Final Report

Project Number: 40052
September 2007

Project Administration Manual

People’s Republic of China:

Kunming Qingshuihai Water Supply Project

Asian Development Bank
# Table of Contents

I. PROJECT DESCRIPTION  
   A. Project Area and Location 1  
   B. Objectives – Impact and Outcome 1  
   C. Components and Outputs 1  
   D. Special Features 2  

II. COST ESTIMATES AND FINANCING PLAN 3  
   A. Cost Estimates 3  
   B. Financing Plan 4  

III. IMPLEMENTATION ARRANGEMENTS 5  

IV. PROCUREMENT 5  

V. CONSULTING SERVICES 6  

VI. DISBURSEMENT ARRANGEMENTS 6  

VII. ACCOUNTING, AUDITING, AND REPORTING 7  

VIII. PROJECT PERFORMANCE MONITORING AND EVALUATION 7  

IX. ANTICORRUPTION MEASURES 8  

X. REPORTING REQUIREMENTS 8  

XI. MAJOR LOAN COVENANTS (ASSURANCES) 9  

XII. UN HABITAT GRANT FINANCING 9  

XIII. KEY PERSONS INVOLVED IN THE PROJECT 9  

XIV. APPENDICES 10
**LIST OF APPENDICES**

<table>
<thead>
<tr>
<th>APPENDIX</th>
<th>DESCRIPTION</th>
<th>PAGE NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPENDIX 1</td>
<td>DESIGN AND MONITORING FRAMEWORK</td>
<td>11</td>
</tr>
<tr>
<td>APPENDIX 2</td>
<td>TECHNICAL DESCRIPTION OF PROJECT COMPONENTS</td>
<td>15</td>
</tr>
<tr>
<td>APPENDIX 3</td>
<td>DETAILED COST ESTIMATES BY EXPENDITURE CATEGORY</td>
<td>17</td>
</tr>
<tr>
<td>APPENDIX 4</td>
<td>FINANCING PLAN</td>
<td>18</td>
</tr>
<tr>
<td>APPENDIX 5</td>
<td>FLOW OF FUNDS AND ONLENDING ARRANGEMENTS</td>
<td>19</td>
</tr>
<tr>
<td>APPENDIX 6</td>
<td>PROJECT MANAGEMENT CHART</td>
<td>20</td>
</tr>
<tr>
<td>APPENDIX 7</td>
<td>PROJECT IMPLEMENTATION SCHEDULE</td>
<td>21</td>
</tr>
<tr>
<td>APPENDIX 8</td>
<td>PROCUREMENT PROCEDURES</td>
<td>23</td>
</tr>
<tr>
<td>APPENDIX 9</td>
<td>ADB REVIEW OF PROCUREMENT DECISIONS</td>
<td>50</td>
</tr>
<tr>
<td>APPENDIX 10</td>
<td>INDICATIVE PROCUREMENT PACKAGES</td>
<td>53</td>
</tr>
<tr>
<td>APPENDIX 11</td>
<td>OUTLINE TERMS OF REFERENCE FOR CONSULTING SERVICES</td>
<td>55</td>
</tr>
<tr>
<td>APPENDIX 12</td>
<td>DISBURSEMENT PROCEDURES</td>
<td>62</td>
</tr>
<tr>
<td>APPENDIX 13</td>
<td>SAMPLE AUDIT LETTER</td>
<td>71</td>
</tr>
<tr>
<td>APPENDIX 14</td>
<td>ROGRESS REPORT FORMAT</td>
<td>73</td>
</tr>
<tr>
<td>APPENDIX 15</td>
<td>PROJECT PERFORMANCE REPORT (PPR)</td>
<td>79</td>
</tr>
<tr>
<td>APPENDIX 16</td>
<td>PROJECT PERFORMANCE AND MONITORING SYSTEM (PPMS)</td>
<td>80</td>
</tr>
<tr>
<td>APPENDIX 17</td>
<td>CONTRACT AWARDS AND DISBURSEMENT PROJECTIONS SHEET</td>
<td>86</td>
</tr>
<tr>
<td>APPENDIX 18</td>
<td>PROJECT COMPLETION REPORT (PCR)</td>
<td>87</td>
</tr>
<tr>
<td>APPENDIX 19</td>
<td>LOAN COVENANTS</td>
<td>88</td>
</tr>
<tr>
<td>APPENDIX 20</td>
<td>TERMS OF REFERENCE FOR UN HABITAT GRANT FINANCING</td>
<td>89</td>
</tr>
<tr>
<td>APPENDIX 21</td>
<td>KEY PERSONS INVOLVED IN THE PROJECT</td>
<td>116</td>
</tr>
</tbody>
</table>
Project Location within China
Project Area and Layout in Kunming Municipality, Yunnan Province
PROJECT ADMINISTRATION MEMORANDUM

PREFACE

The Project Administration Manual (PAM) is intended to provide details of the Project components, inputs, outputs, financing plan, and implementation arrangements to facilitate Project completion. The PAM serves as the primary reference of Asian Development Bank (ADB), Executing Agency (EA), Project Management Office (PMO) and the implementing agency (IA) during Project implementation and will be updated periodically to incorporate significant changes in Project scope and implementation arrangements.

The implementation of Kunming Qingshuihai Water Supply Project is subject to the provisions of the applicable Loan and Project Agreements. The PAM will provide details to explain the application of these provisions. It replaces the Report and Recommendation of the President (RRP) and the Memorandum of Understanding (MOUs) prepared during project processing as the principal reference document for Project implementation.
## Loan Processing History

### Project Preparatory Technical Assistance (PPTA)

<table>
<thead>
<tr>
<th>Event</th>
<th>Date(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fact-Finding Mission</td>
<td>17 – 19 Mar 2006</td>
</tr>
<tr>
<td>Approval of the PPTA</td>
<td>21 Jun 2006</td>
</tr>
<tr>
<td>Consultants’ Selection</td>
<td>Oct 2006</td>
</tr>
<tr>
<td>PPTA Consultants’ Contract Negotiation</td>
<td>29-30 Nov 2006</td>
</tr>
<tr>
<td>Fielding of PPTA Consultants</td>
<td>5 Dec 2006</td>
</tr>
<tr>
<td>Consultant’s Submission of Inception Report</td>
<td>8 Jan 2007</td>
</tr>
<tr>
<td>Review Mission of PPTA (Inception)</td>
<td>12-24 Jan 2007</td>
</tr>
<tr>
<td>Consultants Submission of Interim Report</td>
<td>28 Feb 2007</td>
</tr>
<tr>
<td>Consultants Submission of Draft Final Report</td>
<td>20 Apr 2007</td>
</tr>
<tr>
<td>SIEE/SEIA Board Circulation</td>
<td>24 May 2007</td>
</tr>
<tr>
<td>Management Review Meeting</td>
<td>29 Jun 2007</td>
</tr>
<tr>
<td>Loan Appraisal</td>
<td>6 – 18 Jul 2007</td>
</tr>
<tr>
<td>Staff Review Committee Meeting</td>
<td>26 Jul 2007</td>
</tr>
<tr>
<td>Loan Negotiations</td>
<td>?? – ?? Sep 2007</td>
</tr>
<tr>
<td>Board Circulation</td>
<td>?? Oct 2007</td>
</tr>
<tr>
<td>Board Consideration and Approval</td>
<td>?? Nov 2007</td>
</tr>
<tr>
<td>Loan Agreement and Signing</td>
<td>?? November 2007</td>
</tr>
<tr>
<td>Loan Effectiveness</td>
<td>?? January 2008</td>
</tr>
</tbody>
</table>
## CURRENCY EQUIVALENTS
(as of 15 July 2007)

<table>
<thead>
<tr>
<th>Currency Unit</th>
<th>–</th>
<th>yuan (CNY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNY1.00</td>
<td>=</td>
<td>$0.1316</td>
</tr>
<tr>
<td>$1.00</td>
<td>=</td>
<td>CNY7.6</td>
</tr>
</tbody>
</table>

## ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
</tr>
<tr>
<td>BER</td>
<td>Bid Evaluation Report</td>
</tr>
<tr>
<td>COSO</td>
<td>Central Operations Service Office</td>
</tr>
<tr>
<td>DMC</td>
<td>Developing Member Country</td>
</tr>
<tr>
<td>EA</td>
<td>Executing Agency</td>
</tr>
<tr>
<td>EAP</td>
<td>Emergency Action Plan</td>
</tr>
<tr>
<td>EDZ</td>
<td>East Development Zone</td>
</tr>
<tr>
<td>EIA</td>
<td>environmental impact assessment</td>
</tr>
<tr>
<td>EMP</td>
<td>environmental management plan</td>
</tr>
<tr>
<td>FMA</td>
<td>Financial management assessment</td>
</tr>
<tr>
<td>FY</td>
<td>Financial year</td>
</tr>
<tr>
<td>FYPI</td>
<td>Five year plan</td>
</tr>
<tr>
<td>GIS</td>
<td>Graphical Information Systems</td>
</tr>
<tr>
<td>GPN</td>
<td>General Procurement Notice</td>
</tr>
<tr>
<td>IA</td>
<td>Implementing Agency</td>
</tr>
<tr>
<td>ICB</td>
<td>international competitive bidding</td>
</tr>
<tr>
<td>JBIC</td>
<td>Japan Bank for International Cooperation</td>
</tr>
<tr>
<td>JV</td>
<td>joint venture company</td>
</tr>
<tr>
<td>KMG</td>
<td>Kunming municipal government</td>
</tr>
<tr>
<td>KQWSP</td>
<td>Kunming Qingshuihai Water Supply Project</td>
</tr>
<tr>
<td>KWSG</td>
<td>Kunming Water Supply Group Company</td>
</tr>
<tr>
<td>LC</td>
<td>Letter of Credit</td>
</tr>
<tr>
<td>LIB</td>
<td>Limited International bid</td>
</tr>
<tr>
<td>MIS</td>
<td>Management Information System</td>
</tr>
<tr>
<td>MLSS</td>
<td>minimum living standard scheme</td>
</tr>
<tr>
<td>MOU</td>
<td>Memorandum of Understanding</td>
</tr>
<tr>
<td>MRM</td>
<td>Management Review Meeting</td>
</tr>
<tr>
<td>NADZ</td>
<td>New Airport Economic Zone</td>
</tr>
<tr>
<td>NCB</td>
<td>national competitive bidding</td>
</tr>
<tr>
<td>O&amp;M</td>
<td>operation and maintenance</td>
</tr>
<tr>
<td>OCR</td>
<td>Ordinary Capital Reserves</td>
</tr>
<tr>
<td>OGC</td>
<td>Office of the general counsel</td>
</tr>
<tr>
<td>PAI</td>
<td>Project administration instruction</td>
</tr>
<tr>
<td>PAM</td>
<td>Project administration manual</td>
</tr>
<tr>
<td>PCR</td>
<td>Project Completion Report</td>
</tr>
<tr>
<td>PDMF</td>
<td>Project Design and Monitoring Framework</td>
</tr>
<tr>
<td>PDI</td>
<td>Project Implementing Unit</td>
</tr>
<tr>
<td>PMO</td>
<td>project management office</td>
</tr>
<tr>
<td>PPMS</td>
<td>project performance monitoring system</td>
</tr>
</tbody>
</table>
PPR – Project Performance Report
PPTA – Project preparatory technical assistance
PQ – Pre-qualification
PRC – People’s Republic of China
PSP – private sector participation
QPR – Quarterly progress report
RP – resettlement plan
RRP – Report and recommendation to the President
SBD – Standard bidding documents
SDR – Special Drawing Rights
SEIA – Summary environment impact assessment
SIEE – Summary initial environmental examination
SN – Specific notice
SOE – Statement of expenditures
UN – United Nations
YPG – Yunnan Provincial Government

WEIGHTS AND MEASURES

ha – hectare
lpcd – liters per capita per day
km – kilometer
km² – square kilometer
m – meter
m³ – cubic meter

NOTES

(i) The fiscal year (FY) of the PRC Government ends on 31 December.
(ii) In this report, "$" refers to US dollars.

Vice President
C. Lawrence Greenwood, Jr., Operations Group 2

Director General
H. S. Rao, East Asia Department (EARD)

Director
R. Wihtol, Social Sectors Division, EARD

Team leader
T. Villareal, Urban Development Specialist, EARD

Team members
A. Djusupbekova, Senior Counsel, Office of the General Counsel
M. Gupta, Social Development Specialist, EARD
S.W. Handayani, Senior Social Development Specialist, Regional and Sustainable Development Department (RSDD)
S. Popov, Senior Environment Specialist, EARD
J. Wang, Project Officer (Urban Development and Water Supply), People’s Republic of China Resident Mission
I. PROJECT DESCRIPTION

A. Project Area and Location

1. The project area and its location within Yunnan Province, Southwest China, to the north of the Municipality and Provincial Capital of Kunming, are shown in the frontispiece. Qingshuihai (a natural lake) is about 80 km north of Kunming City, and the overall water source area around Qingshuihai lies wholly within Kunming Municipality. Consequently, all affected land and communities, within Xundian and Songming counties, and Guandu district of Kunming City, are all within the administrative boundaries of Kunming Municipal Government (KMG).

B. Objectives – Impact and Outcome

2. The impact of the project is to improve the urban environment, public health, and quality of life for urban residents of Kunming, and to sustain economic development of the city, through the provision of safe and reliable water supply. The outcome of the Project is the provision of more efficient, reliable, affordable, safe and clean raw water supply, and effective protection and management of water resources in Kunming (contributing to the achievement of Millenium Development Goal – 7 (MDG 7), target 10). The project design and monitoring framework is presented in Appendix 1.

C. Components and Outputs

3. The Project consists of three components, broken down into 12 subcomponents and 40 activities, which provide fundamental support to Kunming’s 11th FYP and beyond. The three components are (i) water resources development, (ii) water conveyance systems, and (iii) capacity development and project management. The subcomponents include (i) network of smaller dams such as Banqiaohe, Shiqiaohe, and Xintianhe, with combined reservoir volume of 4.3 million m$^3$, a diversion tunnel network, and river outlet works, a water intake tower and raw water supply tunnel; and (ii) tunnels and aqueducts of 5.72 kilometers (km) length from Qingshuihai dam to the downstream reservoir, Jingzhongshan of 9.6 million m$^3$ storage capacity. The components are summarized below, with further detail on the technical aspects of the components presented in Appendix 2.

4. Component 1: Water Resources Development. This component will increase water inflow to and perennial storage in the existing natural Qingshuihai water storage and distribution facilities (34 square kilometers), transit dams and reservoirs will be constructed to temporarily store water from the four surrounding catchments, namely Banqiaohe, Shiqiaohe, Xintianhe, and Tabizi Longtan Springs. From Qingshuihai, water will be transferred as a steady flow to Jinzhongshan. With the Project, quality of raw water will be maintained at Class II and will serve about 30% of domestic water and other nonindustrial demands in Kunming in 2012; sustained level of 24 hour water service and quality, and prevention of subsequent shortages, in Kunming urban area as demand increases; and improved overall public satisfaction with water supply services.

5. Component 2: Water Conveyance Systems. This component will take water from Qingshuihai under gravity which is energy efficient, to NADZ and Kunming through Jinzhongshan water storage and distribution facilities, and to the EDZ through the Songhuaba Reservoir. The conveyance works comprise: (i) 12.53 km of tunnel and other structures between Banqiaohe and Shiqiaohe reservoirs to Qingshuihai; (ii) 50.78 km of tunnel and other
structures from Qingshuihai to Jinzhongshan, with 43.11 km to Tongxin Gate (where the flow can be divided or directed to either Jinzhongshan and/or Songhuaba reservoirs) and 7.6 km from Tongxin Gate to Jinzhongshan; and (iii) rehabilitation of 5.7 km of channel from Tabizi Longtan to Qingshuihai, and 1.26 km of tunnel from Xintianhe to Qingshuihai.

6. **Component 3: Capacity Development and Project Management.** This component will ensure that the PMO, KWSG, and other stakeholders are able to effectively implement the Project and manage the project facilities. This component will include project management consulting services, capacity development and various trainings during loan implementation. Capacity development will strengthen the implementing agency’s (IA) capacity to ensure proper and sustainable operation, management, and maintenance of the water storage facilities and conveyance works. Further, focus is on enhanced operational efficiency and financial sustainability and compliance with all relevant national policies for cost recovery and enterprise reforms of the water supply sector and linking with different agencies and institutions on proper water resource protection and environmental management. The component will include (i) project management and construction supervision; (ii) set-up of financial management and project performance monitoring system (PPMS); (iii) safeguards management and monitoring, (iv) corporate and business planning; (v) tariff review; (vi) dam and reservoir management, operation and safety; (vii) on-line water quality monitoring; and (viii) development of a public awareness training on water demand measures and social impact monitoring.

D. **Special Features**

7. The Project is the first ADB-financed project in Kunming, and aims to support ongoing integration of water sector management policy and strategic reforms to ensure Kunming’s long-term sustainable growth. The Project builds on and advances ADB policy dialogue and initiatives with the Government in several key areas including: (i) cost recovery and tariff reform, (ii) pro-poor features, and (iii) corporate governance reform, and (iv) PSP. The Project has been designed to continue supporting KMG in creating an enabling environment to ensure success of its current public private partnership through tariff reform, strict enforcement of groundwater use restriction, enforcement of metering, and improved corporate governance. The water users will have representation in the board of directors of KWSG, thus providing a greater understanding of water supply and distribution issues in the community, ensuring improved accountability, improved services and stakeholders’ welfare.

8. **Cost Recovery and Tariff Reform.** The current tariff structure is well established and provides a strong foundation for project sustainability. It includes mechanisms to (i) ensure financial sustainability and full cost recovery, (ii) provide the poor access to water through lifeline block tariff, (iii) promote economic efficiency by adopting a progressive tariff structure, and (iv) meet the social objective of affordability with households meeting their basic water needs at affordable price. Tariffs meet the full cost recovery of O&M cost plus depreciation of water supply operations (treatment and distribution) and related water resources development, reservoir management, water source protection, reasonable return to the JV operator, and provision for debt service of all water supply sector loans. The tariff structure allows a transparent and administratively efficient charging where the amount charged to each type of customer is easily calculated and billed. Any application for tariff increase by KWSG is reviewed by KMG and approved by YPG is based on reasonable grounds of increase in costs and meeting efficiency standards. Financial sustainability of water resource investments is assured

1 These include World Bank and Japan Bank for International Cooperation loans for water treatment plants (WTP), Zhangjuhe reservoir and WTP No.7.
through water resource and water management fees which cover the costs of reservoir operations and management and catchment protection, and channeling to reservoir operators is transparent and efficient. The Project will assist KWSG to undertake a comprehensive review of the expected operating costs for Qingshuihai water storage and transfer system to cover proper O&M cost of the network of reservoirs before project completion. Through continuing policy dialogue and assurance from KMG, further tariff reforms will be promoted to include a single non-domestic tariff for industries and commercial users and that timely tariff increases are implemented. The UN-Habitat will provide grant financing to assist KMG to develop community-based water and sanitation services in poorer areas, implement water conservation and demand management measures and develop human value based sanitation and hygiene education among water users in Kunming.

9. **Pro-poor Features.** The Project will benefit approximately 3.4 million people, of whom 6.9% are classified as poor, and incorporates several features to ensure that the poor, women, and vulnerable groups benefit from investments under the Project. These include (i) a strong focus on health impacts, which are expected to benefit women and children disproportionately; (ii) support for continued provision of price subsidies and lifeline tariffs to contribute to cushioning the impact of tariff increases on the poor; and (iii) support for KMG’s cross-sectoral water source protection programs to ensure that communities will take ownership of environmental protection.

10. **Private Sector Participation.** KWSG has an operating PSP arrangement in the form of a JV between a KWSG subsidiary and Veolia (see para. 18) to ensure the efficient provision of safe and secure water supply to the growing urban population of Kunming. The Project will support the enabling environment for the successful operation of the JV through (i) continued tariff reform and regulation, (ii) ensuring that tariff increases are based on meeting efficiency targets and service standards, and (iii) the enforcement of the “one household, one meter” policy.

II. COST ESTIMATES AND FINANCING PLAN

A. **Cost Estimates**

11. The total project cost is estimated at $255.94 million equivalent, including taxes and duties. Table 1 provides a summary of the project investment plan and details are provided in Appendix 3.

<table>
<thead>
<tr>
<th>Item</th>
<th>Total Cost ($ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Base Costs</strong></td>
<td></td>
</tr>
<tr>
<td>1. Water Resources Development</td>
<td>55.74</td>
</tr>
<tr>
<td>2. Water Conveyance Systems</td>
<td>113.27</td>
</tr>
<tr>
<td>3. Capacity Development and Project Management</td>
<td>23.58</td>
</tr>
<tr>
<td><strong>Subtotal (A)</strong></td>
<td>192.59</td>
</tr>
<tr>
<td><strong>B. Contingencies</strong></td>
<td></td>
</tr>
<tr>
<td>1. Physical Contingencies</td>
<td>18.66</td>
</tr>
<tr>
<td>2. Price Contingencies</td>
<td>11.39</td>
</tr>
<tr>
<td><strong>Subtotal (B)</strong></td>
<td>30.05</td>
</tr>
<tr>
<td><strong>C. Financial Charges During Implementation</strong></td>
<td>33.30</td>
</tr>
<tr>
<td><strong>Total (A+B+C)</strong></td>
<td>255.94</td>
</tr>
</tbody>
</table>

*a* Includes taxes and duties of $10.0 million before contingencies.

*b* In May 2007 prices, and an exchange rate of CNY 7.6 to $1.0.
Included are construction management, research and design, environmental monitoring, project management and capacity development. The training and consulting services budget currently estimated at $1 million may be adjusted based on needs during Project implementation.

Physical contingencies computed at 10% for civil works, equipment, and land acquisition and resettlement; and 10% for capacity development and consulting services; and 6% for environment protection.

Price contingencies computed by year and expenditure type based on cumulative domestic and foreign price inflation. Exchange rate fluctuations are estimated using a purchasing power parity model of adjustment.

Includes interest during construction and commitment charges for Asian Development Bank and domestic loan. Interest during construction for ADB loan has been computed at the 5-year forward London interbank offered rate plus a spread of 0.6%.

Note: Columns may not add up because of rounding.
Source: Asian Development Bank estimates.

