amended from time to time). The consulting firm will be selected using simplified technical proposals and quality- and cost-based selection with a quality–cost ratio of 80:20. Equipment for TA consultants will be procured following ADB's Procurement Guidelines (2013, as amended from time to time), and handed over to the HPG upon TA completion. Disbursement under the TA will be in line with ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time). Advance payment facilities will be established to facilitate timely TA implementation. ADB funds for training, seminars, and conferences will be transferred to an existing HPG bank account, and managed and liquidated by the TMO director. ADB will undertake intensive review and supervision by fielding missions at critical stages of TA implementation—particularly inception, midterm, and final; and by extending regular support from ADB headquarters and the PRC Resident Mission.

#### **IV. THE PRESIDENT'S DECISION**

21. The President, acting under the authority delegated by the Board, has approved (i) ADB administering a portion of technical assistance not exceeding the equivalent of \$300,000 to be financed on a grant basis by the Multi-Donor Trust Fund under the Water Financing Partnership Facility; and (ii) ADB providing the balance not exceeding the equivalent of \$200,000 on a grant basis to the Government of the People's Republic of China for Strengthening Capacity for Wetland Protection for Sanjiang Plain, and hereby reports this action to the Board.

## DESIGN AND MONITORING FRAMEWORK

<b>Design Summary</b>	<b>Performance Targets and Indicators with Baselines</b>	<b>Data Sources and Reporting Mechanisms</b>	<b>Assumptions and Risks</b>
<p><b>Impact</b> Improved management of natural resources to protect globally significant biodiversity in Sanjiang Plain</p>	<p>Number of eight key globally threatened species<sup>a</sup> monitored in six model nature reserves<sup>b</sup> in Sanjiang Plain increased by 10% to 37,407 in 2020 (baseline: 34,006 in 2011) A total of 10,278 square kilometers of wetland area in Sanjiang Plain maintained in 2020</p>	<p>World Conservation Union biodiversity surveys</p>	<p><b>Assumption</b> The HPG and relevant national and local agencies maintain their commitment to improve management of natural resources to protect globally significant biodiversity in wetlands, particularly the eight key globally threatened species.</p> <p><b>Risks</b> The eight key species are threatened by activities along their migration routes outside Sanjiang Plain. Other factors such as climate change adversely affect the environment in Sanjiang Plain.</p>
<p><b>Outcome</b> Capacity established for continued implementation and expansion of the achievements of the Sanjiang Plain Wetlands Protection Project<sup>c</sup></p>	<p>By 2018 in Sanjiang Plain: Wetland restoration implemented in at least 10 nature reserves Recovery plans for 18 species implemented in at least 10 nature reserves Alternative livelihood development projects implemented in at least 10 nature reserves</p>	<p>HPG and nature reserves documents and reports</p>	<p><b>Assumptions</b> The TA outputs are well supported and continued by the HPG, the nature reserves, and relevant agencies. Staff trained under the TA continue to work for wetland protection.</p>
<p><b>Outputs</b> 1. Expansion of relevant HPG staff capacity for wetland protection developed under the Sanjiang Plain Wetlands Protection Project<sup>c</sup> 2. Expansion and dissemination of wetland protection models developed under the Sanjiang Plain Wetlands Protection Project<sup>c</sup> and sharing of knowledge developed or accumulated for Sanjiang Plain</p>	<p>By 2015: Training on wetland protection provided to at least 10 decision makers and 50 nature reserve staff A knowledge product on wetland protection in Sanjiang Plain published and disseminated at an international workshop</p>	<p>HPG and nature reserve documents and reports</p>	<p><b>Assumptions</b> The HPG and the nature reserves maintain adequate number of dedicated staff with required qualifications. Necessary information is available on time. The nature reserves maintain their commitments to develop staff capacity for wetland protection.</p>