B. Financing Plan

The Government has requested a loan of $80 million to finance about 31.3% of the total project cost of $255.94 million. The proceeds of the ADB loan will be used to finance civil works, equipment and consulting services. Provincial and Municipal Governments will provide equity equivalent to $76.8 million or 30% of total project cost. The balance of $99.1 million, or 38.7%, will be provided by a domestic loan from the Agricultural Bank of China. The loan will carry an interest rate of 6.5%, a term of 15 years, including a grace period of 5 years. Both the Municipal Government and the Agricultural Bank of China have provided commitment letters confirming the availability of the domestic loans and equity funding. The equity injection by KMG would represent about 0.4% of annual expenditure over 2008 to 2012.

The ADB loan will come from its ordinary capital resources. The loan will carry an interest rate to be determined in accordance with ADB’s London interbank offer rate (LIBOR) for US dollar loans, an annual commitment charge of 0.35%, and such other terms and conditions set forth in the draft loan agreement. The loan will have a term of 25 years, including a grace period of 5 years. The financing plan for the Project is summarized in Table 2 and detailed in Appendix 4. Disbursements for eligible expenditures will be made on the basis of different ratios specified for each cost category.

<table>
<thead>
<tr>
<th>Source</th>
<th>Total Costs</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Asian Development Bank</td>
<td>80.00</td>
<td>31.3</td>
</tr>
<tr>
<td>B. Kunming Municipal Government</td>
<td>76.80</td>
<td>30.0</td>
</tr>
<tr>
<td>C. Local Bank</td>
<td>99.14</td>
<td>38.7</td>
</tr>
<tr>
<td>Total</td>
<td>255.94</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Asian Development Bank estimates.

The Government has provided ADB with (i) the reasons for its decision to borrow under ADB’s LIBOR-based lending facility on the basis of these terms and conditions, and (ii) an undertaking that these choices were its own independent decision and not made in reliance on any communication or advice from ADB. The Borrower of the Loan is the PRC. The Government of the PRC will relend the loan proceeds to YPG, which will on-lend the loan proceeds to KMG on the same terms and conditions as those of the ADB loan. The loan proceeds will then be onlent to KWSG on the same terms and conditions as those of the ADB loan. KWSG will assume the foreign exchange and interest rate variation risks for the ADB loan. The flow of funds and onlending arrangements are described in Appendix 5.
III. IMPLEMENTATION ARRANGEMENTS

1. Project Management

15. KMG will be the Executing Agency for the Project. The project leading group (PLG) will be responsible for project coordination, and will provide policy guidance during implementation. Headed by the vice mayor, the PLG will comprise representatives of the Kunming Financial Bureau, Kunming Environmental Protection Agency, related agencies, and county governments. PLG will meet every 2 weeks or as necessary.

16. The PMO has been established within the Kunming Development and Reform Commission. The PMO will serve as the secretariat of the PLG and will be responsible for coordinating the implementation of project activities. The PMO will (i) ensure adequate interdepartmental cooperation and interagency coordination, (ii) monitor the progress of project implementation, and (iii) coordinate communication with ADB and agencies concerned. The IA is KWSG which is a limited liability company incorporated under the PRC company law with initial registered capital. A board of directors oversees the financial and operational matters of KWSG including the (i) reviewing the progress of construction and approving annual construction plans, (ii) reviewing and approving annual financing budgets, and (iii) approving the procurement of major equipment and civil works contracts. KWSG is well organized, with experience implementing World Bank and JBIC loan projects. A project implementation unit has been established in the KWSG and is responsible for undertaking detailed implementation activities. The Project organization is in Appendix 6. The internal controls and accounting and auditing procedures of KWSG were reviewed through a Financial Management Assessment (FMA) and these are generally in order and will be fully functional and available for use for the construction and operational phase of the Project. An assessment was undertaken of KWSG’s technical and institutional capacities, which are adequate for project implementation. KWSG will retain the services of design institutes, procurement agencies and construction supervision companies to assist in implementation activities. The PMO and KWSG will have a number of their staff trained in project management and relevant ADB procedures during Project implementation.

2. Implementation Period

17. The Project will be implemented over a period of 5 years from 2008 to 2012 (Appendix 7). This schedule is considered realistic and achievable, because the project implementation structure and arrangements are already in place and preparatory works are under way. The detailed implementation plan is in Supplementary Appendix E to the RRP (available upon request).

IV. PROCUREMENT

18. Goods and works will be procured in accordance with ADB's Procurement Guidelines (2007, as amended from time to time). Contracts for goods estimated to exceed $1.0 million and contracts for works estimated to exceed $10.0 million will be procured using international competitive bidding procedures. Contracts for goods and contracts for works estimated to cost

---


3 Preparatory works such as detailed designs, land acquisition and resettlement are scheduled in late 2007.
equal or less than the international competitive bidding values, but more than $100,000, will be
procured using national competitive bidding procedures in accordance with the PRC Tendering
and Bidding Law (1999), including modifications agreed with ADB. Contracts for goods and
works estimated to cost $100,000 or less will be procured using shopping procedures. Procurement procedures are outlined in Appendix 8, ADB’s review of procurement decisions is
presented in Appendix 9, and the indicative procurement packages are given in Appendix 10.

V. CONSULTING SERVICES

19. Provision has been made for about 18 person-months of international and 72 person-
months of national consulting services to be funded under the Project to support the PMO and
IA in project implementation and capacity development. A consulting firm will be recruited in
accordance with ADB’s Guidelines on the Use of Consultants (2007, as amended from time to
time). The consulting firm will be selected in accordance with the quality- and cost-based
selection method using full technical proposal procedures. A fixed quality cost ratio of 80:20 will
be applied. The consulting services will cover (i) project management and construction
supervision; (ii) set-up of financial management and PPMS; (iii) safeguards management and
monitoring; (iv) corporate and business planning; (v) tariff review; (vi) dam and reservoir
management, operation and safety; (vii) on-line water quality monitoring; and (viii) development
of a public awareness training on water demand measures and social impact monitoring. PMO
will initiate advance action for the recruitment of consultants, including the short-listing of
qualified consultants. Outline terms of reference for consulting services are given in Appendix
11.

20. To expedite project implementation, PMO and KWSG requested ADB to approve
advance contracting, which includes, recruitment of consultants, and procurement of goods and
civil works; and the request for retroactive financing of eligible expenditures up to $8 million
(equivalent to 10% of the ADB loan), to be incurred prior to loan effectiveness but not earlier
than a maximum of 12 months before the signing of the loan agreement. Advance contracting
will include (i) prequalification of contractors, tendering, and bid evaluation for civil works
contract packages; (ii) preparation of tender documents for the procurement of materials and
equipment; (iii) award of contracts; and (iv) recruitment of consultants. The issuance of
invitations to bid under advance procurement action will be subject to ADB approval. All
advance procurement actions will be undertaken in accordance with ADB’s Procurement
Guidelines or Guidelines on the Use of Consultants (2007, as amended from time to time). KMG
has requested retroactive financing for civil works and equipment for site preparation and
construction of Qingshuihai dam component. The Government has been advised that approval
of advance contracting and retroactive financing does not commit ADB to finance the Project.

VI. DISBURSEMENT ARRANGEMENTS

21. The Loan proceeds will be disbursed in accordance with ADB’s Loan Disbursement
Handbook (2007, as amended from time to time). Summary details of the disbursement
procedures are presented in Appendix 12. To facilitate project implementation and funds flow,
an imprest account will be set up upon loan effectiveness and will be exclusively used to finance
ADB share of eligible expenditures. The imprest account will be managed by Kunming Municipal
Finance Bureau. The initial advance to be deposited to an imprest account will not exceed either

---

4 ADB will require KMG to use ADB-approved standard bidding documents (to be developed as necessary) to ensure
high quality and consistency of the documents to facilitate ADB review.

5 The advance action for the procurement and recruitment of consultants, and the uploading of the general
procurement notice on the ADB website, will facilitate the start of the advance action process.
6 months of estimated expenditures or 10% of the loan amount, whichever is lower. The direct payment procedures will apply for the large work contracts. If the Government initially funds eligible expenditures from its own resources the reimbursement procedures will be used. To expedite funds flow and simplify documentation process, the Statement of Expenditures (SOE) Procedure will be used for liquidation and replenishment of imprest account and reimbursement of eligible expenditures not exceeding $200,000 per individual payment. The payments in excess of SOE ceiling will be reimbursed, liquidated or replenished based on full supporting documentation process. The imprest account will be opened by KMG at a commercial bank acceptable to ADB.

VII. ACCOUNTING, AUDITING, AND REPORTING

22. The PMO will prepare semiannual progress reports indicating progress made, problems encountered during the period under review, steps taken or proposed to remedy the problems, proposed program of activities, and progress expected in the next half year. The IA will keep records to identify goods and services financed from the loan proceeds, and follow accounting principles and practices prescribed by the PRC’s Accounting Law. The law requires enterprises to prepare financial statements and generally follow internationally accepted accounting standards. The IA will maintain separate project accounts and records. The financial statements of the project accounts and the annual corporate financial statements for the IA will be subject to external audit by the KMG Audit Bureau, Yunnan Provincial Audit Bureau, and State Audit Administration. The audits will be carried out in accordance with regulations for auditing approved by the State Council and will meet ADB requirements. A separate auditor’s opinion on the use of the imprest account and SOE will be part of the audit reports. The IA’s annual audited financial statements and audited project accounts will be submitted to ADB no later than 6 months after the end of the fiscal year for the entire implementation period. A sample Audit Letter to be issued to the Borrower and copied to the EA and their auditors is attached as Appendix 13. YPG and KMG were informed of ADB’s policy requiring the submission of audited financial statements on time. YPG, KMG, and the IA will submit audited financial statements and reports to ADB concerning the use of the loan proceeds, project implementation, and IA performance. These reports will include (i) semiannual progress reports (Appendix 14) on project implementation; (ii) annual reports; and (iii) a project completion report (Appendix 17), not later than 6 months after the completion of the project facilities.

VIII. PROJECT PERFORMANCE MONITORING AND EVALUATION

23. The PPMS indicators include (i) quantity of clean water provided, (ii) improvements in management arrangements for project facilities, (iii) adoption of least cost project designs, (iv) enforcement of environmental regulations, (v) strengthening of water sector governance, and (vi) improved management capacity for water supply. The relevance and practicability of data collection for indicators was confirmed with the PMO.

24. At the start of project implementation, the PMO and the IA, with the assistance of consultants, will develop comprehensive PPMS procedures to generate data systematically on the inputs and outputs of the project components, as well as the agreed socioeconomic, environmental, and health indicators to be used to measure project impacts. A set of indicators for the monitoring of the future performance of the project facilities will be designed by the loan

---

6 In line with adequate financial capability of executing agency/IA based on the financial management assessment, the ceiling of the statement of expenditure is identified at a higher level to facilitate disbursement.

7 The IA now has three tiers of audit including (i) internal audit, (ii) municipal government audit, and (iii) provincial and state government audit.
implementation consultants before the start of operations. The PMO and IA will (i) refine the PPMS framework, (ii) confirm achievable targets, (iii) firm up monitoring and recording arrangements, and (iv) establish systems and procedures no later than 6 months after project inception.

25. Under the PPMS framework, baseline and progress data will be reported at the required time intervals by the IA, including semiannual reporting of the environmental management plan (EMP). The PMO will be responsible for analyzing and consolidating the data through its management information system that will be established at the time of loan implementation. The PPMS will be designed to permit adequate flexibility to adopt remedial action for project design, schedule, activities, and development impacts. The PMO, with the assistance of the consultants, will monitor and assess activities, and report to ADB on a quarterly basis on the physical implementation and financial aspects of the Project from start of project implementation to 2 years after project completion to ensure that impacts are monitored and reported in line with ADB requirements.

IX. ANTICORRUPTION MEASURES

26. ADB’s Anticorruption Policy (1998, as amended to date) was explained to and discussed with KMG and the IA. Consistent with its commitment to good governance, accountability, and transparency, ADB reserves the right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive, or coercive practices relating to the Project. To support these efforts, relevant provisions of ADB’s Anticorruption Policy are included in the loan covenants and the bidding documents for the Project. In particular, all contracts financed by ADB in connection with the Project shall include provisions specifying the right of ADB to audit and examine the records and accounts of KMG, IA, and all contractors, suppliers, consultants and other service providers as they relate to the Project. For the Project, KMG will undertake the following anticorruption actions: (i) involve full-time officials from assigned relevant bureaus to investigate corrupt practices in bidding and construction to enhance construction quality control and supervise effective work; (ii) introduce a dual-signing system in which the civil works contract winner also signs an anticorruption contract with the employer; (iii) periodically inspect the contractor’s activities related to fund withdrawals and settlements; (iv) engage the project management consultant to support PMO and the IA to ensure good governance, accountability, and transparency in project operations; and (v) in consultation with relevant central government ministries update rules and regulations on local and corporate governance and anticorruption and enhance transparency of the IA operations. Specific governance actions will be undertaken related to financial control and management, performance audits, public disclosure of financial statements and any proposed tariff increases on the project website.

X. REPORTING REQUIREMENTS

1. Quarterly Progress Report

27. An indication of the reporting requirements was outlined in Section VII above. Sample formats for Quarterly physical and financial progress reporting is presented in Appendix 14, along with description of the broad requirements. Progress reports should be designed so that ADB staff can readily capture key information for inputting into the project performance report (PPR). Please see PPR sample in Appendix 15. Appendix 16 outlines the requirements for project performance and monitoring (PPMS) in relation to the overall project design and monitoring framework presented in Appendix 1. The objective for the PPMS is to assess and
ensure the project outcomes are achieved, particularly in relation to the socio-economic impacts, resettlement plan and environmental impacts.

2. Annual Contract Awards and Disbursement Projections

28. PMO in coordination with KMG and the implementing agencies will submit to ADB an annual contract awards and disbursement projections. This requirement is effective in monitoring project implementation and will help identify impediments to implementation progress. The projection is submitted to ADB on 15 December of each year. The form is in Appendix 17.

3. Project Completion Report

29. Within 3 months of physical completion of the Project, the PMO with support from the IAs, will submit to ADB a completion report providing (i) details about implementation, (ii) actual costs incurred in relation to cost estimates, (iii) benefits, (iv) progress in the institutional area, and (v) other information that ADB may request. The outline of the report is in Appendix 18.

XI. MAJOR LOAN COVENANTS (ASSURANCES)

30. The major loan covenants are presented in Appendix 19.

XII. UN HABITAT GRANT FINANCING

31. UN-HABITAT proposes to finance a project on integrated environment improvement which will address drinking water supply/wastewater collection and treatment system/solid disposal treatment for communities in the mountainous areas of Kunming City, Yunnan Province, of the People’s Republic of China. As the Qingshuihai water supply project is accessing water resources from Kunming Municipal mountainous regions, there is a strong linkage with this programme, especially given the essential need to protect drinking water supplies. KMG’s request for grant assistance to support this programme has been submitted to ADB and the UN Habitat Office. The programme will support human habitat environment improvement for Kunming pilot area. The planned measures will protect water in the source areas, as well as lifestyle improvements for the local people, who live in the water source areas and are vulnerable to epidemic diseases because of insecure drinking water supply and quality. Strengthened water source protection and management will be accomplished by promoting systemic construction of wastewater collection and treatment/solid waste management. The overall UN Habitat Programme proposal is presented in Appendix 20 as a basis for further discussion.

XIII. KEY PERSONS INVOLVED IN THE PROJECT

32. A schedule of the key persons involved in the planning, development and implementation of the project is given in Appendix 21, as at the time of Project Appraisal. Subsequent review missions will periodically update this schedule.
XIV. APPENDICES

1. Design and Monitoring Framework
2. Technical Description of Project Components
3. Detailed Cost Estimates by Expenditure Category
4. Financing Plan
5. Flow of Funds and Onlending Arrangements
6. Project Management Chart
7. Project Implementation Schedule
8. Procurement Procedures
9. ADB Review of Procurement Decisions
10. Indicative Procurement Packages
11. Outline Terms of Reference for Consulting Services
12. Disbursement Procedures
13. Sample Audit Letter
14. Progress Report Format
15. Project Performance Report (PPR)
16. Project Performance and Management System (PPMS)
17. Contract Awards and Disbursement Projections Sheet
18. Project Completion Report
19. Loan Covenants
20. Terms of Reference for UN Habitat Grant Financing
21. Key Persons Involved in the Project
## APPENDIX 1

### DESIGN AND MONITORING FRAMEWORK

<table>
<thead>
<tr>
<th>Design Summary</th>
<th>Performance Targets/Indicators</th>
<th>Data Sources/ Reporting Mechanisms</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved urban environment, public health, and quality of life for urban residents in Kunming city and new development zones.</td>
<td>Increased raw water supply from 459.5 million m³ in 2007 to 558 million m³ in 2015 with water quality sustained at Class II.</td>
<td>Monitoring reports of Water Resources Conservancy Bureau, Water Supply Group, Health Bureau, Environmental Protection Bureau and Kunming Utilities Bureau.</td>
<td>• All applicable national, provincial and municipal environmental protection and management policies in the PRC are effectively enforced.</td>
</tr>
<tr>
<td></td>
<td>Reduction in the incidence of waterborne infectious diseases by 6% by 2015 from 2006 levels of 6,827 cases.</td>
<td>Health Bureau and Center for Disease Control data on drinking water quality and incidence of water infectious diseases.</td>
<td>• Timely construction of associated water treatment plants, water distribution networks, and wastewater treatment plants in NADZ and EDZ.</td>
</tr>
<tr>
<td></td>
<td>Decreased raw water treatment costs from CNY.57/m³ in 2007 to CNY.54/m³ by 2012 due to clean and low-cost gravity-fed raw water supply from Qingshuihai.</td>
<td>Operations reports from Water Supply Group.</td>
<td>• Maintenance of water subsidy under MLSS to ensure that poor households can afford access to water.</td>
</tr>
<tr>
<td></td>
<td>Reduction in water losses from 40% in 2007 to 20% by 2015.</td>
<td>Routine water testing results.</td>
<td>• Continued growth in demand for water supply service to achieve full capacity utilization.</td>
</tr>
<tr>
<td></td>
<td>Overall public satisfaction with water supply services and tariff increased from 75% in 2007 to 90% in 2015.</td>
<td>Operations reports from Water Supply Group.</td>
<td>• Lower tariffs approved than were projected.</td>
</tr>
<tr>
<td></td>
<td>Reduced groundwater use by industries by 50% by 2015 from 63.1 million m³ in 2007.</td>
<td>Annual socioeconomic surveys undertaken as part of the PPMS and KWSG customer satisfaction surveys. Tariff monitoring reports by KDRC and KUB.</td>
<td>• Urban growth, including influx of migrants, in Kunming exceeds forecasts and exerts more pressure on improved water supply infrastructure.</td>
</tr>
<tr>
<td></td>
<td>Increased investment and business opportunities with increased GDP rising annually by 9% until 2015 from CNY120 billion in 2006.</td>
<td>Monitoring reports of Water Conservation Office within KUB, Water Resources Bureau and Water Supply Group.</td>
<td>• Changes to pro-poor policy make water less affordable for poor households.</td>
</tr>
</tbody>
</table>

### Assumptions and Risks

**Assumptions**

- All applicable national, provincial and municipal environmental protection and management policies in the PRC are effectively enforced.
- Timely construction of associated water treatment plants, water distribution networks, and wastewater treatment plants in NADZ and EDZ.
- Maintenance of water subsidy under MLSS to ensure that poor households can afford access to water.
- Continued growth in demand for water supply service to achieve full capacity utilization.

**Risks**

- Lower tariffs approved than were projected.
- Urban growth, including influx of migrants, in Kunming exceeds forecasts and exerts more pressure on improved water supply infrastructure.
- Changes to pro-poor policy make water less affordable for poor households.
<table>
<thead>
<tr>
<th>Design Summary</th>
<th>Performance Targets/Indicators</th>
<th>Data Sources/ Reporting Mechanisms</th>
<th>Assumptions and Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome</strong></td>
<td>Improved provision of more efficient, reliable, affordable, safe and clean raw water supply, effective protection and management of water resources in Kunming (contributing to the achievement of Millennium Development Goal 7, target 10).</td>
<td>Supply of additional 111 million m³ of raw water of Class II quality from 2013. Sustained level of 24 hour water service and quality, and prevention of subsequent shortages, in Kunming from 2012. Ecological environment of the Dianchi Lake is improved through reduction in soil particles by 2013 by 30% compared to the 2007 level. Existence of an overall integrated watershed management strategy and regulations by 2012. Increased employment opportunities with the creation of about 4,200 temporary unskilled jobs during construction and full-time permanent jobs by 2012 for operation and maintenance. Up to 20% of skilled and unskilled construction jobs going to women. At least 70%-80% of unskilled construction jobs going to local people including ethnic minority.</td>
<td>Environment monitoring reports and periodic review of raw water quality and quantity by KWSG. Water pollution monitoring data by KEPB. KWSG regular monitoring report on the level of soil particles in the Lake, monitoring report on land use restrictions around the reservoirs and their watersheds. (Baseline to be established by PPMS). Documentation of strategy by KMG. To be collected by PMO from contractors’ employment records.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Risks</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Lack of effective coordination and monitoring mechanisms of relevant agencies on environmental protection and management. • Insufficient enforcement and control systems of environmental regulations.</td>
</tr>
<tr>
<td>Outputs</td>
<td>Performance Targets/Indicators</td>
<td>Data Sources/ Reporting Mechanisms</td>
<td>Assumptions and Risks</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Component I</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1 New reservoirs Shiqiaohe and Banqiaohe operational.</td>
<td>Storage capacities of 79,000 m³ (29 m high) and 2.515 million m³ (61.5 m high), respectively, available from December 2012.</td>
<td>Site inspection and project implementation reports of KWSG.</td>
<td></td>
</tr>
<tr>
<td>1.2 Rehabilitated Xintianhe Reservoir operational.</td>
<td>Storage capacity is 1.835 million m³ (28.9 m high), available from December 2012.</td>
<td>Construction supervision and monitoring reports from KWSG.</td>
<td></td>
</tr>
<tr>
<td>1.3 Qingshuihai Reservoir operational.</td>
<td>Storage capacity is 154.17 million m³ (13 m high), available from December 2012.</td>
<td>Environment monitoring reports from KWSG.</td>
<td></td>
</tr>
<tr>
<td>1.4 Tabizi Dragon Pool Diversion Weir operational.</td>
<td>Possible diversion with design flow of 1 m³/s from December 2012.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Component II</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conveyance systems are operational</td>
<td>Operation of 6 Tunnels, 3 Aqueducts, and other structures, start by December 2012.</td>
<td>Site inspection and project implementation reports of KWSG.</td>
<td></td>
</tr>
<tr>
<td>2.1 Shiqiaohe and Banqiaohe to Qingshuihai.</td>
<td>Operation of 10 Channels, 7 Structures and other construction, start by December 2012.</td>
<td>ADB Review Missions.</td>
<td></td>
</tr>
<tr>
<td>2.2 Tabizi Longtan to Qingshuihai.</td>
<td>Operation of 23 Tunnels, 16 Aqueducts and other construction, start by December 2012.</td>
<td>Construction supervision and monitoring reports from KWSG.</td>
<td></td>
</tr>
<tr>
<td>2.3 Qingshuihai to Tongxin gate.</td>
<td>Operation of 9 Tunnels and 9 Channels and other construction, start by December 2012.</td>
<td>Environment monitoring reports from KWSG.</td>
<td></td>
</tr>
<tr>
<td>2.4 Tongxin Gate to Jinzhongshan Reservoir</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Component III</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Management and Capacity Development</td>
<td>About 200 PMO and KWSG staff trained in project management by 2008.</td>
<td>PMO reports on trainings conducted.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>About 150 KWSG staff trained by 2011 in dam</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Resistance by civil society, stakeholders and affected people.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Local geological conditions affect construction activities.</td>
</tr>
</tbody>
</table>

Site inspection and project implementation reports of KWSG.
ADB Review Missions.
Construction supervision and monitoring reports from KWSG.
Environment monitoring reports from KWSG.
PMO reports on trainings conducted.
### Design Summary

<table>
<thead>
<tr>
<th>Performance Targets/Indicators</th>
<th>Data Sources/ Reporting Mechanisms</th>
<th>Assumptions and Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>construction, operation and maintenance 2011.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Activities with Milestones

**1. Component I: Water Reservoirs**
There are three (3) general activities:
Activity (1) Design of the facilities, acquire land, implement resettlement activities.
Activity (2) Construction of reservoir and associated infrastructure. Under each reservoir, the height of the reservoir is specified.
Activity (3) Monitor EMP and social impacts.

1.1 Construction of Qingshuihai Reservoir (13 m) by 4th quarter, 2009.
1.2 Construction of Jinzhongshan Reservoir (39 m) by 4th quarter, 2009.
1.3 Construction of Xintianhe Reservoir (28.9 m) by 3rd quarter, 2010.
1.4 Rehabilitation of Tabizi Spring Weir and Conveyance Canal (design flow - 1 m³/s) by 3rd quarter, 2010.
1.5 Construction of Shiqiaohe Reservoir (29 m) by 2nd quarter, 2011.
1.6 Construction of Banqiaohe Reservoir (61.5 m) by 1st quarter, 2012.

**2. Component II: Conveyance Systems**
There are three (3) general activities:
Activity (4) Design of the facilities, acquire land, implement resettlement activities.
Activity (5) Construction of conveyance system with design flow specified.
Activity (6) Monitor EMP and social impacts.

2.1 Dapindi Tunnel to Tongxin Gate bifurcation, including tunnels, siphons, aqueducts, siphons, channels/pipes and structures (6 m³/s) by 4th quarter, 2010.
2.2 Improve conveyance works and Maichong tunnel from Qingshuihai to new bifurcation structure at entrance to Dapindi Tunnel (10 m³/s) by 2nd quarter, 2011.
2.3 Tongxin Gate to Jinzhongshan reservoir, inclusive of tunnels, channels, and an outfall structure into the reservoir (6 m³/s) by 4th quarter, 2011.
2.4 Tongxin Gate to outfall into Songhuaba reservoir catchment stream (6 m³/s) by 4th quarter 2011.
2.5 Conveyance system from Shiqiao and Banqiao Rivers to Qingshuihai (15 m³/s) by 1st quarter, 2012.
2.6 Improve conveyance tunnel and other works from Xintian to Qingshuihai (4 m³/s) by 1st quarter, 2012.

**3. Component III: Project Management and Capacity Development**
Activity (8) Develop plans, budgets, procedures for loan by 2008.
Activity (9) Complete KMG, PMO and IA staff training by 2012.
Activity (10) PMO and IA have refined PPMS and established targets and procedures no later than 6 months after loan effectiveness.

### Inputs

**ADB Inputs**
- $80 million loan

**KMG and IA**
- About $75.94 million equivalent in counterpart funds ($76.8 million in government funds and $99.14 million domestic bank loan).
APPENDIX 2
TECHNICAL DESCRIPTION OF PROJECT COMPONENTS

A. Project Scope and Components

1. There are three main project components as follows: (i) Water Sources Development; (ii) Water Conveyance Systems; and (iii) Capacity Development and Project Management. Component 1 relates to the development of infrastructure to transfer water from several small catchments into Qingshuihai Lake, a natural lake which already provides water to Xundian Town and the adjacent agricultural area. Component 2 involves the tunnels and associated works needed to convey the water from source to Qingshuihai, and from Qingshuihai to Jinzhongshan reservoir for release to Kunming and the development zones. Component 3 covers the required capacity development and project management to ensure timely project implementation and future operation of Project facilities.

B. Component 1: Resources Development

2. The Project involves the development of two new reservoirs, Banqiaohe and Shiqiaohe, and the increase in capacity of three reservoirs, Xintianhe, Qingshuihai (a natural lake) and Jinzhongshan. Jinzhongshan is a receiving reservoir for water transfer from Qingshuihai. It is located in Songming County, to the northwest of the proposed new airport development zone (NADZ), and will act as the balancing and emergency storage for incoming flows for Kunming and new development zones. Details are presented in Table A4.1.

3. Qingshuihai is currently supplemented by the water transfer of flow from the neighboring Xintianhe reservoir, that lies to the west, but as the existing reservoir is silted up, water transfer to Qingshuihai is limited to ‘run of river’, through the existing tunnel. The inlet portal to this tunnel also needs rehabilitation. The Tabizi Longtan springs transfer to Qingshuihai has fallen, so the small diversion weir and control gates need to be rehabilitated, to restore the supply to the conveyance channel (to be rehabilitated). Two dams, Banqiaohe and Jinzhongshan are greater than 30 meters high, and in both cases, they sit across narrow valleys, so they are not very long embankments. Additionally, the planned storage for these reservoirs is quite small, with only Qingshuihai (already at 117 million cubic meters) greater than 10 million cubic meters. Key concerns that have been assessed with the design of these dams by the project preparatory technical assistance are (i) hydrology and yield; (ii) sediment inflow and management; (iii) active storage capacity; (iv) flood management; (v) structure monitoring, stability, and safety (in a seismically active region); (vi) operational characteristics to effect transfers; and (vii) impacts on existing catchments, environment and downstream riparian water users. The design and planning were in accordance with People’s Republic of China (PRC) safety and quality standards and safeguard measures. Details are in Supplementary Appendix C to the RRP.

4. The implementation plan (Appendix 8) groups all the water source dam and transfer system works infrastructure together, for completion and commissioning by 2012. The works will be divided into four construction contracts (Appendix 9), with the Shiqiaohe and Xintianhe dams and appurtenant river management (during construction) and water transfer works grouped under one contract. Banqiaohe, Qingshuihai and Jinzhongshan dams and appurtenant structures will each be an individual contract, and by virtue of their location, there is no dependency between them. The Qingshuihai to Tongxin Gate conveyance works are foreseen as the most critical link for completion.

5. The operations rules for the reservoirs will include periodic flushing of sediment in conjunction with major runoff from the catchments. Dam designs have included appropriate water
pressure, settlement and movement monitoring systems and will be linked by telemetry to the central Qingshuihai management office. A panel of experts will review and advice in relation to the dams' design, construction and monitoring.

C. Component 2: Water Conveyance Systems

6. The feasibility study report outlines the scale of the proposed conveyance works, in order to effectively transfer the required quantity of water each year from the four sources to Qingshuihai, and from Qingshuihai to Xundian and Kunming. The conveyance channels have been sized to allow for variable rate discharge, up to a maximum sufficient for the design transfer volume to be delivered each year. As the source river flow will be variable, due to unpredictable rainfall patterns and runoff, the conveyance channels have a flow capacity some 3 to 4 times greater than the required average transfer flow requirement.

7. New conveyance works will be required from Shiqiaohe and Banqiaohe reservoirs to Qingshuihai, and from the outlet of the Qingshuihai Maichong tunnel to Xundian, and Jinhongshan reservoir. The one at Xintianhe and the existing outlet (Maichong tunnel) from Qingshuihai will be rehabilitated while the transfer outlet from Jinhongshan will be part of water supply to the NADZ. The levels for the transfer inlets at Banqiaohe, Shiqiaohe and Xintianhe are set so as to effectively manage sediment in the reservoirs, with flushing capability through the dams, to minimize the risk of sediment transfer to Qingshuihai, and associated risk for sediment deposition in the conveyance tunnels. For implementation, development of the conveyance systems comprising of tunnels, aqueducts and channels (73.89 kilometers in length) will be implemented in three groups: (i) Shiqiaohe, Banqiaohe and Tabizi to Qingshuihai (source inflows); (ii) Qingshuihai to Tongxin Gate (regulated flow to Jinhongshan and/or Songhuaba); and (iii) Tongxin Gate to Jinhongshan (regulated flow to Jinhongshan). The testing and commissioning of the completed conveyance works to Jinhongshan is third quarter of 2012.

D. Component 3: Capacity Development and Project Management

8. This component comprises (i) project management to ensure that project performance monitoring system and reporting requirements are put in place; and (ii) assistance for capacity development and training on dam/reservoir management and water quality on-line monitoring, public awareness, corporate planning and strategic financial planning and management. The consulting services will ensure close alignment between Kunming Municipal Government and Asian Development Bank (ADB) management procedures and requirements while ensuring project activities are completed without delay. The capacity development will support timely monitoring and reporting on the resettlement, environment and social impacts management activities, and baseline indicators are established for monitoring project progress and performance, and strengthening financial and managerial capacity of project management office and Kunming Water Supply Group Company during project implementation and subsequent operation and maintenance stages.

9. Capacity development shall strengthen the understanding of ADB implementation guidelines and requirements, and facilitate strengthened coordination between the project stakeholders. ADB has provided general training in Kunming on procurement and resettlement during the project processing, in coordination with the Ministry of Finance which integrate PRC domestic processing and ADB project preparation processes. Further training on project-specific procurement and disbursement procedures will be undertaken at project inception to reinforce compliance with financial management, procurement and resettlement procedures associated with ADB loan funded project.
# Appendix 3
## Detailed Cost Estimates by Expenditure Category

**Table A5.1: Summary Cost Estimates**

<table>
<thead>
<tr>
<th>Items</th>
<th>CNY '000</th>
<th>$ '000</th>
<th>% Foreign Exchange</th>
<th>% Total Base Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Local</td>
<td>Foreign</td>
<td>Total</td>
<td>Local</td>
</tr>
<tr>
<td>A. Base Cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Civil Works</td>
<td>508,288</td>
<td>485,148</td>
<td>993,436</td>
<td>66,880</td>
</tr>
<tr>
<td>2. Equipment</td>
<td>-</td>
<td>13,907</td>
<td>13,907</td>
<td>-</td>
</tr>
<tr>
<td>3. Land Acquisition and Resettlement</td>
<td>179,421</td>
<td>-</td>
<td>179,421</td>
<td>23,608</td>
</tr>
<tr>
<td>4. Environmental Management and Monitoring</td>
<td>6,412</td>
<td>-</td>
<td>6,412</td>
<td>844</td>
</tr>
<tr>
<td>5. Soil and Water Conservation</td>
<td>22,049</td>
<td>-</td>
<td>22,049</td>
<td>2,901</td>
</tr>
<tr>
<td>7. Preliminary and Detailed Design</td>
<td>109,892</td>
<td>-</td>
<td>109,892</td>
<td>14,459</td>
</tr>
<tr>
<td>8. Capacity Development and Project Management</td>
<td>-</td>
<td>7,600</td>
<td>7,600</td>
<td>-</td>
</tr>
<tr>
<td>9. Taxes and Duties</td>
<td>76,093</td>
<td>-</td>
<td>76,093</td>
<td>10,012</td>
</tr>
<tr>
<td>Subtotal (A)</td>
<td>957,065</td>
<td>506,655</td>
<td>1,463,720</td>
<td>125,930</td>
</tr>
<tr>
<td>B. Contingencies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Contingencies</td>
<td>141,776</td>
<td>-</td>
<td>141,776</td>
<td>18,655</td>
</tr>
<tr>
<td>Price Contingencies</td>
<td>86,536</td>
<td>-</td>
<td>86,536</td>
<td>11,386</td>
</tr>
<tr>
<td>Subtotal (B)</td>
<td>228,312</td>
<td>-</td>
<td>228,312</td>
<td>30,041</td>
</tr>
<tr>
<td>C. Financial Charges During Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest During Construction</td>
<td>151,776</td>
<td>93,914</td>
<td>245,690</td>
<td>19,971</td>
</tr>
<tr>
<td>Commitment Charges</td>
<td>-</td>
<td>7,432</td>
<td>7,432</td>
<td>-</td>
</tr>
<tr>
<td>Subtotal (C)</td>
<td>151,776</td>
<td>101,346</td>
<td>253,122</td>
<td>19,971</td>
</tr>
<tr>
<td>Total (A+B+C)</td>
<td>1,337,153</td>
<td>608,001</td>
<td>1,945,154</td>
<td>175,941</td>
</tr>
</tbody>
</table>

Notes: Includes taxes and duties of CNY 76.09 million ($10.012 million).  
Source: Asian Development Bank estimates.
## APPENDIX 4

### FINANCING PLAN

**Table A5.2: Summary Cost by Financier**

($ '000)

<table>
<thead>
<tr>
<th>Items</th>
<th>ADB</th>
<th>%</th>
<th>KMG</th>
<th>%</th>
<th>Local Bank Loans</th>
<th>%</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Base Cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Civil Works</td>
<td>77,170</td>
<td>59.0</td>
<td>-</td>
<td>0.0</td>
<td>53,545</td>
<td>41.0</td>
<td>130,715</td>
<td>51.1</td>
</tr>
<tr>
<td>2. Equipment</td>
<td>1,830</td>
<td>100.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1,830</td>
<td>0.7</td>
</tr>
<tr>
<td>3. Land Acquisition and Resettlement</td>
<td>-</td>
<td>-</td>
<td>23,608</td>
<td>100.0</td>
<td>-</td>
<td>-</td>
<td>23,608</td>
<td>9.2</td>
</tr>
<tr>
<td>4. Environmental Management and Monitoring</td>
<td>-</td>
<td>-</td>
<td>844</td>
<td>100.0</td>
<td>-</td>
<td>-</td>
<td>844</td>
<td>0.3</td>
</tr>
<tr>
<td>5. Soil and Water Conservation</td>
<td>-</td>
<td>-</td>
<td>2,901</td>
<td>100.0</td>
<td>-</td>
<td>-</td>
<td>2,901</td>
<td>1.1</td>
</tr>
<tr>
<td>6. Construction Management</td>
<td>-</td>
<td>-</td>
<td>7,225</td>
<td>100.0</td>
<td>-</td>
<td>-</td>
<td>7,225</td>
<td>2.8</td>
</tr>
<tr>
<td>7. Research and Design</td>
<td>-</td>
<td>-</td>
<td>14,459</td>
<td>100.0</td>
<td>-</td>
<td>-</td>
<td>14,459</td>
<td>5.6</td>
</tr>
<tr>
<td>8. Capacity Development and Project Management</td>
<td>1,000</td>
<td>100.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1,000</td>
<td>0.4</td>
</tr>
<tr>
<td>9. Taxes and Duties</td>
<td>-</td>
<td>-</td>
<td>7,693</td>
<td>76.8</td>
<td>2,319</td>
<td>23.2</td>
<td>10,012</td>
<td>3.9</td>
</tr>
<tr>
<td>Subtotal (A)</td>
<td>80,000</td>
<td>34.6</td>
<td>56,730</td>
<td>29.5</td>
<td>55,864</td>
<td>29.0</td>
<td>192,594</td>
<td>75.2</td>
</tr>
<tr>
<td>B. Contingencies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Contingencies</td>
<td>-</td>
<td>-</td>
<td>3,946</td>
<td>21.2</td>
<td>14,709</td>
<td>78.8</td>
<td>18,655</td>
<td>7.3</td>
</tr>
<tr>
<td>Price Contingencies</td>
<td>-</td>
<td>-</td>
<td>2,789</td>
<td>24.5</td>
<td>8,597</td>
<td>75.5</td>
<td>11,386</td>
<td>4.4</td>
</tr>
<tr>
<td>Subtotal (B)</td>
<td>-</td>
<td>-</td>
<td>6,735</td>
<td>22.4</td>
<td>23,306</td>
<td>77.6</td>
<td>30,041</td>
<td>11.7</td>
</tr>
<tr>
<td>C. Financial Charges During Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest During Construction</td>
<td>-</td>
<td>0.0</td>
<td>12,357</td>
<td>38.2</td>
<td>19,971</td>
<td>61.8</td>
<td>32,328</td>
<td>12.6</td>
</tr>
<tr>
<td>Commitment Charges</td>
<td>-</td>
<td>0.0</td>
<td>978</td>
<td>100.0</td>
<td>-</td>
<td>-</td>
<td>978</td>
<td>0.4</td>
</tr>
<tr>
<td>Subtotal (C)</td>
<td>-</td>
<td>0.0</td>
<td>13,335</td>
<td>40.0</td>
<td>19,971</td>
<td>60.0</td>
<td>33,306</td>
<td>13.0</td>
</tr>
<tr>
<td>Total Disbursement</td>
<td>80,000</td>
<td>31.3</td>
<td>76,800</td>
<td>30.0</td>
<td>99,141</td>
<td>38.7</td>
<td>255,941</td>
<td>100.0</td>
</tr>
</tbody>
</table>


Source: Asian Development Bank estimates.
APPENDIX 5
FLOW OF FUNDS AND ONLENDING ARRANGEMENTS

ADB Loan

Ministry of Finance
(on behalf of PRC Government)

Yunnan Provincial Government

Kunming Municipal Government

Subloan Agreement

Domestic Bank

Kunming Water Supply Group Company Limited

User Charges

 Contractors, Consultants, County Governments, Affected Villages

ADB = Asian Development Bank, PRC = People’s Republic of China

a The ADB loan will be onlent on the same lending terms and conditions as those received by the Ministry of Finance.
APPENDIX 6
PROJECT MANAGEMENT CHART

Kunming Municipal Government

Project Leading Group
Vice Mayor
Agency and County Representatives

Project Management Office
Director
Deputy Directors
Staff

Project Implementing Agency
Kunming Water Supply Group Company Limited (KWSG)

a Staff from Kunming Development and Reform Commission, Kunming Finance Bureau, Kunming Water Bureau, Kunming Municipal Government Administration, Kunming Construction Bureau (KCB), Environment Protection Bureau, Planning Bureau, Water Supply Group, Land and Resources Bureau, Resettlement Bureau, Public Utility Bureau, New Airport Management Commission, Forest Administration Bureau, Lake Dianchi Administration Bureau, Songming County, Xundian County and Guandu District.
b Fourteen full-time staff on administration (6) engineering/technical (4), accounting/finance (3).
c KWSG Qingshuihai Water Source Development and Construction Branch will be the project implementing unit responsible for project management and operations and implementation of resettlement, environmental monitoring.
### APPENDIX 7

#### PROJECT IMPLEMENTATION SCHEDULE

<table>
<thead>
<tr>
<th>Activities</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Water Sources Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Design and Tender Documentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land Acquisition and Resettlement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preparation for Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tender Invitation, Assessment, Contract Award</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil Works Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation and Monitoring Equipment Installation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing and Commission</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.1. Water Conveyance Works (Banqiaohe, Shiqiaohe, Tabizi to Qingshuihai)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Design and Tender Documentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land Acquisition and Resettlement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preparation for Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tender Invitation, Assessment, Contract Award</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil Works Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation and Monitoring Equipment Installation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing and Commission</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.2 Water Conveyance Works (Qingshuihai to Tongxin Sluice Gate)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Design and Tender Documentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land Acquisition and Resettlement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preparation for Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tender Invitation, Assessment, Contract Award</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil Works Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation and Monitoring Equipment Installation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing and Commission</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.3 Water Conveyance Works (Tongxin Sluice Gate to Jinzhongshan)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activities</td>
<td>2007</td>
<td>2008</td>
<td>2009</td>
<td>2010</td>
<td>2011</td>
<td>2012</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Initial Design and Tender Documentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land Acquisition and Resettlement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preparation for Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tender Invitation, Assessment, Contract Award</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil Works Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation and Monitoring</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment Installation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing and Commissioning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Project Management and Capacity Building</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subcomponent 1: Project Management Activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subcomponent 2: Consulting Services and Capacity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Asian Development Bank
APPENDIX 8
PROCUREMENT PROCEDURES

INTERNATIONAL COMPETITIVE BIDDING

A. Introduction

1. International competitive bidding (ICB) is the most appropriate method of procurement under ADB financing in most cases. This provides an executing agency (EA) with a wide choice in selecting the best bid from competing suppliers and contractors. It gives prospective bidders from eligible source countries equal opportunity to bid on goods and related services or works that are being procured under ADB financing. The flow chart in Appendix 1 of PAI 3.03\(^8\) shows the main steps for procurement under ICB.

2. The EA must follow ADB’s *Procurement Guidelines* and procedures in preparing prequalification, bidding, and contract documents; advertising bid invitations; and accepting, opening, and evaluating bids. These requirements are discussed in subsequent PAIs. Draft prequalification and bidding documents, bid evaluation reports, and proposed awards of contract are subject to post or prior review and approval by ADB as explained in PAI 3.01.

B. Price Thresholds for International Competitive Bidding

3. ICB procedures are normally employed for contracts with an estimated value that exceeds the threshold values set for national competitive bidding (NCB). The threshold values are normally stated in the procurement plan. Where thresholds are not specified in the procurement plan, refer to values specified in PAI 3.04 or consult with the Central Operations Services Office (COSO).