Activities with Milestones <sup>c</sup>	Inputs																						
<b>1. Expansion of relevant HPG staff capacity for wetland protection developed under the Sanjiang Plain Wetlands Protection Project<sup>d</sup></b>	<b>Asian Development Bank: \$200,000 (TASF-other sources)</b>																						
1.1. Review past and ongoing wetland protection activities for Sanjiang Plain and other wetlands in the PRC; and identify achievements and remaining challenges, particularly those under the Sanjiang Plain Wetlands Protection Project by month 1 <sup>d</sup> 1.2. Assess HPG, local government, and nature reserve staff capacity for wetland protection, and identify training needs; prepare a training program for decision makers and nature reserve staff on wetland restoration, recovery of wildlife species and reduction of resource exploitation, monitoring of wildlife species, and alternative livelihood development by month 1 1.3. Begin to implement the training program by month 2 1.4. Begin to assist HPG staff in continuously implementing and expanding achievements of the Sanjiang Plain Wetlands Protection Project by month 2 <sup>d</sup> 1.5. Complete implementation of the training program by month 10 1.6. Complete assistance to HPG staff on continuous implementation and expansion of achievements of the Sanjiang Plain Wetlands Protection Project by month 10 <sup>d</sup>	<table border="1"> <thead> <tr> <th data-bbox="922 346 1455 380">Item</th> <th data-bbox="1328 346 1455 380">Amount (\$'000)</th> </tr> </thead> <tbody> <tr> <td data-bbox="922 380 1455 434">Consulting services, 11.0 person-months</td> <td data-bbox="1328 380 1455 434">133.42</td> </tr> <tr> <td data-bbox="922 434 1455 468">International and local travel</td> <td data-bbox="1328 434 1455 468">5.75</td> </tr> <tr> <td data-bbox="922 468 1455 531">Reports, communications, and translation</td> <td data-bbox="1328 468 1455 531">10.00</td> </tr> <tr> <td data-bbox="922 531 1455 564">Equipment</td> <td data-bbox="1328 531 1455 564">2.00</td> </tr> <tr> <td data-bbox="922 564 1455 627">Training, seminars, and conferences</td> <td data-bbox="1328 564 1455 627">36.00</td> </tr> <tr> <td data-bbox="922 627 1455 661">Surveys</td> <td data-bbox="1328 627 1455 661">1.00</td> </tr> <tr> <td data-bbox="922 661 1455 724">Miscellaneous administration and support costs</td> <td data-bbox="1328 661 1455 724">1.90</td> </tr> <tr> <td data-bbox="922 724 1455 758">Contingencies</td> <td data-bbox="1328 724 1455 758">9.93</td> </tr> </tbody> </table>	Item	Amount (\$'000)	Consulting services, 11.0 person-months	133.42	International and local travel	5.75	Reports, communications, and translation	10.00	Equipment	2.00	Training, seminars, and conferences	36.00	Surveys	1.00	Miscellaneous administration and support costs	1.90	Contingencies	9.93				
Item	Amount (\$'000)																						
Consulting services, 11.0 person-months	133.42																						
International and local travel	5.75																						
Reports, communications, and translation	10.00																						
Equipment	2.00																						
Training, seminars, and conferences	36.00																						
Surveys	1.00																						
Miscellaneous administration and support costs	1.90																						
Contingencies	9.93																						