C. Type and Size of Contracts

4. Whenever possible, procurement should be such that each bid package or contract is large enough to attract ICB. The size and scope of individual contracts will depend on the size, nature, and location of the project. The objective is to divide the requirements of the project into a manageable number of appropriate contract packages that will produce the maximum competitive response from bidders. To do this, the nature and value of goods being grouped into each contract package, and the conditions of the potential market of supply, must be understood. Contract packaging is concluded during project processing by agreement between the EA and ADB. The contract packages and methods of procurement are documented in the procurement plan and reported in the report and recommendation of the President (RRP).

5. Each contract includes only goods of the same or related specialty. For projects requiring both civil works and supply and installation of equipment, separate contracts are normally awarded for these items. When a large, complex contract is to be undertaken, a design, supply, install (turnkey) contract should be considered. Sometimes, however, a project may comprise several components of similar works, where the works are located in areas far from each other. An example of this would be the construction of irrigation canals in different parts of the country. In this case, although the nature of the work is similar, the works can be awarded as separate contracts because of the distance between the construction sites.

\(^8\) ADB’s Project Administration Instructions, found at [http://www.adb.org/Documents/Manuals/PAI/default.asp](http://www.adb.org/Documents/Manuals/PAI/default.asp).
6. Contract size must also be considered. International suppliers and contractors are unlikely to be interested in competing for small contracts, so where feasible, each bid package or contract is to be large enough to attract international competition. NCB may be considered in the circumstances set out in PAI 3.04.

7. For similar but separate construction works or items of equipment, bids are to be invited under alternative contract options so contractors or suppliers (both small and large) can bid for individual sections of the contract or for a group of similar goods. Bids and combinations of bids are evaluated simultaneously to determine the least cost combination of bids. The method of evaluation and award of contract must be clearly stated in the bidding documents.

D. Design, Supply, Install (Turnkey) Contracts

8. Design, supply, install (turnkey) contracts are those under which the engineering, design, supply of equipment, and the construction and commencement of operation of a complete plant are provided through a single contract.

E. Bidding Procedures

9. ADB has adopted four bidding procedures from which the EA may select to suit the procurement: single-stage, one-envelope; single-stage, two-envelope; two-stage, two-envelope; and two-stage biddings. Choosing the appropriate bidding procedure will depend on the complexity of the contract and the circumstances surrounding procurement.

1. Single-Stage, One-Envelope Bidding Procedure

10. For this procedure, bidders submit the price proposal and the technical proposal in one envelope. These envelopes are opened in public on the date and at the time designated in the bidding documents. The bids are evaluated, and following ADB approval (where prior review and approval is applied), the contract is awarded to the bidder who submitted the lowest evaluated substantially responsive bid.

2. Single-Stage, Two-Envelope Bidding Procedure

11. For this procedure, bidders submit two sealed envelopes simultaneously, one containing the technical proposal and the other the price proposal.

- Initially, only the technical proposals are opened on the date and at the time advised in the bidding documents. The price proposals remain sealed and are held in custody by the EA. The technical proposals are evaluated by the EA and cannot be amended or changed. The objective is to allow the EA to evaluate the technical proposals without referring to price. Bids that do not conform to the specified requirements may be rejected, with ADB’s approval in the case of prior review, as deficient bids.

- Following ADB’s approval of the technical evaluation (where prior review and approval is applied), and on the date and at the time advised by the EA, the price proposals of the technically responsive bidders are opened in public. The price proposals of the technically responsive bidders are evaluated, and following approval by ADB (where prior review and approval is applied), the contract is awarded to the bidder who submitted the lowest evaluated substantially responsive bid.
awarded to the bidder who submitted the lowest evaluated substantially responsive bid.

3. **Two-Stage, Two-Envelope Bidding Procedure**

12. For this procedure, bidders submit two sealed envelopes simultaneously, one containing the technical proposal and the other the price proposal

- Initially, only the technical proposals are opened on the date and at the time advised in the bidding documents. The price proposals remain sealed and are held in custody by the EA. The technical proposals are evaluated, and if the EA requires any amendments or changes they are discussed with the bidders, and all bidders are advised in writing by the EA of the changes required. The objective is to ensure that all technical proposals conform to the same acceptable technical standard and meet the EA's technical requirements. Bids of bidders who are unable or not prepared to amend their technical bids to conform to the final technical standard required by the EA may be rejected, with ADB approval in the case of prior review, as deficient bids.

- Following ADB’s approval of the evaluation of technical proposals (where prior review and approval is applied), the bidders who meet the qualifying criteria are invited to submit revised technical proposals and supplementary price proposals. The supplementary price proposals must only contain changes in price resulting from changes in the technical proposals. Supplementary price proposals that contain changes other than those discussed during technical evaluation may result in rejection of the bids.

- The original and supplementary price proposals, and the revised technical proposals, are opened in public on the date and at the time advised by the EA. They are evaluated, and following ADB approval (where prior review and approval is applied), the contract is awarded to the bidder who submitted the lowest evaluated substantially responsive bid.

4. **Two-Stage Bidding Procedure**

13. For this procedure, bidders first submit their technical proposals, in accordance with the specifications, but without prices:

- The technical proposals are opened on the date and at the time advised in the bidding documents. The EA evaluates the technical proposals and discusses them with the bidders. Any deficiencies, extraneous provisions, and unsatisfactory technical features are discussed with the bidders, and all bidders are advised in writing by the EA of the changes required. The bidders who meet the qualification criteria are invited to revise or adjust their technical proposals to meet the EA's technical requirements. The objective is to ensure that all technical proposals conform to the same acceptable technical standard and meet the EA's technical requirements. Bids of bidders who are unable or not prepared to amend their technical bids to conform to the technical standard required by the EA may be rejected, with ADB approval in the case of prior review, as deficient bids.
After ADB approves the evaluation of technical proposals (where prior review and approval is applied), the second stage is to invite bidders who meet the qualification criteria to submit revised technical proposals and price proposals that are opened in public on a date and time designated by the EA. In setting the date, the EA is to allow time for bidders to prepare revised technical proposals and price proposals. The revised technical proposals and price proposals are evaluated and, following ADB’s approval (where prior review and approval is applied), the contract is awarded to the lowest evaluated substantially responsive bidder.

5. Overview

14. The single-stage, one envelope bidding procedure is the main bidding procedure and is used in most procurement financed by ADB.

- The single-stage, two-envelope bidding procedure allows bids to be evaluated initially on purely technical and commercial grounds without reference to price.
- The two-stage, two-envelope bidding procedure is used for large and complex contracts and for procurement where alternative technical proposals are possible, such as for certain types of machinery, equipment, or manufacturing plant.
- The two-stage bidding procedure may be adopted for large and complex contracts where technically unequal proposals are likely to be encountered or where the EA is aware of its options in the market, but for a given set of performance requirements, two or more equally acceptable technical solutions are available to the EA.

F. Invitation, Submission, and Opening of Bids

1. Introduction

15. The EA should be informed of the following procedures for inviting, submitting, and opening bids.

2. Invitation for Bids and Bidding Documents

16. Three copies of the invitation for bids and all related bidding documents for ICB (including instructions to bidders, conditions of contract, specifications, and bid forms) must be submitted to ADB for approval. Where prior review is used, the documents must reach ADB at least 21 days prior to the proposed date for issuing bidding documents to allow sufficient time for review and approval, and to allow time for a specific notice to be published on adb.org. The scope of ADB review will include review of:

- the invitation for bids—to ensure it contains complete and necessary information and is consistent with the information contained in the bid data sheet;
the instructions to bidders—to ensure that it is identical to the relevant provisions of the relevant User’s Guide;

the bid data sheet—to ensure that it contains complete and necessary information and is consistent with the RRP and the financing agreement for the project, and the *Procurement Guidelines* and Chapter 3 of the PAI;

the evaluation and qualification criteria—to ensure that the parameters adopted for each criterion are adequate and reasonable and otherwise conform to parameters recommended by ADB in the *Procurement Guidelines* and the User’s Guide;

the bidding forms—to ensure that they conform to the standard forms in the User’s Guide and that any additional statements or deviations comply with the *Procurement Guidelines* and Chapter 3 of the PAI and the requirements in the bid data sheet and the evaluation and qualification criteria;

the list of eligible countries—to ensure that the list is updated and complete;

the schedule of supply or employers requirements, as relevant—to ensure that it contains complete and necessary information to allow bidders to efficiently and accurately prepare bids that are realistic and competitive;

the general conditions of contract—to ensure that it is identical to the relevant provisions of the relevant User’s Guide;

the special conditions of contract—to ensure that all information that the general conditions of contract require to be included have been included and that any additional provisions comply with the *Procurement Guidelines* and Chapter 3 of the PAI;

any specific conditions to the award of the contract or covenants required to be complied with under the relevant financing agreement for the project—to ensure they are complied with; and

the procurement plan.

Where post review is used, 5 working days should be given to allow posting of invitations. Irrespective of whether post or prior review is applied, initial review by ADB of draft bidding documents will be conducted by the concerned sector division, COSO, and the Office of the General Counsel (OGC). OGC will review the special conditions of contract and will advise on specific legal issues, including covenants required to be complied with under the relevant financing agreement. EAs must use ADB’s appropriate standard bidding documents (SBDs). Modifying or departing from the SBDs for project-specific conditions must be

---

9 The relevant User Guides are as follows:
Guide on Bid Evaluation, ADB, August 2005;
Procurement of Plant-Design, Supply, Install, ADB, September 2005;
Procurement of Goods, ADB, November 2004;
Prequalification of Bidders (Standard Procurement Document), ADB, September 2005;
Procurement of Works (Small Contracts), ADB, September 2005; or Procurement of Works, September 2005.
• minimal and consistent with the *Procurement Guidelines*;
• subject to ADB approval; and
• introduced only through bid data sheets, and the special conditions of contract or conditions of particular application.

Where ADB has not issued relevant SBDs, the EA must use similar internationally recognized bidding documents acceptable to ADB.

### 3. Issuing the Invitation for Bids

17. As soon as the invitation for bids is advertised in accordance with the *Procurement Guidelines*, ADB is to be given a report on the advertising. Such a report must include

- the name of the website or newspaper in which the invitation for bid was advertised,
- the date of advertising, and
- a copy of the published advertisement.

18. For ICB procurement, invitations for bids require a minimum bidding periods of 6 weeks. This period is counted from the publication date of the relevant invitation in the *Business Opportunities* section of adb.org, or locally in English (locally known website or local newspaper), or the date when documents are available for issue, whichever is the latest, up to the date for submission of bids.

19. The date, hour, and place for the latest delivery of the bids are to be clearly stipulated in the invitation. The manner for submitting bids must also be specified, and besides allowing for submission in person, delivery of bids by registered mail or electronically will similarly be acceptable and stated in the instructions to bidders.

### 4. Opening of Bids

20. Bids delivered after the deadline for submission are to be returned unopened.

21. Bids must be opened in public on the date and at the time and place stipulated in the documents. The name of each bidder and, the total amount of its bid, discounts, bid security (if required), and other important information are to be read aloud and recorded. All the aforementioned information is to be included in the record of the opening of bids, together with the names of the representatives present.

### G. Examination and Evaluation of Bids and Award of Contracts

#### 1. Examination and Evaluation of Bids

22. The examination and evaluation of bids must be consistent with the method, terms, and conditions set forth in the bid documents and follow the procedures set out in the *Procurement Guidelines*. 
2. **Conditions of Contract**

23. General conditions of contract are provided in the Standard Bidding Documents (SBD). Terms and conditions specific to the bidding are specified in the bidding documents. The *Procurement Guidelines* include provisions related to currency of payment, terms and method of payment, price adjustment, performance security, liquidated damages, language, transportation and insurance, and disput resolution, force majeure, applicable law and settlement of disputes. These provisions should be reviewed when developing specific conditions of contract. The following guidance (which is not intended to be exhaustive) is also provided:

- Performance security is required for works contracts and, in some circumstances, for supply of goods. Requirements for performance security and are to be described in the bidding documents. Its form shall be either cash, or a bank guarantee. It must be issued by a reputable bank or financial institution. If the issuer is located outside the borrower’s country, it must have a correspondent in the borrower's country to insure enforceability. Performance security would normally be about 10% of the contract value.

- Liquidated damages are to be specified in the bidding documents. Normally, liquidated damages will be limited to about 10% of the contract value.

- Price adjustment provisions must be provided in contracts with delivery or completion periods that exceed 18 months. They are not required for simple supply contracts with short delivery periods. The method and formula for price adjustment is specified by the EA and provided in the bidding documents. The formula indices will be given by the EA and the bidder, depending on the source (for example, some indices might reflect costs in the bidder’s home country, in which case they would be specified by the bidder as provided for in the bidding documents).

3. **Proposal for Award**

24. Where prior review is applied, as soon as the bids are evaluated and the EA has determined the lowest evaluated bid, the evaluation results and the proposal for award of contract are to be submitted to ADB for review and approval. The recommendation must be approved by ADB before a contract is awarded or a letter of intent is issued. For this, promptly after the bid evaluation but at least 30 days prior to expiration of bid validity, ADB must be given three copies of

- an account of the public opening of the bids (together with the minutes of bid opening),
- a summary and detailed evaluation of the bids,
- the proposal for award (together with the consultants’ recommendations, where applicable),
- a draft contract if such a draft differs from the draft previously approved by ADB, and
- an appropriate certificate of eligibility for the proposed contract.

25. For single-stage (two-envelope), two-stage (two-envelope), and two-stage bidding procedures, ADB’s approval of the evaluation results of each envelope are to be obtained before the results are communicated to the bidders and prior to opening the second envelope or proceeding to the second stage.
26. Under post review procedures, the EA submits the documentation described in para. 24 above, for review, but continues the procurement process without waiting for the outcome of the review. Documents should be submitted for post review as soon as they are completed and issued, but no later than one month after their issuance. ADB should ideally complete its post review within one month—if it is not done within 6 months, it is assumed ADB has no objection. If, through its post review, the ADB disapproves of an action by a borrower, it can declare misprocurement, even though a contract may have been executed. Depending on the circumstances, the financing for the contract may be cancelled. Borrowers are informed of this risk when requesting post review.

4. Award of Contract

27. Where prior review is used, if the contract proposed to be executed differs substantially from the draft approved by ADB or if any substantial amendment to the contract is proposed, the proposed changes are to be submitted to ADB for prior approval. Promptly after each contract is awarded, ADB is to be given three copies of the contract as executed. Where post review is used, ADB will check the contract as executed for substantive amendments to the recommendation of the evaluation and award process.

28. Modifications to contracts, awarded under a post review arrangement, will require ADB prior approval in some cases. Changes orders that increase the original contract amount by more than 15% in aggregate require ADB prior approval. Material extensions in time, and modifications or waivers of conditions of contract similarly require prior approval of ADB. In all cases, contract amendments must be submitted to ADB for its records.

H. Variations to International Competitive Bidding

29. There are circumstances where international bidding is followed, but normal ICB procedures can be varied. The Procurement Guidelines prescribe modified procedures in the following circumstances:

1. Limited International Bidding

30. Limited International Bidding (LIB) is employed where there is only a limited number of potential bidders, or other exceptional circumstances exist that justify a departure from the full open tendering process provided for under ICB procedures (possibly including where the estimated contract amount is not large enough to interest foreign suppliers and contractors through the ICB process). The use of SBD is not required, although using SBD as a model to develop simplified documents is recommended (invitation to bid, instructions to bidders, and conditions of contract from the ICB SBD, for example, can be used with little modification). Domestic preference cannot be applied under LIB procedures. A flow chart showing the main steps for procurement under LIB is provided in Appendix 2. For LIB procurement, the EA

- issues written invitations to bid (providing clear technical specifications for the required goods and related services or works, and the terms and conditions of purchase) to all bidders judged able to provide the goods, preferably a minimum of three bidders, with a minimum bidding period of 3 weeks;
- where it is thought additional suppliers might be interested in the procurement, advertises the notice inviting bids in English (on web site, in local newspaper, through notice to embassies, etc) with a minimum bidding period of 4 weeks;
• adopts the procedures for public bid opening; and
• evaluates the bids in the same way as for ICB.

31. Unless otherwise indicated in the procurement plan and financing agreement, ADB’s review will generally occur after the award of the contract (but before authorizing disbursement) when the EA sends

• the withdrawal application;
• copies of the signed contract;
• the bidding documents;
• details of bid opening procedures, including minutes of bid opening;
• the bid evaluation report;
• the results of the evaluation; and
• a certificate of eligibility of the contract where required by ADB.

These steps ensure fairness and transparency. ADB reserves the right to refuse to finance the contract in case of misprocurement. ADB, therefore, discourages the system of prior award of contract by the EA and after the fact approval by ADB unless the EA has sufficient funds to finance the contract if ADB declares misprocurement.

32. Normally, LIB is permitted for contracts estimated at up to a maximum value of $1,000,000. In special cases, project processing missions may recommend higher ceilings for LIB, appropriate to the competence and experience of the EA, as well as the size and nature of the goods and related services or works to be procured. Justification for proposing higher ceilings of LIB rather than using ICB procedures are to be included in the issues identified for management review meeting (MRM) and, if approved by the MRM, in the RRP under the procurement section. For rules related to consideration of LIB contracts by the procurement committee, see PAI 3.11.

33. LIB is the most appropriate method of procurement where the needed items are available only from a limited number of suppliers, or early delivery is of paramount importance for certain works under the project. Bidders that will satisfy this requirement probably has an uncommon technical specialty, skill or product, and best results will be obtained by ensuring bids are not restricted to local suppliers (although local representatives of foreign suppliers may be used). Contract packages proposed for LIB, the ceiling amount, and provisions for prior or post review will be detailed in the procurement plan. The requirements for adopting LIB (regardless of the amount involved) should be identified during project processing, fully justified and authorized by the MRM.

2. Repeat Order

34. Additional items may be procured through repeat order bidding when more of the same items procured earlier through ICB are urgently needed, loan funds are available, and no advantage can be gained through competitive bidding. Under this procedure, bids may be invited only from those who submitted responsive bids for the earlier advertisement, or if many bidders originally responded, from the five original lowest responsive bidders, with a bidding period of 30 days.

35. In exceptional cases, when few bidders originally responded and the lowest evaluated bid was superior (in price, reliability of equipment, availability of spare parts and after-sales
service, and delivery period) the additional items required may be procured by a repeat order with that bidder. This is if

- the repeat order follows shortly after the earlier order,
- no better offer is likely, and
- the unit price for the repeat order is not more than the original unit price.

36. The repeat order is to follow within 18 months of the earlier order, and the additional quantities are not to exceed 30 percent of the original quantities. A repeat order may also be made when the EA, with ADB’s agreement, provides an option to order additional items in the original contract documents.
Procurement under International Competitive Bidding
(with no prequalification)

Executing Agency

Finalize list of goods/works to bid (from procurement plan)

Prepare draft invitation for bids and bidding documents

Advertise invitation for bids
Locally in English and issue bidding documents; inform ADB of the advertisement; (minimum bidding period 6 weeks)

Public opening of bids
Prepare record of public opening of bids

Evaluate bids and recommend contract award

Prepare contract agreement and send to supplier

Send 3 copies of signed contract to ADB

Goods inspected and received

ADB

Loan/advance contracting approved

ADB review and Approval a

ADB review and approval * Advertise invitation for bids in www.adb

Purchase bidding documents from EA and submit bid

Sign contract agreement and return to EA
Provide performance Security (if required)

Signed contract received Prepare PCSS for payment purposes

Deliver the goods and related services and works to the EA

Payment received (from supplier's bank under L/C procedures)

Suppliers/Contractors

Approved

* Approval not required under post review
Appendix 8

Procurement under International Competitive Bidding
(with prequalification)

<table>
<thead>
<tr>
<th>Executing Agency</th>
<th>ADB</th>
<th>Suppliers/Contractors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review list of goods or works to bid (from procurement plan)</td>
<td>Loan or advance contracting approved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ADB review and approval</td>
<td></td>
</tr>
<tr>
<td>Prepare draft PQ documents and draft bidding documents</td>
<td>ADB review and approval</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Advertise the invitation for PQ in <a href="http://www.adb">www.adb</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advertise in locally in English and issue the PQ documents; submit to ADB a report on advertising (minimum 6 week period given for submission of PQ applications)</td>
<td></td>
<td>Purchase PQ documents from EA and submit PQ application</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PQ applications received</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluate PQ applications Recommend prequalified firms</td>
<td>ADB review and approval</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADB approval received</td>
<td></td>
<td>EA Notifies prequalified and disqualified firms</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Issue bidding documents to prequalified firms (minimum bidding period 6 weeks)</td>
<td></td>
<td>Purchase bidding documents from EA and submit bid</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public bid opening Prepare record of public bid Opening</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluate bids and recommend contract award</td>
<td>ADB review and approval</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare contract agreement and send to supplier</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Send 3 copies of signed contract to ADB</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Review signed contract; Prepare PCSS for payment purposes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contract implementation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a Approval not required under post review

b The draft bidding documents can be prepared at a later stage provided that ADB approval is obtained before issuance of bidding documents to prequalified firms.
Procurement under Limited International Bidding

1 LIB is primarily used for procurement where there are a limited number of suppliers and full ICB is not practical, in accordance with criteria in ADB’s Procurement Guidelines.

2 ADB prior approval is strongly recommended in the case of an inexperienced EA, or where the EA cannot demonstrate sufficient funds to finance the contract, in case of ADB’s refusal to approve the contract award.
NATIONAL COMPETITIVE BIDDING

A. Introduction

1. International competitive bidding (ICB) is the most appropriate method for procuring ADB-financed goods and related services, or works in most cases. However, other procurement methods conducted within the borrowing developing member country (DMC) may sometimes be more appropriate. Alternatives include national competitive bidding (NCB) and Shopping. NCB and Shopping may be more economical than ICB as they normally require shorter prequalification and bidding times. Bidding documentation may be simpler as well, especially for Shopping. NCB and Shopping also support one of ADB's guiding principles of promoting domestic manufacturing and construction industries in the DMCs. Foreign bidders from other ADB member countries have the right to bid under ADB-funded NCB and Shopping procedures. The flow chart in PAI 3.04 Appendix 1 shows the main steps for procurement under NCB.

B. National Competitive Bidding

2. NCB may be considered only if ADB is satisfied that

- foreign contractors and suppliers are not likely to be interested in bidding;
- local production or construction facilities are available, offer prices below the international market, and are adequate for prompt delivery;
- domestic procurement procedures are satisfactory to ADB; and
- where the borrower requested the use of NCB.

Moreover, NCB may be considered for contracts that

- are of small value;
- consist of a series of small-value works;
- are located in several areas that may be far apart in the borrowing DMC; and
- will be executed at different times.

3. Where NCB is proposed as a method of procurement, ADB’s processing missions are to satisfy themselves that an adequate number of domestic producers or contractors are capable of providing the required quantity and quality of goods and related services or works at reasonable costs and within the required time frame. The threshold for NCB is between $1.0 million and $10 million for works contracts, or between $0.5 million and $1.0 million for supply of goods, depending on the capacity of the borrower. Where the threshold is set above the lowest value in the range, it is determined on a country-by-country basis, in consultation with the Central Operations Services Office (COSO). Contracts above the threshold would normally be procured following ICB procedures, unless another method (such as direct contracting, or limited international bidding) has been specifically described and agreed upon in the procurement plan.

C. Shopping

4. Shopping is a simplified procedure, used for procuring low-value, readily available off-the-shelf goods, or simple civil works of low value. When considering Shopping, ADB should be satisfied that there are a sufficient number of local suppliers (or contractors for works) that can meet the requirements of the procurement and ensure a satisfactory level of price competition.
5. The threshold for Shopping is currently set at $100,000 for all borrowers, but may be adjusted in consultation with COSO depending on the capacity of the borrower. Contracts above the threshold would normally be procured following NCB or ICB procedures, unless another method (such as direct contracting, or limited international bidding) has been specifically agreed for in the relevant financing agreement and the procurement plan.

6. For the procurement of items below $10,000, the EA may purchase the items directly from the supplier. In such cases, ADB should be satisfied that the price paid is reasonable.

D. Role of Project Processing Missions

7. ADB’s processing missions formulate procurement packages with the executing agency (EA). These are documented in the procurement plan. Every effort must be made to formulate packages for ICB. NCB may only be used if the EA has complied with all conditions stated in paras. 2–3. COSO is to be consulted when finalizing the use of NCB and Shopping procedures. Approval is to be secured at the management review meeting or through the back to office report of the processing missions. Prior to, and if necessary, during loan negotiations, ADB and the borrower are to agree upon:

- the list of contract packages\(^{10}\) for which NCB and Shopping is to be adopted;
- the procedures to be used to ensure acceptability to ADB; and
- the threshold amounts for NCB and Shopping, and the requirements for ADB approval that are to be reflected in the procurement plan.

E. Evaluating Procedures

8. Project processing mission review NCB procedures normally used by the proposed EA under the laws and regulations of the borrowing DMC and verify their acceptability to ADB. While NCB procedures need not be identical to ADB’s ICB procedures, they must provide adequate competition to ensure reasonable prices and must not conflict with the basic principles underlying ADB’s Procurement Guidelines. Evaluation of bids and contract awards must be fair, and evaluation criteria must be made known to all bidders. Factors to be considered when evaluating NCB procedures of an EA are briefly described in Appendix 2. Similarly, Shopping procedures should be reviewed during project processing to ensure they meet the requirements of ADB’s Procurement Guidelines.

F. Treatment of Foreign Bidders

9. Suppliers and contractors from all member countries are entitled to participate in local procurement and may not be denied participation due to nationality. Contractors and supplies may apply for prequalification (where used) and to bid for contracts under NCB bidding procedures. ADB requires the borrowing DMC to permit such participation, but foreign bidders must adhere to local procedures acceptable to ADB, including using the local language and paying in local currency, if required by the bidding documents. Under local procurement procedures, the delivered cost of materials including import duties and other taxes may be used when comparing bids. ADB’s domestic preference policy shall not be applied.

---

\(^{10}\) The type or category of contracts envisaged for NCB or Shopping should be specified in the procurement plan, even if the contracts cannot be listed because of the nature of the project and timing of processing missions.
G. International Advertising

10. Bidding of NCB contracts estimated at $500,000 or more for goods and related services or $1,000,000 or more for civil works is advertised concurrently with the general procurement notices in the Business Opportunities section of adb.org. Prequalification, if used for NCB contracts, is similarly advertised.

H. Using Standard Bidding Documents for NCB

11. Borrowers are to be encouraged to use ADB-approved standard bidding documents for NCB, ideally based on the standard bidding documents for ICB. This will help ensure high quality and consistency in the documents and will hasten ADB’s review. The documents should reflect local procurement requirements but must not contravene the basic principles underlying the Procurement Guidelines. If standard bidding documents acceptable to ADB are not yet available in borrowing DMCs, COSO may provide assistance to help develop them. Once prepared and approved, the use of standard bidding documents will be mandatory for all ADB-financed NCB contracts in the DMC (as for ADB-funded ICB contracts).

I. ADB Review of Procurement Documents

12. For each project, the first draft English language version of the procurement documents should be submitted for ADB review and approval regardless of the estimated contract amount. The documents will be reviewed by the sector division, COSO, and the Office of the General Counsel (OGC). OGC will review the special conditions of contract and will advise on specific legal issues, including covenants to be complied with in the financing agreement, in accordance with agreed review procedures (post and prior review). ADB-approved procurement documents should be used as a model for all procurement financed by ADB for the project, and need not be subjected to further review unless specified in the procurement plan, or required under special arrangements.

J. Approval of Contract Award

13. For NCB, ADB will review the bid evaluation report (BER) and award of contract on a post-review basis. The concerned sector division may, however, agree with the EA to conduct prior review of the BER and to give prior approval for contract award. This would depend on the borrower’s procurement capacity and should be described in the procurement plan. The review arrangements will also be specified in the procurement plan. Similarly, for Shopping, ADB will normally review the award of contract on a post-review basis.

14. The EA must submit copies of the BER and signed contract in English to the concerned sector division or resident mission for post review as soon as possible following contract award (unless prior review is specified in the procurement plan. The EA should be advised that ADB reserves the right to refuse financing for the contract if it is found during post review that the procurement has not been conducted in accordance with the Procurement Guidelines, or other provisions specified in the financing agreement. Requirements for consideration of the procurement committee apply to local procurement (see with PAI 3.11).
Procurement under National Competitive Bidding

1 While NCB procedures are not required to be identical with ADB's ICB procedures, they must reflect the underlying principles and not contravene ADB's Procurement Guidelines.

2 Prequalification is discouraged for NCB. DMCs may have a register of suppliers. The processing mission should ensure that the registration system is acceptable to ADB (e.g., it reflects the underlying principles of ADB's Procurement Guidelines); and where acceptable, a PQ may not be required.

3 If the prequalification or procurement requires prior consideration of the procurement committee, in accordance with PAI 3.11, the EA must be advised not to notify prequalified firms or award contract prior to the committee's deliberations and subsequent ADB approval.
OTHER FORMS OF PROCUREMENT

1. While international competitive bidding (ICB) is often the method of procurement used under ADB financing, other methods may sometimes be more appropriate. National competitive bidding (NCB) and Shopping are described in PAI 3.04 and other methods of procurement are described here.

A. Direct Contracting

2. Direct contracting (single source) involves contracting without competition (single source) involving a particular manufacturer, supplier, or contractor, and is allowed by ADB in any of the following circumstances:

- when standardization is important, and equipment and spare parts needed to expand or repair existing equipment must be procured from the original supplier or from a supplier of identical goods;
- when the equipment or goods is proprietary and obtainable only from one supplier;
- when critical items are to be procured from specialist suppliers as a condition of a performance guarantee;
- when the civil works are a natural extension of an earlier or ongoing job, or when engaging the same contractor is shown to be more economical and ensures compatibility of work quality;
- when additional items are required under an existing contract, which was awarded in accordance with ICB procedures; and
- in exceptional cases, such as in response to natural disasters.

3. In all these cases, ADB must be satisfied that the prices to be paid are reasonable and that competitive bidding offers no advantage. As such, contract packages to be procured using direct contracting are to be identified in the procurement plan and justified at the management review meeting (MRM).

4. Direct contracting for standardization is justifiable if the original equipment is suitable and outweighs the possible advantages of having another make of equipment and an alternative supplier. Similarly, in direct contacting (negotiation) for extension of civil works, the following must be shown:

- the original contract was awarded following ICB, limited international bidding (LIB), or NCB procedures acceptable to ADB;
- the unit rates of the earlier contract, were updated in accordance with the provisions in the original contract to reflect any increase or decrease in the cost of construction, and were valid and reasonable;
- the contractor's performance has been satisfactory; and
- the additional work would be unlikely to result in lower prices if subjected to bidding.

5. If a number of distributors stock the same parts and are free to compete for their supply, then proprietary parts must be purchased through competitive bidding.
B. Procurement from Specialized Agencies

6. A variation on direct contracting involves single source procurement from agencies such as the UN. This would typically involve the procurement of items such as vaccines or drugs, which an agency such as the UN may offer the best combination of quality, price, and availability. The agency might, for example, benefit from volume purchase and be able to pass on these benefits to the procuring executing agency (EA). Items to be procured from specialized agencies should be packaged so as to take full advantage of the offered benefits (by, for example, combining expected purchases into larger packages to avail of volume pricing). Contracts to be procured from specialized agencies should be identified and justified in the procurement plan.

C. Force Account

7. Execution of works by force account (departmental workforces) means undertaking works using the resources of a public agency of the EA’s government without competitive bidding or negotiated contracts. Use of force account is on an exceptional basis and must be fully documented in the procurement plan and justified at the MRM.

8. Force account is employed when the size of the works and its location make it unsuitable to adopt competitive bidding (this may include work such as village wells and village access roads, minor irrigation works, and other small and remote scattered works). Force account may also be used in other special cases where local contractors do not express interest in undertaking the works or where force account can be demonstrated to be the most efficient and effective method of implementation.

9. In agreeing to the use of force account, ADB must be satisfied that the construction facilities are efficient and the EA is capable (with advisers' or consultants' assistance) of undertaking the works quickly and to the required quality, at reasonable cost.
A. Advertising Locally

1. Disseminating information on procurement contracts subject to international competitive bidding (ICB) is done by advertising invitations for prequalification or bids in adb.org and locally through either (i) an English language newspaper of general circulation in the country of the executing agency (EA), or (ii) an internationally known and freely accessible web site in English. PAIs 3.03 and 3.04 detail minimum prequalification and bidding periods for ICB, national competitive bidding (NCB), and limited international bidding (LIB) procedures. Advertising requirements for NCB, LIB and shopping are also provided in these PAIs.

2. The EA forwards a report to ADB on local advertising of the invitation as soon as it is available. If prior review is used, a reminder is sent by ADB to the EA if the report is not received within one month of ADB approval of the prequalification or bidding documents. Advertisement on adb.org is arranged by ADB and so the information required for the advertising must be received by ADB in sufficient time to post the advertisement and meet minimum advertising time requirements.

B. Publishing Notices on adb.org and United Nations Development Business

3. ADB advertises procurement opportunities that it finances on adb.org and United Nations Development Business (UNDB), now published on-line. Advertisement in UNDB is, however, not mandatory as ADB has no control over its publication. UNDB carries public procurement notices on projects financed by international organizations. adb.org carries information only on ADB-financed projects, including procurement notices and contract awards.

4. adb.org and UNDB contain general procurement notices (GPNs) and specific notices (SNs).

   (i) A GPN contains general information about a project that is approved or is being considered for financing, and includes

   - the name of the borrower;
   - the loan number (when available), and title and description of the project;
   - the agency responsible for procurement, its mailing address, facsimile and telephone numbers, and email addresses;
   - a description of the goods or works subject to international competitive bidding;
   - a description of the goods or works subject to national competitive bidding; and
   - sufficient other information to enable potential bidders to determine their interest.

   The GPN for a project appears in adb.org for at least one month, but preferably three months, before the first prequalification (where prequalification is to be carried out) or bidding documents are made available for issue.

   (ii) An SN refers to the advertisement for prequalification (where prequalification is to be carried out) or bidding for an individual contract, and includes

   - the name of the borrower;
   - the loan number, and title and description of the project;
• the agency responsible for procurement, its mailing address, email address, facsimile and telephone numbers;
• the EA, its address, email address, facsimile, telephone number (if different from the procurement agency);
• a detailed description of the works or goods to be procured under the specific contract;
• the price of the prequalification or bidding documents;
• the deadline for submitting the prequalification applications or bids;
• the place, complete address, date, and time for submission of prequalification applications or bids;
• the place, complete address, date, and time for opening of prequalification applications or bids; and
• whether the domestic preference scheme will apply.

5. Publication of the SN for an individual contract follows immediately after the publication of the invitation for prequalification or bids in a local English newspaper of general circulation or on a well-known web site.

6. In addition to the GPN and SN, advance information on proposed projects, which are in the early stages of processing, is also included on adb.org and is updated as processing proceeds. More detailed information on these projects, appears later in the GPN.

7. Internal procedures for handling these procurement notices are in Appendix 1. The Central Operations Services Office (COSO) coordinates ADB activities for preparing and publishing procurement notices in adb.org and UNDB.

8. To ensure that an SN is prepared for every contract subject to ICB in a timely manner, the administering department provides COSO with the completed data form (Appendix 1, page 4) using information from the prequalification or bidding documents not later than the day following receipt of the documents.
Internal Procedures for Procurement Notices
(to be published in adb.org and UNDB)

A. General Procurement Notices

1. During processing, the borrower is advised of the need to publish, and the content of, procurement notices in adb.org.

2. After the management review meeting but before loan negotiations, a draft GPN is prepared by the sector division and forwarded to the EA for review and concurrence. An example of a GPN is given in Appendix 1, page 2.

3. At least one month, but preferably three months before the scheduled issuing of the first invitation for prequalification or bids, the sector division finalizes the draft GPN with any additional information from the EA and transmits it to COSO.

4. After reviewing the GPN, COSO publishes it in adb.org.

B. Specific Notices

5. An SN is published at the prequalification stage if prequalification is used, otherwise it is published at the stage of inviting bids.

6. After receipt by ADB of draft prequalification or bidding documents, the sector division completes the attached data form (Appendix 1, page 4) using information from the prequalification or bidding documents and forwards it to COSO not later than the day following receipt of the documents.

7. COSO prepares a draft SN (Appendix 1, page 5) using information from the data form forwarded by the sector division, and sends the draft SN to the sector division for review; the draft SN is returned to COSO with any suggested revisions, within two days of receipt.

8. COSO finalizes the SN and publishes it in adb.org and also sends it to UNDB to be published.

9. In transmitting ADB’s approval of draft prequalification or bidding documents, the EA is advised that an SN will be published on adb.org and forwarded to UNDB.
Example of General Procurement Notice
(to be published in adb.org and UNDB on-line)

LOAN XXXX
Environmental Improvement for Industrial Pollution Abatement

The xxxxxxxxxxxx has received a loan from ADB to help finance the cost of the xxxxxxxx Project.

The Project will support environmental improvements and institutional reforms to correct degradation of the lake basin. An effective and sustainable environmental management program for the basin will be formulated, capacity building will be provided for the agencies involved, and polluting industrial enterprises will be assisted to convert to non polluting methods. The Project will substantially reduce wastewater, hazardous air emissions, and release of untreated solid waste in xxxx and xxxx, and promote enterprise reform.

The proceeds of the loan are intended to be used for the procurement of the following:

(i) through international competitive bidding,
   - limestone crushing system;
   - sandstone crushing system;
   - limestone preblending system;
   - sandstone, iron cinder, and coal preblending system;
   - raw material grinding system;
   - clinker burning system;
   - raw meal homogenizing and kiln feeding;
   - clinker cooler;
   - coal grinding system and main exhaust fan;
   - pulverized coal weighfeed system;
   - conditioning tower and electrostatic precipitator;
   - mechanical conveying loading and unloading equipment;
   - transport vehicles;
   - excavation equipment;
   - lifting equipment;
   - loading and unloading equipment;
   - computer control system;
   - automatic control instrument;
   - high tension and low tension electrical equipment;
   - cable, cable bridge, and accessories;
   - cement grinding and packing;
   - refractory; and

(ii) though national competitive bidding procedures,
   - civil works associated with lake basin (5 packages); and
   - dredging works (2 packages).
The first batch of bidding documents for the above items is expected to be available on or about dd/mm/yy, subject to a nominal charge.

Interested bidders from ADB member countries who wish to obtain additional information may contact

Name and Address of Agency Concerned
Mailing Address : ________________
Telephone Number : ________________
Fax Number : ________________
email : ________________
Specific Notice

(data form for specific notice (SN) to be published in adb.org and UNDB on-line)

1. Loan No. and project title
2. Detailed description and quantity of goods and works to be procured
3. Date bidding documents will be available
4. Name, address, email address, telephone, and facsimile numbers of the EA to obtain bidding and prequalification documents
5. Address, date, and time for receipt of prequalification applications or bids
6. Address, date, and time for opening of prequalification applications or bids
7. Price of prequalification or bidding documents in local currency and in US$
8. Bid security (yes or no, if yes how much)
9. Domestic preference scheme (yes or no)
10. Other pertinent information on prequalification or bidding conditions and instructions that need to be included in the SN for firms to decide on their interest

---

11 Where prequalification is used, this form is accomplished on receipt of draft prequalification documents and is published as the invitation for prequalification. Publication of invitations for bids is not required for the same contract for which the prequalification invitation has already been published in adb.org.
Publishing Procurement Notices in *adb.org* and UNDB
(sample of specific notice)

**Invitation For Bids**

[Date]  
[Loan No. and Title]  
[Contract No. and Title]

1. This invitation for bids follows the general procurement notice for this Project that appeared in *adb.org*, on [insert date].

2. The [insert name of borrower] [has received/has applied for/intends to apply for] a loan from the Asian Development Bank (ADB) toward the cost of [insert name of Project], and it intends to apply part of the proceeds of this loan to payments under the contract for [insert name/no. of contract].

3. The [insert name of purchaser] now invites sealed bids from eligible bidders for [insert description of goods and related services to be procured].

4. International competitive bidding will be conducted in accordance with ADB's [insert appropriate bidding procedure] procedure and is open to all bidders from eligible source countries.

5. Interested eligible bidders may obtain additional information from [insert name of purchaser] and inspect the bidding document at the address given below, [insert address at end of document] from [insert office hours].

6. The bidding document, in English, may be purchased by interested bidders on the submission of a written application to the address below [state address at the end of document] and upon payment of a nonrefundable fee [insert amount in local currency] or in [insert amount in specified convertible currency]. The method of payment will be [insert method of payment]. The document will be sent by [insert delivery procedure]. No liability will be accepted for loss or late delivery.

7. Bids must be delivered to the address below [state address at the end of document] at or before [insert time and date]. All bids must be accompanied by a bid security of [insert amount in local currency or an equivalent amount in a freely convertible currency]. Late bids will be rejected. Bids will be opened in the presence of the bidders' representatives who choose to attend at the address below [state address at end of document] at [insert time and date].

8. The [insert name of purchaser] will not be responsible for any costs or expenses incurred by the bidders in connection with the preparation or delivery of bids.

9. To compare the bids, ADB's domestic preference scheme will be applied in accordance with the provisions stipulated in the instructions to bidders.

10. [Insert name of office]  
[Insert name of officer]  
[Insert postal address] and/or [Insert street address]  
[Insert telephone and facsimile number, indicate country and city code]  
[Insert email address]

**Notes:**

1. Day, month, year; for example, 31 January 2006.
2. Insert if applicable: “This contract will be jointly financed by [insert name of cofinancing agency]. The eligibility rules and procedures of ADB will govern the bidding process.”

3. A brief description of the type of goods and related services should be provided, including quantities, location of project, and other information necessary to enable potential bidders to decide whether to respond to the invitation. A bidding document may require bidders to have specific experience or capabilities; such restrictions should also be included in this paragraph.

4. [Insert if applicable]. The delivery/completion period is [insert no. of days/months/years or dates].

5. Insert one of the bidding procedures adopted by ADB, which are single-stage, one-envelope; single-stage, two-envelope; two-stage, two-envelope; and two-stage.

6. Occasionally contracts may be financed from special funds that would restrict eligibility to a particular group of member countries. When this is the case, mention this in this paragraph. Also indicate any margin of preference that may be granted as specified in the financing agreement and set forth in the bidding document.

7. For example: 09:00 to 12:00 hours.

8. The fee, to defray printing and mailing/shipping costs, should be nominal.

9. For example, cashier's check, direct deposit to specified account, etc.

10. The delivery procedure is usually airmail for international delivery, and surface mail or courier for local delivery. If urgency or security dictates, courier services may be required for international delivery. Documents may be distributed through downloading from a web site (see PAI 3.13).

11. The amount of bid security should be stated preferably as a fixed amount, or as a minimum percentage (approximately 2 percent) of the bid price. Alternatively, if a bid security is not required, the paragraph should state this.

12. The place for bid opening may not necessarily be the same as that for issuance of documents or for bid submission. If they differ, each address must appear at the end of para. 7 and be numbered; as, for example, (i), (ii), and (iii). The text in the paragraph would then refer to address (i), (ii), etc. Only one place and its address may be specified for submission, and it should be near the place where bids will be opened.

13. Include only if domestic preference is provided in the loan agreement and is included in the instructions to bidders.
APPENDIX 9
ADB REVIEW OF PROCUREMENT DECISIONS

Scheduling of Procurement

1. ADB shall review the procurement arrangements proposed by the borrower in the procurement plan for its conformity with the financing agreement and these Guidelines. The procurement plan shall cover an initial period of at least 18 months. The borrower shall update the procurement plan on an annual basis or as needed always covering the next 18 months period of project implementation. Any revisions proposed to the procurement plan shall be furnished to ADB for its prior approval.

Prior Review

2. With respect to all contracts which are subject to ADB's prior review:

(a) In cases where prequalification is used, the borrower shall, before prequalification submissions are invited, furnish ADB with the draft documents to be used, including the text of the invitation to prequalify, the prequalification documents (including instructions to applicants, qualification criteria, application forms, and scope of contract), and the evaluation methodology, together with a description of the advertising procedures to be followed, and shall introduce such modifications in said procedure and documents, as ADB shall reasonably request. The report evaluating the applications received by the borrower, the list of proposed prequalified bidders, together with a statement of their qualifications and of the reasons for the exclusion of any applicant for prequalification, shall be furnished by the borrower to ADB for its comments before the applicants are notified of the borrower's decision, and the borrower shall make such additions to, deletions from, or modifications in the said list as ADB shall reasonably request.