<b>2. Expansion and dissemination of wetland protection models and sharing of knowledge developed or accumulated for Sanjiang Plain</b>  2.1 Prepare an outline of a knowledge product on wetland protection by month 1 2.2 Conduct the first consultation workshop by month 2 2.3 Prepare and submit to ADB and the HPG a draft knowledge product by month 5 2.4 Conduct the second consultation workshop by month 5 2.5 Edit the draft knowledge product and publish the final version by month 10 2.6 Conduct the final international workshop to launch the knowledge product; discuss TA findings, remaining challenges, and measures to solve them by month 11	<table border="1"> <thead> <tr> <th colspan="2" data-bbox="922 766 1455 863"><b>Multi-Donor Trust Fund under the Water Financing Partnership Facility:<sup>e</sup> \$300,000</b></th> </tr> <tr> <th data-bbox="922 863 1455 926">Item</th> <th data-bbox="1328 863 1455 926">Amount (\$'000)</th> </tr> </thead> <tbody> <tr> <td data-bbox="922 926 1455 980">Consulting services, 13.5 person-months</td> <td data-bbox="1328 926 1455 980">212.32</td> </tr> <tr> <td data-bbox="922 980 1455 1014">International and local travel</td> <td data-bbox="1328 980 1455 1014">13.78</td> </tr> <tr> <td data-bbox="922 1014 1455 1077">Reports, communications, and translation</td> <td data-bbox="1328 1014 1455 1077">17.00</td> </tr> <tr> <td data-bbox="922 1077 1455 1110">Equipment</td> <td data-bbox="1328 1077 1455 1110">3.00</td> </tr> <tr> <td data-bbox="922 1110 1455 1173">Training, seminars, and conferences</td> <td data-bbox="1328 1110 1455 1173">34.00</td> </tr> <tr> <td data-bbox="922 1173 1455 1207">Surveys</td> <td data-bbox="1328 1173 1455 1207">4.00</td> </tr> <tr> <td data-bbox="922 1207 1455 1270">Miscellaneous administration and support costs</td> <td data-bbox="1328 1207 1455 1270">2.90</td> </tr> <tr> <td data-bbox="922 1270 1455 1304">Contingencies</td> <td data-bbox="1328 1270 1455 1304">13.00</td> </tr> <tr> <td colspan="2" data-bbox="922 1304 1455 1499">Note: The government will provide counterpart support in the form of office accommodation, domestic transportation, remuneration, per diem for counterpart staff, and other in-kind contributions.</td> </tr> </tbody> </table>	<b>Multi-Donor Trust Fund under the Water Financing Partnership Facility:<sup>e</sup> \$300,000</b>		Item	Amount (\$'000)	Consulting services, 13.5 person-months	212.32	International and local travel	13.78	Reports, communications, and translation	17.00	Equipment	3.00	Training, seminars, and conferences	34.00	Surveys	4.00	Miscellaneous administration and support costs	2.90	Contingencies	13.00	Note: The government will provide counterpart support in the form of office accommodation, domestic transportation, remuneration, per diem for counterpart staff, and other in-kind contributions.	
<b>Multi-Donor Trust Fund under the Water Financing Partnership Facility:<sup>e</sup> \$300,000</b>																							
Item	Amount (\$'000)																						
Consulting services, 13.5 person-months	212.32																						
International and local travel	13.78																						
Reports, communications, and translation	17.00																						
Equipment	3.00																						
Training, seminars, and conferences	34.00																						
Surveys	4.00																						
Miscellaneous administration and support costs	2.90																						
Contingencies	13.00																						
Note: The government will provide counterpart support in the form of office accommodation, domestic transportation, remuneration, per diem for counterpart staff, and other in-kind contributions.																							