(b) Before bids are invited, the borrower shall furnish to ADB for its comments, draft bidding documents, including the invitation to bid; instructions to bidders, including the basis of bid evaluation and contract award; and the conditions of contract and specifications for the civil works, supply of goods, or installation of equipment, etc., as the case may be, together with a description of the advertising procedures to be followed for the bidding (if prequalification has not been used), and shall make such modifications in the said documents as ADB shall reasonably request. Any further modification shall require ADB's approval before it is issued to the prospective bidders.

46 For contracts procured on the basis of direct contracting under paras. 3.6 and 3.7, the borrower shall furnish to ADB for its approval, prior to contract execution, a copy of the specifications and the draft contract. The contract shall be executed only after ADB has given its approval, and the provisions in (h) of this paragraph shall apply with respect to the executed contract.

(c) After bids have been received and evaluated, the borrower shall, before a final decision on the award is made, furnish to ADB, at least four weeks prior to expiration of bid validity, a detailed report (prepared, if ADB shall so request, by experts acceptable to ADB), on the evaluation and comparison of the bids received, together with the recommendations for award and such other information as ADB shall reasonably request. ADB shall, if it determines that the intended award would be inconsistent with the financing agreement and/or the procurement plan, promptly inform the borrower and state the reasons for such determination. Otherwise,
ADB shall provide its no objection to the recommendation for contract award. The borrower shall award the contract only after receiving the “no objection” from ADB.

(d) If the borrower requires an extension of bid validity to complete the process of evaluation, obtain necessary approvals and clearances, and to make the award, it should seek ADB’s prior approval for the first request for extension, if it is longer than four weeks, and for all subsequent requests for extension, irrespective of the period.

(e) If after publication of the results of evaluation, the borrower receives protests or complaints from bidders, a copy of the complaint and a copy of the borrower’s response shall be sent to ADB for information.

(f) If as result of analysis of a protest the borrower changes its contract award recommendation, the reasons for such decision and a revised evaluation report shall be submitted to ADB for no objection. The borrower shall provide a republication of the contract award in the format of paragraph 2.60 of the Procurement Guidelines.

(g) The terms and conditions of a contract shall not, without ADB’s prior approval, materially differ from those on which bids were asked or prequalification of contractors, if any, was invited.

(h) Promptly after each contract is awarded, ADB shall be furnished with three copies of the contract as executed. If the final contract proposed to be executed differs substantially from the draft contract previously approved by ADB, or if any substantial amendment of the contract is proposed after its execution, the proposed changes shall be submitted to ADB for prior approval.

(i) All evaluation reports shall be accompanied by a summary of the procurement on a form provided by ADB. The description and amount of the contract, together with the name and address of the successful bidder, shall be subject to release by ADB upon receipt of the signed copy of the contract.

3. **Modifications.** In the case of contracts subject to prior review, before granting a material extension of the stipulated time for performance of a contract, agreeing to any modification or waiver of the conditions of such contract, including issuing any change order or orders under such contract (except in cases of extreme urgency) which would in aggregate increase the original amount of the contract by more than 15 percent of the original price, the borrower shall seek ADB’s no objection to the proposed extension, modification, or change order. If ADB determines that the proposal would be inconsistent with the provisions of the financing agreement and/or procurement plan, it shall promptly inform the borrower and state the reasons for its determination. A copy of all amendments to the contract shall be furnished to ADB for its record.

4. **Translations.** Contracts awarded under ICB must be written in English. Any supporting documentation that might have originated in another language (such as technical descriptions of equipment) must be accompanied with an English translation.

**Post Review**

5. ADB and the borrower have agreed on post review, ADB will review and respond as soon as practicable, but no later than 6 months after receipt of the required documents, or it will
be assumed that ADB has no objection to the borrower’s action. The borrower shall retain all
documentation with respect to each contract where post review is required during project
implementation and up to two years after the project closing date. This documentation would
include, but not be limited to, the signed original of the contract, the evaluation report including
the analysis of the respective proposals, and recommendations for award, for examination by
ADB or by its consultants. Master copies of electronic documents must be retained in print form,
suitably authenticated by the issuing agency by signature, stamp or other feature acceptable to
ADB. The borrower shall furnish such documentation to ADB upon award of contract unless
otherwise specified in the financing agreement. If ADB determines that the goods, or works
were not procured in accordance with the agreed procedures as reflected in the financing
agreement, it may declare misprocurement as established in paragraph 1.12 of the Guidelines.
ADB shall promptly inform the borrower the reasons for such determination. If misprocurement
is declared after disbursement, the borrower shall refund the corresponding amount to ADB.
APPENDIX 10

INDICATIVE PROCUREMENT PACKAGES

1. This procurement plan shows the thresholds and particular contracts required to carry out the Project. Project information for the procurement plan is in Table A10.1

<table>
<thead>
<tr>
<th>Table 10.1: Project Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Country</strong></td>
</tr>
<tr>
<td><strong>Name of Borrower</strong></td>
</tr>
<tr>
<td><strong>Project Name</strong></td>
</tr>
<tr>
<td><strong>TA Reference</strong></td>
</tr>
<tr>
<td><strong>Date of Effectiveness</strong></td>
</tr>
<tr>
<td><strong>Amount</strong></td>
</tr>
<tr>
<td><strong>Of which committed</strong></td>
</tr>
<tr>
<td><strong>Executing Agency</strong></td>
</tr>
<tr>
<td><strong>Approval Date of Original Procurement Plan</strong></td>
</tr>
<tr>
<td><strong>Approval of Most Recent Procurement Plan</strong></td>
</tr>
<tr>
<td><strong>Publication for Local Advertisements</strong></td>
</tr>
<tr>
<td><strong>Period Covered by this Plan</strong></td>
</tr>
</tbody>
</table>

2. Equipment, materials and goods, and services financed under the loan will be procured in accordance with Asian Development Bank’s (ADB) Procurement Guidelines (2007, as amended from time to time) and follow ADB procedures. Necessary thresholds for all contract packages envisaged on this Project are shown in Table A10.2.

<table>
<thead>
<tr>
<th>Table 10.2: Procurement Thresholds – Goods and Works Contracts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Procurement Method</strong></td>
</tr>
<tr>
<td>ICB Works</td>
</tr>
<tr>
<td>ICB Goods</td>
</tr>
<tr>
<td>NCB Works</td>
</tr>
<tr>
<td>NCB Goods</td>
</tr>
<tr>
<td>Shopping Works</td>
</tr>
<tr>
<td>Shopping Goods</td>
</tr>
<tr>
<td>Exceptional Methods</td>
</tr>
</tbody>
</table>

ICB = international competitive bidding, NCB = national competitive bidding.

Source: Kunming project management office.

3. Consulting services will be principally selected using quality- and cost-based selection. The threshold for consulting services selection is in Table A10.3.

<table>
<thead>
<tr>
<th>Table 10.3: Procurement Thresholds – Consultants Services</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Procurement Method</strong></td>
</tr>
<tr>
<td>Quality- and Cost-Based Selection (QCBS)¹</td>
</tr>
<tr>
<td>Alternative Methods</td>
</tr>
</tbody>
</table>

¹ A fixed quality-cost ratio of 80:20 will be used.

Table 10.4: Indicative Procurement Packages

<table>
<thead>
<tr>
<th>Ref No.</th>
<th>Contract Package Type and Description</th>
<th>CNY ('000)</th>
<th>$ ('000)</th>
<th>Procurement Method</th>
<th>Expected Date for Advertisement</th>
<th>Prior Review Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Preparatory Works</td>
<td>66,097</td>
<td>8,562</td>
<td>NA</td>
<td>Aug 2007</td>
<td>No</td>
</tr>
<tr>
<td>1.1</td>
<td>Preparatory Works¹</td>
<td>66,097</td>
<td>8,562</td>
<td>NA</td>
<td>Aug 2007</td>
<td>No</td>
</tr>
</tbody>
</table>

¹ The estimated base cost for the consulting contracts is set at $1,000,000. Therefore, selection method for the consulting services will be quality- and cost-based selection and a full technical proposal will be requested.
<table>
<thead>
<tr>
<th>Ref No.</th>
<th>Contract Package Type and Description</th>
<th>CNY ('000)</th>
<th>$ ('000)</th>
<th>Procurement Method</th>
<th>Expected Date for Advertisement</th>
<th>Prior Review</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0</td>
<td><strong>Component 1: Water Sources</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>Shiqiaohe and Xintianhe Reservoirs</td>
<td>27,909</td>
<td>3,615</td>
<td>NCB</td>
<td>Oct 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>2.2</td>
<td>Banqiaohe Reservoir</td>
<td>64,990</td>
<td>8,418</td>
<td>NCB</td>
<td>March 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>2.3</td>
<td>Qingshuhai Reservoir and Tabizi Longtan</td>
<td>52,510</td>
<td>6,802</td>
<td>NCB</td>
<td>Aug 2007</td>
<td>Post Review</td>
<td></td>
</tr>
<tr>
<td>2.4</td>
<td>Jinzongshan Reservoir</td>
<td>23,440</td>
<td>3,036</td>
<td>NCB</td>
<td>March 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3.0</td>
<td><strong>Component 2: Water Conveyance Works</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Shiqiaohe and Banqiaohe to Qingshuai</td>
<td>29,020</td>
<td>3,759</td>
<td>NCB</td>
<td>March 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3.1.1</td>
<td>Shadi tunnel and Xiatuoqi tunnel (including aqueduct works)</td>
<td>66,400</td>
<td>8,601</td>
<td>NCB</td>
<td>March 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3.1.2</td>
<td>Enjia tunnel</td>
<td>46,600</td>
<td>6,036</td>
<td>NCB</td>
<td>March 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3.1.3</td>
<td>Haidang tunnel (including aqueduct works)</td>
<td>46,190</td>
<td>5,893</td>
<td>NCB</td>
<td>March 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3.1.4</td>
<td>Banqiaohe tunnel #1 and #2</td>
<td>29,020</td>
<td>3,759</td>
<td>NCB</td>
<td>July 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3.2</td>
<td>Qingshuai to Tongxin Sluice Gate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.2.1</td>
<td>Dapindi and Xixiangou tunnels</td>
<td>51,530</td>
<td>6,675</td>
<td>NCB</td>
<td>March 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3.2.2</td>
<td>Bailiqing and Dashuidong tunnels</td>
<td>51,040</td>
<td>6,611</td>
<td>NCB</td>
<td>March 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3.2.3</td>
<td>Qinjiazhuang, Longjiacun, and Yujiuzhuang tunnels</td>
<td>55,330</td>
<td>7,167</td>
<td>NCB</td>
<td>March 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3.2.4</td>
<td>Pujiaoshan, Shiliqin, and Yudingshan tunnels</td>
<td>42,710</td>
<td>5,532</td>
<td>NCB</td>
<td>March 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3.2.5</td>
<td>Dahushan tunnel and Dongcun tunnels #1 to #4</td>
<td>46,420</td>
<td>6,013</td>
<td>NCB</td>
<td>March 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3.2.6</td>
<td>Baishishan, Dashanqin, Moshiqin, and Niuluzhuang tunnels</td>
<td>54,770</td>
<td>7,095</td>
<td>NCB</td>
<td>March 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3.2.7</td>
<td>Gegentan, Jinjishan, and Xincun tunnels</td>
<td>57,460</td>
<td>7,443</td>
<td>NCB</td>
<td>March 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3.3</td>
<td>Tongxin Sluice Gate to Jinzongshan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.3.1</td>
<td>Tunnel No. 1 to No. 9</td>
<td>32,480</td>
<td>4,207</td>
<td>NCB</td>
<td>March 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3.4</td>
<td>Concrete Pipe production and installment</td>
<td>44,830</td>
<td>5,807</td>
<td>NCB</td>
<td>June 2009</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3.5</td>
<td>Steel Pipe production and installation</td>
<td>30,110</td>
<td>3,900</td>
<td>NCB</td>
<td>June 2009</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>4.0</td>
<td><strong>Equipment and Installation Under Components 1 and 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.1</td>
<td>Gates and Gate Lifting devices</td>
<td>6,710</td>
<td>869</td>
<td>NCB</td>
<td>July 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>4.2</td>
<td>Hydrological Observation System</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.0</td>
<td><strong>Structural Observation System</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.1</td>
<td>Structural observation</td>
<td>7,000</td>
<td>907</td>
<td>NCB</td>
<td>March 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>6.0</td>
<td><strong>Component 3: Project Management and Capacity Development</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.1</td>
<td>Vehicles and management equipment</td>
<td>5,000</td>
<td>648</td>
<td>NCB</td>
<td>July 2008</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>6.2</td>
<td>Capacity development and consulting services</td>
<td>7,720</td>
<td>1,000</td>
<td>QCBS</td>
<td>March 2008</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

ICB = international competitive bidding, NA = not applicable, NCB = national competitive bidding, QCBS = quality- and cost-based selection.

Road and house for construction, power and water supply, earth and stones supply sites, etc.

No Asian Development Bank financing.

For NCB, the first draft English language version of the NCB procurement documents should be submitted for ADB review and approval regardless of the estimated contract amount. Remaining procurement documents under NCB are subject to post review. ADB will review the bid evaluation report and award of contract on a post-review basis. For ICB, prior review and approval by ADB of procurement documents, bid evaluation reports, and proposed awards of contracts is required.

May use Asian Development Bank retroactive financing.

Source: Kunming Project Management Office.
APPENDIX 11
OUTLINE TERMS OF REFERENCE FOR CONSULTING SERVICES

A. Introduction

33. The Kunming Water Supply Group (KWSG) will be the implementing agency (IA) for the consulting services for the Kunming Qingshuihai Water Supply Project. The Consultancy services will be provided in two parts:

(i) **Project Management Consulting Services** – to include training and assistance with Asian Development Bank (ADB) Procedures: (a) project performance management system (PPMS), (b) procurement and disbursement, and (c) construction programming, supervision, and monitoring, and (d) quarterly reporting.

(ii) **Capacity Building and Training** – to focus on (a) dam reservoir operation, management safety and maintenance management for KWSG; (b) safeguards management and monitoring for KWSG; (c) corporate planning and financial management; and (d) water quality on-line monitoring.

2. The consultancy services will involve international and national experts, with an international team leader and national deputy team leader. The Consultants would assist the IA in liaising and coordinating with ADB, assist with establishing PPMS procedures and preparation of quarterly reports to ADB, assist with establishing of the safeguard and water quality online monitoring systems, and promote the adoption of international standard practice for project management and monitoring systems. Capacity building and training activities would be provided to strengthen the IA’s strategic and business planning processes, dam and reservoir management, online water quality monitoring and safeguards management and monitoring. The Consultants would work with the IA and with other relevant KMG line agencies and local government agencies, as may be necessary, to provide assistance and advice on the tasks outlined below.

3. The Consultants would be recruited by PMO in accordance with ADB Guidelines on the Use of Consultants by Asian Development Bank and its Borrowers. \(^{13}\)

B. Consulting Services for Project Management

4. The Project Management consultants will assist and support the PMO and IA at the start and during the project with:

   (i) reviewing project organization, operation and systems of monitoring and reporting procedures, in accordance with ADB guidelines;

   (ii) assistance in contract bid documentation, bidding and evaluation procedures, and appointment of Contractors;

   (iii) assistance in facilitating required approvals procedures and financial administration, planning and management;

   (iv) finalize the PPMS and implementation for effective safeguards monitoring and reporting; and

   (v) assist on technical, managerial, institutional, coordination and financial activities as appropriate for project completion.

---

C. Capacity Building and Training

5. The Project Management capacity building would include an appropriate mix of study and on-the-job training, to be provided directly by the specialist consultants, under locally arranged training contracts, or through approved in-country or overseas study activities. The capacity building will cover following key areas; Dams and Reservoir Management, Water Quality On - line Monitoring, Safeguards Management and Monitoring, Corporate and Business Planning.

C-1. Dams and Reservoir Management

6. The Consultants will assist or advise KWSG to:

   (i) prepare operation, maintenance and safety manuals, for O&M of water control and regulation equipment, structural stability and seismic sensing monitoring equipment and other routine works;
   (ii) develop system operation procedures for diverting flows from Tabizi Longtan, Banqiaohe, Shiqiaohe, and Xintianhe Dams into Qingshuihai Dam;
   (iii) set up regulations for the release of downstream riparian and environmental requirements in accordance with legal and regulatory requirements;
   (iv) develop routines for monitoring river flows and water quality, and safe operation of flow regulation gates and spillways;
   (v) develop procedures for monitoring and managing sediment in the reservoirs in accordance with relevant environmental management plans;
   (vi) establish procedures for monitoring and managing water quality in reservoirs, to maintain and release water at acceptable standard;
   (vii) implement relevant operational procedures to regulate diversions when Qingshuihai Dam is at maximum storage (or flood) levels;
   (viii) review data from structural stability monitoring equipment, and respond as needed to address situations if they arise, including maintenance of the monitoring equipment;
   (ix) develop a time based inspection and monitoring plan for each dam in accordance with its classification, and the classification of main structures associated with the dam (spillway, tunnels, canals, siphons, aqueducts); and
   (x) develop an Emergency Action Plan (EAP) for floods and following seismic events.

7. The EAP will be prepared in accordance with “World Commission on Dams” guidelines, which require that “Arrangements for public safety must be in place in order to warn the downstream population that sudden releases of water may occur and may be dangerous”. The EAP should include detail on actions to be taken when unusual events occur to threaten the safety of a dam, or that necessitate some irregular operations or response. The capacity building will assist KWSG to develop appropriate EAP response procedures to assure safety of the structures and ‘at risk’ communities.

8. Consultants will also assist KWSG to assess budget costs for regular O&M and the EAP, and develop a financial plan for recurrent budgetary allocations for Dams and Reservoirs in co-operation with the Business Planning Consultants below.
C-2. Water Quality On-Line Monitoring

10. Water Quality on line monitoring training includes the provision of equipment at the cost of US$120,000. The Consultant will provide training and develop reporting formats suitable for water quality monitoring.

C-3. Safeguards Management and Monitoring

11. The consultants will provide advice and assist the KWSG to:

(i) review of both internal and independent external resettlement monitoring and reporting, and recommend actions as needed to ensure compliance with approved resettlement plans and ADB requirements;
(ii) provide training in resettlement monitoring as per ADB requirements and provide follow up advice and support to the IA as needed;
(iii) develop and implement public awareness and education program on related issues such as public health improvement, benefits of clean water supply, responsibilities on environmental protection, and water conservation;
(iv) implement gender awareness program, within the project design and implementation, and development of gender sensitive indicators as part of the PPMS.
(v) develop and implement the environmental monitoring program and reporting procedures to ensure appropriate mitigation measures are undertaken during project construction and prepared for the operational phase of the project facilities;
(vi) provide training for environmental monitoring in accordance with ADB requirements; and
(vii) provide support to prepare, refine and process changes to designs, EIA, EMP and resettlement plans in the event of unforeseen site characteristics.

C-4. Corporate and Business Planning

12. KWSG urgently needs to develop a planning capability to help guide and manage the rapid expansion in its urban water supply activities, especially the proposed expansion into the EDZ and NADZ, plus its undertaking of new activities such as reservoir management for Zhangjiuhe and Qingshuihai. This is best done on the context of developing a Business Plan of its future operations. The key elements of the business planning process for KWSG will be to:

(i) develop a Mission Statement and Define Core Objectives. Develop a set of financial, technical and corporate objectives to be agreed with KMG;
(ii) prepare Water Supply and Demand projections for Kunming City, the new EDZ, and the NADZ up to 2020;
(iii) develop a capital budgeting procedure and prepare plans for capital expenditure for five years and long term plans up to 2020 to cover expansion into EDZ and NADZ;
(iv) prepare financial projections for KWSG water operations, and KWSG consolidated operations for five years and long term plans up to 2020; and
(v) on the basis of the above identify funding and tariff requirements on an annual basis. (in particular, this should include an annual review process covering both water tariffs and reservoir management costs).
13. As part of its ongoing planning and budgeting process, KWSG should annually update its five year plans and longer term plans. This would be done in conjunction with annual budget preparation and tariff reviews. The Business planning process may include training, human resource planning, asset management, organization structure, accounting and IT systems, GIS, and management and financial reporting. However, the key areas identified for capacity building are the preparation of a five year business plan for KWSG, incorporating water supply and demand projections, capital expenditure and funding, and preparation of financial projections, to identify adequacy of tariffs and water management fees. An immediate requirement of the capacity building would be to assist KWSG develop a detailed operational budget for Qingshuihai network of dams/reservoir’s operations, management, and maintenance.

14. In conjunction with the project management consultants, assist the IA to establish ADB project accounting procedures, project costing and invoicing. Also, advise IA on the financial contents of quarterly reports and other reporting milestones required by ADB.

D. Implementation

15. The overall consultancy shall be provided over a five year implementation period. Most of the project management assistance will be concentrated over the first 2 years of the project, while project training and capacity building would be provided from year 3 onwards. Safeguards support, monitoring and training would be implemented intermittently as required. Reports to be submitted are as follows:

(i) Inception report within two months of commencement of the consultancy services will be submitted for review and approval of PMO and for submission to ADB.

(ii) Quarterly progress summary detailing programmed and actual progress versus the overall project work plan.

16. The Consultant will assist the PMO to prepare and submit a project inception, quarterly progress reports, a mid-term and project completion report (PCR) that confirms the status of the project for discussion with ADB at related review missions. The reports should also include an assessment on the Consultants progress against program, an indication of any key outstanding issues, and an updated development program (if relevant) for key project activities. Three copies of each report will be submitted to PMO in English for onward transmission to ADB.

E. Consultancy Inputs

17. Consultant inputs (months) are summarized below.

<table>
<thead>
<tr>
<th>Table 11-1: Schedule of Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Management Consultancy Services</td>
</tr>
<tr>
<td>----------------------------------------</td>
</tr>
<tr>
<td>1. Assistance for Project Management, Quarterly Reporting</td>
</tr>
<tr>
<td>2. Assistance for Tender Documentation and Bid Evaluation</td>
</tr>
<tr>
<td>3. Construction Management</td>
</tr>
</tbody>
</table>

Sub-Total | 6 | 30 |

Capacity Building and Training

<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>----------------------------------</td>
</tr>
<tr>
<td>4. Dam / Reservoir Management</td>
</tr>
<tr>
<td>5. Water Quality Monitoring</td>
</tr>
<tr>
<td>6. Social and Community Development and Monitoring</td>
</tr>
<tr>
<td>7. Corporate Planning Specialist</td>
</tr>
</tbody>
</table>

Sub-Total | 12 | 42 |

Total | 18 | 72 |

Note: 1/ All national Consultants should be bilingual (Chinese and English speaking) in order to effectively liaise with International Consultants and ADB Missions.
Table 11-2: Schedule of Specialists

<table>
<thead>
<tr>
<th>International Consultants</th>
<th>Person-months</th>
<th>National Consultants</th>
<th>Person-months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Management Spec’t / TL 1/</td>
<td>6</td>
<td>Construction Engineer / DTL1/</td>
<td>20</td>
</tr>
<tr>
<td>Dam / Reservoir Mang’t Spec’t</td>
<td>4</td>
<td>Contracts Specialist</td>
<td>10</td>
</tr>
<tr>
<td>Water Quality Monitoring Specialist</td>
<td>2</td>
<td>Dam / Reservoir Mang’t Spec’t</td>
<td>10</td>
</tr>
<tr>
<td>Corporate Planning Specialist</td>
<td>6</td>
<td>Social/Community Dev’t and Monitoring Spec’t</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Water Quality Monitoring Specialist</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Corporate Planning Specialist</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
<td><strong>Total</strong></td>
<td><strong>72</strong></td>
</tr>
</tbody>
</table>

Note: 1. The Deputy Team Leader inputs will be spread over five years, and DTL will be responsible in the absence of the TL. TL may make short visits in years 3 and 4 as may be needed and agreed for key project missions to verify overall progress and performance.

F. Services and Facilities to be Provided by the PMO (KWSG)

18. The PMO shall make the following available to the Consultant for the duration of the consultancy assignment:

   (i) Furnished, serviced, clean office accommodation with running water, together with telephone, broadband internet connection, and access to fax, printing and photocopying facilities;
   
   (ii) A dedicated liaison officer, with good English language skills, to facilitate Consultant coordination and support for the PMO;
   
   (iii) Fully qualified counterpart personnel to be based in PMO or IA, to work full time, or as otherwise required with the equivalent Consultant specialists;
   
   (iv) Administrative support staff (secretary, clerk – with written and spoken English capability) to assist the international staff undertake all tasks and interaction with PMO and IA counterparts, and other KMG officials as required;
   
   (v) Access to all data, documents, reports, accounts, drawings and maps, and permissions to enter works and offices, as appropriate and necessary to undertake the work; and
   
   (vi) Drivers and vehicles as required (costs to be reimbursed by the Consultant).

G. SERVICES AND FACILITIES TO BE PROVIDED BY THE CONSULTANT

19. The Consultant shall include in their financial proposal, provisions for the following general items:

   (i) International and national consultants. National consultants are to have as a minimum bilingual speaking skills
   
   (ii) All Consultant fees, including international and local travel, housing accommodation and subsistence, including a provisional sum of $50,000 for local travel costs;
   
   (iii) Computer equipment and related hardware (printers, memory sticks) and software necessary for the effective conduct of the consultancy, including a monthly allowance for consumables; to be approved by the PMO. The equipment will become the property of the IA at the end of the consultancy contract. Financial proposals should allow for up to $15,000 for equipment and $15,000 for consumables;
(iv) Arrangements and financial provision for in-country training programs to be reimbursed at cost, including by Statement of Expenditures (SOE), up to a sum of $60,000;

(v) Arrangements and financial provision for up to two overseas study visits (reservoir management; corporate planning) to modern utility companies, reimbursable at cost, up to a sum of $80,000 [specific training programs have still to be determined and shall be approved by the PMO];

(vi) The provision of a fully qualified interpreter to work with the Consultant on a full-time basis; and

(vii) An allowance for the production and translation of all reports and documents as agreed under the Contract, with a sum of $10,000 provided for this purpose.

20. Items to be reimbursed at cost must be clearly indicated in the financial proposal.

H. GUIDANCE IN THE PREPARATION OF TECHNICAL PROPOSALS

21. The Consultant is requested to make constructive comments and suggestions to improve these Terms of Reference in their Technical Proposal, and any financial implications of these suggestions should be clearly indicated in the Financial Proposal, for discussion and agreement at negotiation stage.

22. The technical proposal shall demonstrate a clear understanding of the PMO’s requirements and indicate the linkages between the various tasks within the assignment, with an indicative program for the work and deployment of personnel.

23. The technical proposal shall include a methodology and proposed assessment criteria under which the IA can measure Consultant performance during implementation of the consultancy services. This must include assessment of work quality as well as timeliness of output. By submitting such assessment criteria the Consultant accepts its use in measuring their own performance.

I. INDICATIVE BUDGET

24. The following table provides a provisional outline budget for the proposed consulting services.

<table>
<thead>
<tr>
<th>Item</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Consultancy, including fees, per diems and airfares (18 pm at $22,225/month)</td>
<td>400,000</td>
</tr>
<tr>
<td>National Consultancy (72 person-month @ $3,600/month)</td>
<td>250,000</td>
</tr>
<tr>
<td>Overseas training (2 trip-groups)</td>
<td>80,000</td>
</tr>
<tr>
<td>Local in-country training</td>
<td>60,000</td>
</tr>
<tr>
<td>Water Quality Monitoring System Installation and Training</td>
<td>120,000</td>
</tr>
<tr>
<td>Local transportation (vehicle and expendables)</td>
<td>50,000</td>
</tr>
<tr>
<td>Office Equipment, consumables, translation</td>
<td>40,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,000,000</strong></td>
</tr>
<tr>
<td>Item</td>
<td>Year</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td><strong>Project Management (Counterpart)</strong></td>
<td></td>
</tr>
<tr>
<td>Project Management Office</td>
<td></td>
</tr>
<tr>
<td>Project Implementation Unit</td>
<td></td>
</tr>
<tr>
<td>Consulting Services</td>
<td></td>
</tr>
<tr>
<td><strong>Capacity Building</strong></td>
<td></td>
</tr>
<tr>
<td>Dam Reservoir Management</td>
<td></td>
</tr>
<tr>
<td>Safeguards Implementation and Monitoring</td>
<td></td>
</tr>
<tr>
<td>Corporate Planning</td>
<td></td>
</tr>
<tr>
<td>Water Quality On-line Monitoring</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX 12
DISBURSEMENT PROCEDURES


A. DIRECT PAYMENT PROCEDURE

1. ADB, at the borrower’s request, pays a designated beneficiary directly from the loan funds (para. 7 of the handbook)

1. Basic Requirements
   (i) signed withdrawal application (form ADB-DRP/RMP in Appendix 5 of the Handbook);
   (ii) summary sheet (form ADB-DRPSS in Appendix 8 of the Handbook); and
   (iii) separate withdrawal application is required for each different currency.

2. Supporting Documents
   (i) contract or confirmed purchase order (PO) indicating amount and due date;
   (ii) For payment of goods: supplier’s invoice, bill of lading, or other similar documents;
   (iii) For payment of services: consultant’s claim or invoice; and
   (iv) For payment of civil works: claim or invoice from the contractor and a summary of work progress certified by the project engineer and approved by the borrower’s authorized representative.

B. COMMITMENT PROCEDURE
(The narrative procedures for the commitment procedure are in Appendix 20).

2. ADB, at the borrower’s request, irrevocably agrees to reimburse a commercial bank for payments made or to be made to a supplier against a Letter of Credit (LC), limited to the amount available in the loan account.

3. The LC, issued by the borrower’s bank (LC issuing bank) only becomes operative when ADB issues its commitment letter to the advising or negotiating bank in the supplier’s country, which is irrevocable, as ADB’s obligation is not affected by the suspension or cancellation of the loan.

1. Basic Requirements
   (i) signed application for commitment letter (form ADB-CL in Appendix 6)
   (ii) summary sheet (form in Appendix 9) with required supporting documents.
   (iii) separate application is required for each different currency in which a commitment letter is requested.

2. Supporting Documents
   (i) contract or confirmed PO (if not previously submitted to ADB); and
   (ii) two signed copies of the LC for which ADB’s commitment letter is requested.

3. Issuance of Commitment Letter

4. Upon approval of the borrower’s application for a commitment letter, ADB issues a commitment letter (see Appendix 15) to a commercial bank specified in the LC. A copy of the commitment letter is also provided to the borrower for information.

5. In cases where the letter of credit indicates separate advising bank and nominated commercial bank, ADB will issue the commitment letter to the nominated commercial
bank, with copy to the advising bank. Indicating “negotiation with any bank” is not acceptable.

6. No commitment letter is issued if shipment or LC expiry date fall beyond the loan closing date.

4. Accepting the Commitment Letter

7. The nominated commercial bank’s first request for payment under the commitment letter constitutes acceptance of ADB’s terms and conditions.

5. Payment to Commercial Banks

8. ADB will make payments from the loan account after the supplier’s nominated commercial bank has confirmed payment or intent to pay in accordance with the LC terms.

9. Reimbursement requests from nominated commercial banks are made in authenticated SWIFT or tested telex. The words “(i) LC terms have been fully complied with, (ii) documents were presented within the original expiry date or expiry date as extended, and (iii) discrepancies, if any, have been referred to and accepted by LC issuing bank” or the word “Condiment” must be written on the request for reimbursement. (Appendix 16).

6. Amendments to the LC

10. The borrower requests ADB’s approval for LC amendments (duly signed and attached) received from the LC issuing bank (Appendix 17). ADB communicates approval to the nominated commercial bank and the borrower (form in Appendix 18) or by authenticated SWIFT, tested telex, or formal approval letter. Other methods available to expedite the application, together with specific requirements, for LC amendment are detailed in para 8 of the Handbook.

11. Amendments to the LC for: (i) extending the expiry date and shipping dates up to the loan closing date; and (ii) other amendments except those mentioned in para. 12 need not be submitted to ADB for approval, provided the borrower informs ADB (form Appendix 19) and submits signed copy of the amendment.

7. Amendments Requiring ADB’s Prior Approval

12. Prior approval is required for LC amendment that involves:
   • extension of LC expiry date beyond loan account closing date (loan agreement or as otherwise extended by ADB); or for changes in the LC’s:
     • value or currency;
     • description or quantity of goods;
     • country of origin;
     • beneficiary; and
     • terms of payment.
   The nominated commercial bank(s) should copy all proposed amendments to ADB for information or approval.
8. Limitation of ADB’s Commitment

13. The borrower agrees in the application form that if the US Dollar or SDR\(^{14}\) equivalent as specified in ADB’s commitment is exceeded due to currency fluctuations, ADB may use the uncommitted loan portion to cover any shortfall, and if the uncommitted portion is insufficient, the borrower agrees to pay the remaining obligation promptly.

14. ADB is unable to honor the payment claim of the nominated commercial bank if there is any discrepancy in the documentation, in which case the nominated commercial bank must seek, through the LC issuing bank, the borrower’s authorization to pay.

9. Linking the LC to the Commitment Letter

15. The LC is linked to ADB’s commitment letter with the following clause: “This letter of credit is established under Asian Development Bank Loan \(\text{number}\) and becomes effective only if and when the Asian Development Bank issues its commitment letter to the nominated commercial bank. For payment, please follow the instructions contained in the commitment letter.”

16. Alternatively, the LC need not have the clause. Instead, it is immediately operative on the strength of the LC issuing bank’s commitment to finance the transaction. ADB’s commitment, if and when issued, will shift the financing commitment from the LC issuing bank to ADB. In this case, the LC contains the following clause: “The financing of this letter of credit is undertaken by \(\text{LC issuing bank}\). However, it is established under Asian Development Bank Loan \(\text{number}\), and if and when the Asian Development Bank issues its commitment letter to the advising or negotiating bank, the latter shall follow the provisions contained in the said commitment letter, and claim payment or reimbursement from the Asian Development Bank.”

C. REIMBURSEMENT PROCEDURES

17. ADB pays from the loan account to the borrower’s account or, in some cases, to the project account for eligible expenditures incurred and paid for by the borrower or EA out of its budget allocation or own resources. Payments are made only to the borrower or EA and not to a third party (e.g., supplier, contractor, etc.). The procedure will normally require submission of full supporting documentation.

1. Basic Requirements
   (i) signed withdrawal application (form ADB-DRP/RMP in Appendix 5)
   (ii) summary sheet (form ADB-RMP-SS in Appendix 8)
   (iii) separate withdrawal application for each currency
   (iv) separate summary sheets for each loan category or subcategory grouping items claimed by contract number.

2. Supporting Documents\(^{15}\)
   (i) contract or confirmed PO (if not yet submitted to ADB)
   (ii) copy of the invoice/bill/claim and delivery receipt

\(^{14}\) Special Drawing Rights (SDR) refers to a basket of currencies consisting of US dollar, Japanese yen, pound sterling, and euro.

\(^{15}\) If supporting documents are written in local language, there should be an English translation of important words/items in the documents (e.g., the title of the document, name of the supplier/contractor, description of goods and services, amounts and dates).
Appendix 12

(iii) evidence of payment showing amount paid, date of receipt, and payee.
(iv) documentation can be submitted in simplified format as per para 9.6 of the Handbook, subject to compliance with the stated requirements and procedures. The narrative procedures for reimbursement procedures are shown in Appendix 21.

D. STATEMENT OF EXPENDITURES (SOE) PROCEDURE

18. This is a simplified procedure requiring no submission of supporting documentation, as per paragraphs 9.8 to 9.22 of the handbook. The procedure requires the use of the SOE form which is submitted with the withdrawal application, where the SOE replaces the usual supporting documents and summary sheet(s).

19. The available SOE forms are:
   - for contracts of US$100,000 and below (see Appendix 22);
   - for contracts over US$100,000 (see Appendix 23);
   - for noncontract items, mostly related to operating and overhead expenses (see Appendix 24); and
   - (free format) for items not provided in the other SOE forms (see Appendix 25).

SOE procedure may also be used when liquidating or replenishing the imprest account, if allowed by ADB.

1. Conditions for Using the Procedure

20. The borrower may use this procedure when:

(i) **Impracticability of Full Documentation** – limited availability of full supporting documentation (e.g. EA operating costs or expenditures related to contracts scattered over a wide area).

(ii) **Borrower’s Capability** – there is sufficient administrative and accounting capability to prepare and maintain proper SOE records and make them available for examination.

(iii) **Audit Arrangements** - the borrower can arrange for periodic or annual audits of the SOE transactions as part of the project audit.

2. Approval and Use of the Procedure

21. The reimbursement section of the handbook, related to necessary provisions and procedures for use of SOE should be followed. ADB staff will have identified if there is a need for using SOE procedures during Appraisal, and if approved, it is provided for in the RRP and loan agreement.

E. FORCE ACCOUNT WORKS PROCEDURE

22. Is used for reimbursing the borrower for expenditures incurred to carry out certain approved project civil works. Two certificates are used in lieu of supporting documents:

   (i) for physical progress (Part 1)
   (ii) for financial progress (Part 2) (see Appendix 26).

1. Conditions for Using the Procedure

23. This is applicable when the borrower uses its own work force, equipment, and other resources, or when the size, nature, and location of the works make competitive bidding unsuitable. ADB must be assured that the borrower’s construction facilities are adequate and efficient, and the borrower is capable of doing the work expeditiously at reasonable cost.
2. Details on the Certificates

24. Details to be provided on the Certificates

<table>
<thead>
<tr>
<th>Indicates</th>
<th>First Certificate</th>
<th>Second Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative % of completion of physical progress of work</td>
<td>1. Cumulative amount in US$ that can be withdrawn</td>
<td></td>
</tr>
<tr>
<td>1. Project Engineer or 2. Authorized representative of EA or project consultant</td>
<td>2. Current amount of claim based on the % of work completed</td>
<td></td>
</tr>
<tr>
<td>Certified and signed by or authorized</td>
<td>Borrower’s authorized representative</td>
<td></td>
</tr>
</tbody>
</table>

25. A progress report on civil works (form physical progress by project activities (see Appendix 27)) should be prepared, with percentage completion in agreement with the first certificate.

F. IMPREST FUND PROCEDURE
(The narrative procedures for the imprest fund procedure are shown in Appendix 34).

26. ADB makes an advance disbursement from the loan account to an imprest account (the Account) to be used exclusively for ADB’s share of eligible expenditures. The Account helps the borrower to reduce cash flow difficulties for pre-financing project expenditures. The borrower will have more control over payments; and can reduce the number of withdrawal applications needed to pay for small expenditures and related costs.

1. Conditions for Use of the Procedure

27. The borrower must confirm the following conditions exist:
   (i) **Need for the Procedure** - justify using the procedure, indicating cash flow requirements for effective project implementation (e.g numerous small expenditures).
   (ii) **Borrower's Capability** - sufficient administrative and accounting capability to ensure adequate internal control, accounting, and auditing for efficient operation of the Account.
   (iii) **Audit Arrangements** - sufficient capability to arrange for periodic and annual independent audits of the Account, with auditors acceptable to ADB.

2. Approval of Procedure

28. ADB staff identify the need for the imprest fund procedure during Appraisal, and if approved, it must be provided for in the RRP and loan agreement (applicable to both first and second generation imprest accounts). If, during project implementation, the borrower needs to use the procedure, approval can be requested from ADB, through the CTL for joint approval by the controller and the sector director general concerned.

3. Basic Requirements

29. signed withdrawal application for imprest account (see Appendix 7)

30. statement of the estimated ADB share of project expenditures on form ADB-IFP-EES (see Appendix 29).

31. establishment of an exclusive bank current account for depositing advances in the borrower's name, at the Central Bank of the borrower's country or in a commercial bank the borrower designates, capable of:
   • executing foreign exchange and local currency transactions;
   • opening letters of credit and handling a large volume of transactions; and
• issuing detailed monthly bank statements promptly.

(iv) operation of the account in an agreed convertible and stable currency, confirmed during loan negotiations and indicated in the loan agreement

(v) The Account is used to pay contractors, suppliers, and others for ADB’s share of eligible project expenditures incurred in local and foreign currency, in accordance with ADB’s terms and conditions for operation of an Imprest fund advances. Any use of the imprest funds for activities other than the eligible project activities will invoke corrective action deemed appropriate by ADB.

4. Ceiling of Advances

29. For project loans, total advances are not to exceed the estimated ADB share of eligible project expenditures to be financed over the next 6 months or 10 percent of the loan amount whichever is lower. The borrower must obtain prior ADB approval for any upward changes in the approved ceiling, by sending a request to ADB for approval by the Assistant Controller, CTLA and the sector division director concerned.

5. Initial Advance

30. The borrower may request an initial advance (not exceeding the initial ceiling), to be deposited in the Imprest account, based on approved contracts and planned expenditures for the first 6 months of the project, including LCs in small amounts, to be paid through the imprest account.

6. Liquidation/Replenishment

31. As eligible expenditures are incurred and paid from the Account, the borrower requests liquidation / replenishment by submitting a withdrawal application and the applicable summary sheet using the form in Appendix 8 (full documentation) or Appendix 22 to 25 (SOE procedure if approved). The corresponding bank statement and reconciliation statement (see Appendix 30) should also be submitted with the application, in the currency of the Account.

7. Recovery of Advances or Final Liquidation of the Account

32. Advances are to be gradually reduced within 1 year before the loan closing date or when the undisbursed balance of the loan, excluding outstanding commitments, is equal to twice the amount of advance, whichever comes first. This is to ensure that sufficient time is provided for the borrower to obtain supporting documentation for clearing the outstanding advances before the loan account is closed. The form to be used is shown in Appendix 31. The borrower must promptly refund to ADB, in the currency of the Account, any balance of the advance not liquidated at the time of loan closing.

8. Comfort Letter

33. Where the Account is maintained in a bank other than the Central Bank of the borrowing country (the bank), a comfort letter (see Appendix 32) is required to protect the interest of both the borrower and ADB. The letter confirms that the bank shall not assert any claim to set off, seize, or attach amounts on deposit to the Account to satisfy amounts due to the bank by the borrower.

9. Second-Generation Imprest Account (SGIA)

34. ADB allows, but only in special cases with prior approval, an SGIA to be opened in the name of an implementation agency (IA) or unit which will receive funds from the first generation imprest account to meet project expenditures incurred by the IA. The SGIA
shall be a separate bank account opened for the exclusive use of the project, with the following criteria:

• a clearly defined need for SGIA; and
• the primary EA of the project and the IA having adequate accounting and internal controls over the SGIA.
• the borrower should ensure that every liquidation and replenishment of each SGIA will be supported with:
  i. the statement of account (bank statement) prepared by the bank where the SGIA is maintained, and
  ii. a SGIA reconciliation statement (Appendix 33) reconciling the above mentioned bank statement against the SGIA’s records.

These supporting documents should be retained by PMO and be made available to ADB upon request.

10. Audit Arrangements
35. Accounts and SGIA’s must be audited regularly by independent and qualified auditors acceptable to ADB. The audits should be part of regular annual audits of the project accounts, where separate audit opinions are included in the annual audit reports.

11. Review by ADB Staff
36. ADB reserves the right to conduct spot or random checks of expenditures covered by the imprest account through special disbursement missions or review missions, or upon ADB’s request for submission of supporting documents on sampling basis.

12. Suspending Replenishment
37. ADB may suspend replenishment of the Account if
• the loan is declared suspended by ADB, partially or fully;
• audit reports or ADB missions indicate significant irregularities in the operation of the imprest account; or
• the Account has been inactive for more than 6 months and no application for replenishment has been submitted.

During any suspension, no additional fund will be advanced to the Account, but funds still in the Account can be used to meet eligible expenditures. Withdrawal applications submitted for these expenditures will be applied to liquidate the balance of advances.

G. INSTRUCTIONS FOR WITHDRAWAL OF LOAN PROCEEDS

1. Authorized Signatory
38. The borrower’s duly authorized representative(s), in accordance with the Loan Regulations and loan agreement, must be designated in the loan agreement, with sufficient evidence of the authority of the person(s) who will sign withdrawal applications (with provision of their authenticated specimen signatures), this must reach ADB before the borrower submits the first withdrawal application.

2. Allocating Loan Proceeds
39. Items to be financed by ADB loans are usually grouped into loan categories, and these, and the amount allocated to them at appraisal are detailed in the loan agreement

---

16 Suspension is applicable only to affected Executing Agency or component.
between the borrower and ADB. Reallocation between categories may be allowed unless prohibited in the loan agreement.