ADB = Asian Development Bank, PRC = People's Republic of China, HPG = Heilongjiang provincial government, TA = technical assistance.

<sup>a</sup> The eight key targeted globally threatened species are Baikal teal, hooded crane, lesser white-fronted goose, scaly-sided Merganser, Oriental stork, red-crowned crane, swan goose, and white-naped crane.

<sup>b</sup> The six model nature reserves are Angbanhe, Dajiahe, Naolihe, Qixinghe, Xingkaihu, and Zhenbaodao.

<sup>c</sup> The starting point of all references to "by month xx" in this section is the estimated TA commencement of 12 May 2014.

<sup>d</sup> ADB. 2005. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Global Environment Facility Grant to the People's Republic of China for the Sanjiang Plain Wetlands Protection Project*. Manila (Loan 2157-PRC/TA 4571-PRC).

<sup>e</sup> Contributors: the governments of Australia, Austria, Norway, Spain, and Switzerland. Administered by ADB.

Source: Asian Development Bank.

**COST ESTIMATES AND FINANCING PLAN**  
(\$'000)

Item	Amount
<b>A. Asian Development Bank<sup>a</sup></b>	
1. Consultants	
a. Remuneration and per diem	
i. International consultants	59.94
ii. National consultants	73.48
b. International and local travel	5.75
c. Reports and communications	10.00
2. Equipment <sup>b</sup>	2.00
3. Training, seminars, and conferences	
a. Facilitators	6.00
b. Training program	30.00
4. Surveys	1.00
5. Miscellaneous administration and support costs	1.90
6. Contingencies	9.93
<b>Subtotal (A)</b>	<b>200.00</b>
<b>B. Multi-Donor Trust Fund under the Water Financing Partnership Facility<sup>c</sup></b>	
1. Consultants	
a. Remuneration and per diem	
i. International consultants	143.66
ii. National consultants	68.66
b. International and local travel	13.78
c. Reports and communications	17.00
2. Equipment <sup>b</sup>	3.00
3. Training, seminars, and conferences	
a. Facilitators	5.00
b. Training program	29.00
4. Surveys	4.00
5. Miscellaneous administration and support costs	2.90
6. Contingencies	13.00
<b>Subtotal (B)</b>	<b>300.00</b>
<b>Total</b>	<b>500.00</b>

Note: The technical assistance (TA) is estimated to cost \$625,000, of which contributions from the Asian Development Bank and the Multi-Donor Trust Fund under the Water Financing Partnership Facility are presented in the table above. The government will provide counterpart support in the form of office accommodation, domestic transportation, remuneration, per diem for counterpart staff, and other in-kind contributions. The value of government contribution is estimated to account for 20% of the total TA cost. Funding from the Multi-Donor Trust Fund will be utilized first on a front-loading basis.

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

<sup>b</sup> Equipment to be procured: Asian Development Bank: one office computer with wireless broadband internet access (\$1,500), one digital cameras (\$350), and other small peripherals (\$150) and Multi-Donor Trust Fund under the Water Financing Partnership Facility: one office computer with wireless broadband internet access (\$1,500), one printer (\$750), and one fax machine (\$750).

<sup>c</sup> Contributors: the governments of Australia, Austria, Norway, Spain, and Switzerland. Administered by ADB.

Source: Asian Development Bank estimates.

## OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

### A. Implementation Arrangements

1. The TA will be carried out by a team of consultants engaged through a firm, providing 8.5 person-months of international and 16.0 person-months of national consulting services. ADB will engage the consultants following the Guidelines on the Use of Consultants (2013, as amended from time to time). The consulting firm will be selected using simplified technical proposals and quality- and cost-based selection with a quality–cost ratio of 80:20.

### B. Terms of Reference

2. **Wetland nature reserve management specialist and team leader** (1 international, 5.0 person-months). The specialist must have a university or postgraduate degree or equivalent qualification in fields related to wetland nature reserve management, and more than 15 years of work experience in wetland nature reserve management. Experience in conducting projects as a team leader will be highly regarded. The specialist will have overall substantive and administrative responsibility for effective and timely implementation of the technical assistance (TA), and quality and consistency of all TA outputs; and lead in formulating and developing TA outputs by coordinating all TA activities, ensuring and coordinating stakeholder participation, coordinating and consolidating inputs of government agencies and other specialists, and appropriately managing other specialists. The specialist must ensure that all consultants work closely with each other so that all individual components are well integrated and complement each other in the TA outputs. Specifically, the specialist will

- (i) review past and ongoing activities for protection of Sanjiang Plain and other wetlands in the People's Republic of China (PRC); and in consultation with other specialists, identify achievements and remaining challenges, particularly those under the Sanjiang Plain Wetlands Protection Project;<sup>1</sup>
- (ii) assess the Heilongjiang provincial government (HPG), local government, and nature reserve staff capacity and training needs for wetland restoration, recovery of wildlife species and reduction of resource exploitation, and monitoring of wildlife species;
- (iii) provide the national capacity development specialist with a training program for wetland restoration, recovery of wildlife species and reduction of resource exploitation, and monitoring of wildlife species;
- (iv) prepare an outline of the knowledge product in consultation with other specialists; and draft sections of the knowledge product on wetland restoration, wildlife species recovery, and reduction of resource exploitation, including achievements, remaining challenges, and lessons from the Sanjiang Plain Wetlands Protection Project, key messages for future wetland protection, and references using the format of the Asian Development Bank (ADB);
- (v) prepare or collect figures, tables, boxes, and photographs, with references as necessary in ADB format, to be incorporated in sections of the knowledge product on wetland restoration, wildlife species recovery, and reduction of resource exploitation;
- (vi) organize the main text of the draft knowledge product and sets of figures, tables, boxes, and photographs, consolidating other specialists' inputs;

<sup>1</sup> ADB. 2005. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Global Environment Facility Grant to the People's Republic of China for the Sanjiang Plain Wetlands Protection Project*. Manila (Loan 2157-PRC/TA 4571-PRC).

- (vii) present the sections of the draft knowledge product on wetland restoration, wildlife species recovery, and reduction of resource exploitation at an international workshop;
- (viii) revise sections of the draft knowledge product on wetland restoration, wildlife species recovery, and reduction of resource exploitation, incorporating comments made by ADB, the HPG, and other relevant agencies and specialists; revise the main text and sets of figures, tables, boxes, and photographs, consolidating other specialists' inputs;
- (ix) conduct training on wetland restoration, recovery of wildlife species and reduction of resource exploitation, and monitoring of wildlife species, based on the training program;
- (x) assist HPG staff, particularly of nature reserves, in continuously implementing and expanding the achievements of the Sanjiang Plain Wetlands Protection Project for wetland restoration, wildlife species recovery, reduction of resource exploitation, and monitoring of wildlife species;
- (xi) present the sections of the knowledge product and TA findings for wetland restoration, wildlife species recovery, and reduction of resource exploitation; and discuss remaining challenges and measures to solve them at the final international workshop; and
- (xii) prepare inception, interim, draft final, and final reports, consolidating inputs from the other specialists.

3. **Watershed management specialist** (1 international, 1.5 person-months). The specialist must have a university or postgraduate degree or equivalent qualification in fields related to watershed management for wetland protection, and more than 10 years of work experience in watershed management for wetland protection. The specialist will

- (i) draft a section of the knowledge product on watershed management, including achievements, remaining challenges, lessons from the Sanjiang Plain Wetlands Protection Project, key messages for future wetland protection, and references following the ADB format;<sup>2</sup>
- (ii) prepare or collect figures, tables, boxes, photographs, and references as necessary following ADB format, to be inserted in the section of the knowledge product on watershed management;
- (iii) present the section on watershed management at an international workshop;
- (iv) revise the section on watershed management, incorporating comments made by ADB, the HPG, and other relevant agencies and specialists;
- (v) assist staff of the HPG and forest farms in continuously implementing and expanding the achievements of the Sanjiang Plain Wetlands Protection Project for watershed management;
- (vi) present the section of the knowledge product and TA findings on watershed management, and discuss remaining challenges and measures to solve them at the final international workshop; and
- (vii) provide the team leader with inputs for inception, interim, draft final, and final reports.

---

<sup>2</sup> The specialist will quantify effects on wetland protection of new forestry plantations and existing forestry treatment conducted under the Sanjiang Plain Wetlands Protection Project. The effects to be quantified include (i) increase of water retention capacity of the upstream areas, delay in release of water from the upstream areas to wetlands, increase of ratio of water supplied to wetlands against the amount of rainfall, and increase of water in wetlands; and (ii) mitigation of soil erosion in upstream areas, and mitigation of sedimentation in wetlands. The effects seem to differ depending on conditions, such as type of tree species, age of trees, density of trees, and type of soil.

4. **Alternative livelihood specialist** (1 international, 2.0 person-months). The specialist must have a university or postgraduate degree or equivalent qualification in fields related to developing alternative livelihoods, and more than 10 years of work experience in developing alternative livelihoods for restoration of wetlands or lakes. The specialist will

- (i) assess HPG, local government, and nature reserve staff capacity and training needs for alternative livelihood development, including development of ecotourism and land- and water-intensive eco-agriculture;
- (ii) provide the national capacity development specialist with a training program for alternative livelihood development, including development of ecotourism and land- and water-intensive eco-agriculture;
- (iii) draft a section of the knowledge product on alternative livelihood development, including achievements, remaining challenges, lessons from the Sanjiang Plain Wetlands Protection Project, key messages for future wetland protection, and references following ADB format;
- (iv) prepare or collect figures, tables, boxes, and photographs, with references as necessary following ADB format, to be incorporated in the section of the knowledge product on alternative livelihood development;
- (v) present the section on alternative livelihood development at an international workshop;
- (vi) revise the section on alternative livelihood development, incorporating comments made by ADB, the HPG, and other relevant agencies and specialists;
- (vii) conduct training on alternative livelihood development, including development of ecotourism and land- and water-intensive eco-agriculture based on the training program;
- (viii) assist staff of the HPG, particularly of nature reserves, in continuously implementing and expanding achievements of the Sanjiang Plain Wetlands Protection Project for alternative livelihood development;
- (ix) present the section of the knowledge product and TA findings on alternative livelihood development, and discuss remaining challenges and measures to solve them at the final international workshop; and
- (x) provide the team leader with inputs for inception, interim, draft final, and final reports.

5. **Wetland biodiversity specialist and deputy team leader** (1 national, 7.0 person-months). The specialist must have a university or postgraduate degree or equivalent qualification in fields related to wetland biodiversity management, have more than 10 years of work experience in wetland biodiversity management, have demonstrated experience in the conservation of migratory water birds and other wetland fauna, and have English speaking and writing skills. The specialist will assist the international wetland nature reserve management specialist and team leader in accomplishing the tasks related to recovery of wildlife species, reduction of resource exploitation, and monitoring of wildlife species. The specialist will undertake any other necessary work assigned by the team leader.

6. **Alternative livelihoods specialist** (1 national, 4.0 person-months). The specialist must have a university or postgraduate degree or equivalent qualification in fields related to alternative livelihood development, have more than 7 years of work experience in alternative livelihood development for restoration of wetlands and/or lakes; and have English speaking and writing skills. The specialist will assist the international alternative livelihoods specialist and undertake any other necessary work assigned by the team leader.

7. **Capacity development specialist** (1 national, 5.0 person-months). The specialist must have a university or postgraduate degree or equivalent qualification in fields related to capacity development, have more than 7 years of work experience in capacity development, and have English speaking and writing skills. The specialist will

- (i) prepare a training program for program for wetland restoration, recovery of wildlife species and reduction of resource exploitation, monitoring of wildlife species, and alternative livelihood development, consolidating inputs from other specialists;
- (ii) plan, design, organize, and implement training based on the training program;
- (iii) plan, design, organize, and implement two international workshops: the first workshop to discuss the draft knowledge product; and the second to launch the knowledge product and discuss TA findings, remaining challenges, and measures to solve them;
- (iv) provide the team leader with inputs for inception, interim, draft final, and final reports; and
- (v) undertake any other necessary work assigned by the team leader.

### C. Reporting Requirements

8. The inception report will present (i) an approach for the capacity development TA, including a work plan and implementation schedule; (ii) past and ongoing activities for protection of Sanjiang Plain and other wetlands in the PRC, and the achievements and remaining challenges, particularly those under the Sanjiang Plain Wetlands Protection Project; (iii) outline of the knowledge product; (iv) results of the assessment of HPG, local government, and nature reserve staff capacity for wetland protection and training needs; and (iv) training program for wetland restoration, recovery of wildlife species and reduction of resource exploitation, monitoring of wildlife species, and alternative livelihood development.

9. The draft knowledge product should contain sections for watershed management (particularly forest improvement), wetland restoration, wildlife species recovery, reduction of resource exploitation, and alternative livelihoods (particularly ecotourism and water- and land-intensive eco-agriculture), including achievements, suggested revisions to the achievements, remaining challenges, and lessons from the Sanjiang Plain Wetlands Protection Project, key messages for future wetland protection, and references following the ADB format. The draft knowledge product will include the main text and sets of figures, tables, boxes, and photographs.

10. The interim report will present (i) the contents of the inception report; (ii) the revised draft knowledge product incorporating comments made by ADB, the HPG, and other relevant agencies and specialists; and (iii) summary of training conducted. The draft final report will present the updated contents of the interim report, and summary of discussions at the final international workshop. The final report will reflect comments made by ADB and the HPG. The inception, interim, and draft final reports; and the draft knowledge product will be subject to review by ADB and the HPG.

11. All reports and the draft knowledge product will be written in English and translated into Chinese. Three copies of each of the reports and draft knowledge product will be submitted to ADB in English, and five copies in both English and Chinese will be submitted to the HPG. In addition, soft copies of the draft knowledge product will be submitted to ADB in a format suitable for editing and publication.