3. **Currency of Withdrawal**

40. For ADF loans invited for negotiations before 1 January 2006, withdrawals are made either in the currencies in which the cost of goods and services has been paid or is payable, or in such currencies as ADB may select from time to time. For ADF loans invited for negotiations on or after 1 January 2006, withdrawals can only be made in one or more currencies which constitute the special drawing rights (SDR), as ADB may from time to time select.

41. In accordance with OCR loan regulations, withdrawals are made in the loan currency to meet the cost of goods and services. If ADB shall have reasonably determined that an extraordinary situation shall have arisen under which ADB shall be unable to provide the loan currency at any time for purposes of funding the loan, ADB may provide such substitute currency or currencies for said loan currency as ADB shall select.

4. **Currency of Payment**

42. In principle, payment is made in the currency in which the cost of goods and services has been paid or is payable. For expenditures incurred in the borrower's currency (local currency), the amount requested in the withdrawal application must be in local currency. A separate withdrawal application is required for each currency.

5. **Payment Instructions**

43. To ensure prompt and secure remittance, the payment instructions should have the following details:

- Full name and address of payee for proper identification of payment;
- Full name and address of the payee's bank, which may include a banker/branch designation;
- SWIFT Bank Identifier Code (BIC) if payee’s bank is a member of SWIFT;
- Payee’s account number is mandatory;
- For payments to anywhere in Europe, the International Bank Account Number (IBAN) and the related SWIFT BIC of payee’s bank should be provided;
- If SWIFT BIC for the payee’s bank is not available, provide the national clearing system code such as Fedwire Routing number (FW), CHIPS Universal Identifier (CH), UK Domestic Sort Code (SC), Australian Bank State Branch Code (AU), German Bankleitzahl (BL) account number with the correspondent bank, where applicable • Full name and address of correspondent bank, if payment is to be made to a bank not located in the country of the currency to be paid. Provide SWIFT BIC if correspondent bank is member of SWIFT;
- If SWIFT BIC for the correspondent bank is not available, provide Fedwire ABA Number and CHIPS Participant Number for US dollar payments
- Special instructions or references to facilitate payment or identification of payment, where applicable

6. **Other Instructions**

(i) The signed original copy of the withdrawal application is submitted to ADB.

(ii) The accompanying summary sheet should be signed by the borrower's authorized representative and/or project official. Supporting documents may be submitted as photocopies.
(iii) A summary of supporting documents required for processing payment of withdrawal application is shown in Appendix 10.

H. PROJECT DISBURSEMENT SCHEDULE

PROJECT DISBURSEMENT SCHEDULE BY FINANCING SOURCE ($ '000)

<table>
<thead>
<tr>
<th>FINANCING SOURCE</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3</th>
<th>YEAR 4</th>
<th>YEAR 5</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First</td>
<td>Second</td>
<td>First</td>
<td>Second</td>
<td>First</td>
<td>Second</td>
</tr>
<tr>
<td>1. ADB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Government</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Interest Charges paid by GOU</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. TOTAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ADB DISBURSEMENTS (%)</th>
<th>0</th>
<th>9</th>
<th>27</th>
<th>12</th>
<th>24</th>
<th>12</th>
<th>3</th>
<th>1</th>
<th>1</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First</td>
<td>Second</td>
<td>First</td>
<td>Second</td>
<td>First</td>
<td>Second</td>
<td>First</td>
<td>Second</td>
<td>First</td>
<td>Second</td>
</tr>
</tbody>
</table>
APPENDIX 13
SAMPLE AUDIT LETTER

ASIAN DEVELOPMENT BANK

Regional Department
Sector Division / Regional or Resident Mission

[Date]

[The Borrower]
Dear Sir or Madam:

Subject: [Loan No. and Project Title]
FINANCIAL REPORTING AND AUDITING REQUIREMENTS

This letter is to ensure your timely compliance with the loan covenants and the quality of financial information as required by ADB. ADB’s Financial Reporting and Auditing of Projects Financed by ADB (the Booklet) is enclosed to guide you.

ADB, by its Charter, is required to ensure that the proceeds of any loan made, guaranteed, or participated in by ADB are used for the purposes for which the loan was approved. ADB requires accurate and timely financial information from its borrowers to be assured that expenditure was for the purposes stated in the loan agreement.

For this particular loan, the requirements are stipulated in sections _____ and _____ of the Loan Agreement of ______________ between ADB and [the Borrower] and sections _____ and _____ of the Project Agreement of ______________ between ADB and [name of the EA]. Copies of the Loan/Project Agreements are enclosed for onward transmission by your office to your EA and the auditor(s), together with a copy of this letter.

The following are the main requirements:

- ADB requires the EA to maintain separate project accounts and records exclusively for the Project to ensure that the loan funds were used only for the objectives set out in the Loan or Project Agreements. The project accounts comprise the following:
  - The first set of project accounts to be submitted to ADB covers the fiscal year ending ______________. As stipulated in the Loan or Project Agreements, they are to be submitted up to ______________ months after the end of the fiscal year. For this loan, the deadline is by ______________. A sample report format with explanatory notes, is attached as Annex A.

- The accounts and records for the project are to be consistently maintained by using sound accounting principles. Please stipulate that your external auditor is to express an opinion on whether the financial report has been prepared using international or local generally accepted accounting standards and whether they have been applied consistently.
ADB prefers project accounts to use international accounting standards prescribed by the International Accounting Standards Committee. Please advise your external auditor to comment on the impact of any deviations, by [name of the Executing Agency] from international accounting standards.

- Please ensure that your external auditor specifies in the Auditor's Report the appropriate auditing standards they used, and direct them to expand the scope of the paragraph in the Auditor's Report by disclosing the key audit procedures followed. Your external auditor is also to state whether the same audit procedures were followed for all supplementary financial statements submitted.

ADB wishes that auditors conform to the international auditing standards issued by the International Federation of Accountants. In cases where other auditing standards are used, request that your external auditor to indicate in the Auditor's Report the extent of any differences and their impact on the audit.

- The external auditor's opinion is also required on whether
  - the proceeds of the ADB's loan have been utilized only for the project as stated in the Loan Agreement;
  - the financial information contains data specifically agreed upon between [name of the Borrower or EA] and ADB to be included in the financial statements;
  - the financial information complies with relevant regulations and statutory requirements; and
  - compliance has been met with all the financial covenants contained in the Loan or Project Agreements.

- The Auditor's Report is to clearly state the reasons for any opinions that are qualified, adverse, or disclaimers.

- Actions on deficiencies disclosed by the external auditor in its report are to be resolved by [name of Borrower or Executing Agency] within a reasonable time. The external auditor is to comment in the subsequent Auditor's Report on the adequacy of the corrective measures taken by [name of Borrower or EA].

Compliance with these ADB requirements will be monitored by review missions and during normal project supervision, and followed up regularly with all concerned, including the external auditor.

Yours sincerely,

Director /Country Director
(Sector Division/Regional or Resident Mission)

cc: (EA)
(External auditor of the Borrower or EA)
APPENDIX 14
PROGRESS REPORT FORMAT

PRO FORMA OF THE EXECUTING AGENCY’S PROJECT PROGRESS REPORT

A. Introduction and Basic Data

Provide the following:

- ADB loan number, project title, borrower, executing agency(ies), implementing agency(ies);
- total estimated project cost and financing plan;
- status of project financing including availability of counterpart funds and cofinancing;
- dates of approval, signing, and effectiveness of ADB loan;
- original and revised (if applicable) ADB loan closing date and elapsed loan period based on original and revised (if applicable) loan closing dates; and
- date of last ADB review mission.

B. Utilization of Funds (ADB Loan, Cofinancing, and Counterpart Funds)

Provide the following:

- cumulative contract awards financed by the ADB loan, cofinancing, and counterpart funds (commitment of funds to date), and comparison with time-bound projections (targets);
- cumulative disbursements from the ADB loan, cofinancing, and counterpart funds (expenditure to date), and comparison with time-bound projections (targets); and
- reestimated costs to completion, need for reallocation within ADB loan categories, and whether an overall project cost overrun is likely.

C. Project Purpose

Provide the following:

- status of project scope/implementations arrangements compared with those in the report and recommendation of the President (RRP), and whether major changes have occurred or will need to be made;
- an assessment of the likelihood that the immediate development objectives (project purpose) will be met in part or in full, and whether remedial measures are required based on the current project scope and implementation arrangements;
- an assessment of changes to the key assumptions and risks that affect attainment of the development objectives; and
- other project developments, including monitoring and reporting on environmental and social requirements that might adversely affect the project's viability or accomplishment of immediate objectives.
D. Implementation Progress

Provide the following:

- assessment of project implementation arrangements such as establishment, staffing, and funding of the PMO or PIU;
- information relating to other aspects of the EA’s internal operations that may impact on the implementation arrangements or project progress;
- progress or achievements in implementation since the last progress report;
- assessment of the progress of each project component, such as,
  - recruitment of consultants and their performance;
  - procurement of goods and works (from preparation of detailed designs and bidding documents to contract awards); and
  - the performance of suppliers, manufacturers, and contractors for goods and works contracts;
- assessment of progress in implementing the overall project to date in comparison with the original implementation schedule—quantifiable and monitorable target, (include simple charts such as bar or milestone to illustrate progress, a chart showing actual versus planned expenditure, S-curve graph showing the relationship between physical and financial performance, and actual progress in comparison with the original schedules and budgets, the reference framework or guidelines in calculating the project progress including examples are shown in Appendix 2); and
- an assessment of the validity of key assumptions and risks in achieving the quantifiable implementation targets.

E. Compliance with Covenants

Provide the following:

- the borrower’s compliance with policy loan covenants such as sector reform initiatives and EA reforms, and the reasons for any noncompliance or delay in compliance;
- the borrower’s and EA’s compliance with financial loan covenants including the EA’s financial management, and the provision of audited project accounts or audited agency financial statements; and
- the borrower’s and EA’s compliance with project-specific loan covenants associated with implementation, environment, and social dimensions.

F. Major Project Issues and Problems

Summarize the major problems and issues affecting or likely to affect implementation progress, compliance with covenants, and achievement of immediate development objectives. Recommend actions to overcome these problems and issues (e.g., changes in scope, changes in implementation arrangements, and reallocation of loan proceeds).
Framework and Guidelines in Calculating Project Progress

A. Introduction

1. To ensure that all implementation activities are reflected in measuring implementation progress against the project implementation schedule, the term "physical completion" in the PPR has been changed to "project progress."

2. Physical and precommencement activities are considered in calculating project implementation progress. These activities, which may include recruitment of consultants, capacity building, detailed design, preparation of bid and prequalification documents, etc., could constitute a significant proportion of overall implementation and therefore should be counted.

3. Each activity in the implementation schedule will be weighted according to its overall contribution (using time as a reference) to progress of project implementation. These weights will then be used to calculate the percentage of project progress along the entire time span of the project. This is to provide a holistic view of the pace of implementation.

B. Framework for Compiling Activity List and Assigning Weights

4. As implementation activities and their corresponding weights will vary according to the type of project, sector, and country, sector divisions or RMs will be responsible for determining and including them in the project administration memorandum. The actual project implementation progress of these activities should be reported regularly through the EA’s quarterly project progress report. To ensure ADB-wide consistency, the following framework has been established; its application will be monitored through the PPR.

1. Compilation of Activity List

5. Sector divisions or RMs concerned should identify major implementation activities and include them in the implementation schedule, which is attached as an appendix in the report and recommendation of the President (RRP). The implementation schedule should follow the critical path of the project’s major activities in project implementation taking account of various country, sector, and project constraints.

2. Assignment of Weights

6. Corresponding weights for each activity should be assigned to ensure that “project progress” measures the percentage of achievement (nonfinancial except when the project has credit components) for all events during the entire duration of the implementation schedule. To avoid disproportionate assignment of weights, to the extent possible these should be evenly distributed along the implementation schedule. When activities are concurrent, avoid “double counting.”

3. Computation of Project Progress

7. Once all activities are identified and corresponding weights assigned, project progress should be calculated using the following steps:

   (i) Determine the actual percentage progress (nonfinancial) of each activity.
(ii) Multiply these percentages by the assigned weight of each activity to arrive at the weighted progress.

(iii) Add up the resulting weighted progress of all activities to determine the project progress.

Page 3 of this Appendix provides an illustration of this calculation using a generic sample implementation schedule and this Appendix, page 4 a specific example in the education sector.

**Implementation Schedule with Activities and Weights**

1. Sum of all weights should equal 100 percent (a+b+c+d+e+f+g = 100%)
2. When calculating the percentage of “project progress,” all completed activities should be counted as accomplished, regardless of when they were scheduled to be completed. For example, when calculating the percentage of “project progress” after year 3, if activity D is completed in year 3 rather than in year 2, it should still be included in the computation.
3. Total weight of each activity is as follows: Activity A–a; Activity B–b; Activity C–c; Activity D–d; and Activity E–e + f +g
4. Project progress of a project is the summation of the actual percentage of progress for each activity multiplied by the total weight of each activity.
# SAMPLE IMPLEMENTATION SCHEDULE

<table>
<thead>
<tr>
<th>Activities</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>(a) Assigned Weight</th>
<th>(b) Actual Progress</th>
<th>(a) x (b) Weighted Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish PIU</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5%</td>
<td>100%</td>
<td>6%</td>
</tr>
<tr>
<td>Establish Accreditation Board, etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Appoint Staff and Budget</td>
<td></td>
<td></td>
<td></td>
<td>4%</td>
<td>75%</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>Adopt Architecture Plans</td>
<td></td>
<td></td>
<td></td>
<td>2%</td>
<td>100%</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>Shortlist Consulting Firms</td>
<td></td>
<td></td>
<td></td>
<td>6%</td>
<td>100%</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Prepare Fellowship Program</td>
<td></td>
<td></td>
<td></td>
<td>6%</td>
<td>76%</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Prepare Civil Works Tendering</td>
<td></td>
<td></td>
<td></td>
<td>30%</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Civil Works: Classrooms, Dorms, etc.</td>
<td></td>
<td></td>
<td></td>
<td>6%</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Procurement of Furniture and Equipment</td>
<td></td>
<td></td>
<td></td>
<td>16%</td>
<td>10%</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>Field Work of Consultants</td>
<td></td>
<td></td>
<td></td>
<td>7%</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Provide Fellowships</td>
<td></td>
<td></td>
<td></td>
<td>6%</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Conduct Study Tours</td>
<td></td>
<td></td>
<td></td>
<td>6%</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Provide Curriculum Standards</td>
<td></td>
<td></td>
<td></td>
<td>6%</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td><strong>Total Weight</strong></td>
<td></td>
<td></td>
<td></td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Imp. Progress</strong></td>
<td></td>
<td></td>
<td></td>
<td>24%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(a) Assigned weight for each activity  
(b) Actual progress of each activity  
(a) x (b) weighted progress for each activity  
Project progress = sum of all weighted progress for each activity
SAMPLE OF QUARTERLY PROGRESS REPORT

Loan No. XXX-PRC
QUARTERLY PROJECT PERFORMANCE REPORT

For the period XXX

Serial No. XXX     Date of Circulation: XXX

I. Project Activities during reporting quarter

A. Financial Information on Contract Awards and Disbursements

(All Amounts in Million USD)

<table>
<thead>
<tr>
<th></th>
<th>Contract Awards</th>
<th>Disbursements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan XXX-UZB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Projected for the quarter</td>
<td>XXX</td>
<td>XXX</td>
</tr>
<tr>
<td>Actual for the quarter</td>
<td>XXX</td>
<td>XXX</td>
</tr>
<tr>
<td>Cumulative for the year</td>
<td>Projected</td>
<td>XXX</td>
</tr>
<tr>
<td></td>
<td>Actual</td>
<td>XXX</td>
</tr>
</tbody>
</table>

IF = Imprest fund;   DP = Direct Payment

The balance of Imprest Account is XXX $ US as of (Date).

B. Status of Project Implementation during the XXX Quarter

II. Detailed Progress by Project Component

III. Other Matters

IV. Major Problems Encountered and Actions Taken

V. Activities Planned for the Next Quarter
APPENDIX 16
PROJECT PERFORMANCE AND MONITORING SYSTEM

I. EVALUATION OF THE ASIAN DEVELOPMENT BANK’S PERFORMANCE

1. Assess ADB’s performance in supervising project implementation. Include comments on the adequacy of the consultants’ terms of reference and appropriateness of specifications in tender documents. Evaluate the effectiveness and timeliness of assistance extended by ADB to solve implementation problem.

2. Comment on problems encountered with ADB’s procedures. Note the measures taken to resolve these problems and suggest changes in procedures and requirements.

II. PROJECT PERFORMANCE AND MONITORING SYSTEM

A. Introduction

3. Effective project management requires an appropriate performance and monitoring system. As a first step towards establishing a suitable and comprehensive Project Performance Monitoring System (PPMS), a preliminary project activity tracking framework has been prepared to help guide overall project implementation, and provide a basis for assessing the attainment of Project objectives, as defined in the Project Design and Monitoring Framework (PDMF – Appendix 1). The PDMF provides a range of indicators related to: water sources quality and other measures of operational performance, water supply quality, user satisfaction, and relevant economic and health data to help measure Project impacts, and confirm the project is meeting its design objectives.

B. Project Design and Monitoring Framework

4. The PDMF is an agreed output prepared under the Project Preparation Technical Assistance1 and subsequent Asian Development Bank (ADB) loan appraisal for the renamed Kunming Qingshuihai Water Supply, Water Sources and Environment Management Project (the Project). The PDMF outlines the goals, purposes, outputs, and activities of the Project. For each of these, a series of project design features have been selected, for which performance indicators/targets, monitoring mechanisms, and assumptions and risks have been identified.

5. The development objective for the Kunming Municipal Government (KMG) in the water supply sector is to: (i) enhance the quality of life for the rapidly increasing urban population in Kunming City, (ii) avert future water shortages and the need to process poor quality water for drinking; (iii) support the essential water supply for the new development areas, and increase the water supply for the expanding main city areas; and (iv) ensure social well being as a basis to sustain economic growth in Kunming.

6. To meet this objective, the Project will add to the current reliable and affordable supply of safe and clean drinking water, with the provision of new bulk raw water supplies to Kunming, and reduce the need to use polluted Dianchi Lake water as a primary source for drinking water.

---

In the process, reduced withdrawal from Dianchi Lake will help to improve water flow through the Lake and support its environmental recovery.

7. Bulk raw water supply will be drawn from river catchments to the north of Kunming, by tapping rural water sources in Xundian County, and conveying that water to a main line and emergency storage reservoir in Songming County on the northern edge of Kunming’s Guandu District. The storage (Jinzhongshan reservoir) will provide a reliable source of clean water to primarily service the New Airport Development Zone (NADZ) in Guandu District and the rapidly developing Eastern Development Zone in Chenggong District, to the east of Kunming and Dianchi Lake. The required works will require substantial investment in new and rehabilitated physical infrastructure, improved water resource management, and strengthened source area watershed management.

8. In addition, the Project will help to strengthen the coordination and management functions of those institutions responsible for regulating water resources and operating water supply facilities. A key long term objective for this will be the protection of the Qingshuihai and other water source watersheds, installed facilities and water sources, through integrated planning, water quality monitoring, and environmental management.

9. The Project involves investment for the physical development of infrastructure components, for which detailed design has still to be completed. Particularly as the Project involves the development of reservoirs and the transboundary movement of water resources, with associated impacts on the environment and peoples lives and livelihood, there will be need for appropriate planning and monitoring for land acquisition, resettlement, environmental management, and social impacts. To accomplish these responsibilities, in keeping with Chinese and ADB regulations, standards and guidelines, and to provide assurance to ADB that appropriate safeguards are implemented because of the sensitive nature of the Project, the proposed PPMS will also provide a framework to support institutional capacity building and training for the Project Management Office (PMO) personnel and the implementing agency - KWSG.

10. Many of the performance indicators for the PPMS come directly from the targets and objectives identified in the PDMF, and the specific plans for safeguards management outlined in the EMP, RP and EMDP. Many of the specific performance indicators are also defined in the various appendix to the RRP, as well as in the PPTA reports. The latter includes the Summary Environmental Impact Assessment (SEIA), with a schedule for monitoring and evaluation reporting, and from the Resettlement Report (RP). The PPMS will be developed further prior to KQWSP implementation.

C. Implementation Plan

Methodology

11. The PPMS implementation plan was prepared as follows:

- Discussions were held on the performance indicators to be included in the PPMS and which can be matched with the various design and framework targets,
- The sources and types of data, and frequencies of data collection under the PPMS were determined,
Appendix 16

A process and timeframe for baseline data collection was decided,

A format for a periodic PPMS monitoring report, comprising a summary status and project report was determined as an attachment to quarterly project progress reports,

Preliminary schedules to achieve the framework targets were agreed, and

Provision was made for periodic review and assessment of the PPMS monitoring reports for possible refinement of the indicators based on field experience in their compilation, corrections to project design, and to focus attention on target schedules.

12. This PPMS Draft Framework and Implementation Plan will be finalized following the receipt of comments on the draft by ADB, project management office (PMO), and project implementing agency (IA). A workshop to disseminate the PPMS principles and arrangements was held during May, 2007.

Selection of Project Performance Indicators

13. The proposed groups and sub groups of PPMS quantified indicators, together with their reporting frequency and data source are in the Table at the end of this Appendix. The PDMF has been followed as a basis for the PPMS structure. The PPMS process should be timely and cost efficient and adopt indicators that are readily appreciated by all stakeholders as addressing their own particular interests. A number of indicators take poverty and gender aspects into consideration. The indicators must be challenging and useful for project evaluation, and assist with making corrections to the project as may be necessary to ensure delivery of agreed outcomes. Accordingly, the PPMS is designed to use data that is regularly gathered during project implementation, including for preparation of the PPR, environmental, and resettlement reports, and as otherwise gathered by the IA and other regulating agencies as a part their own management information systems (MIS). Where percentage scores are adopted, they are premised on reaching 100% of the target within an expected time frame, and the use of professional judgment for assessing the quality of project outcomes.

D. Description of the Performance Indicators

Project Implementation Aspects

14. Project economic benefits accrue when the Project proceeds in accordance with the planned implementation schedule. The directly measurable and visible Project outcomes are the completion of procurement activity related to construction of the agreed civil works, the implementation of land acquisition and resettlement, the monitoring of resettlement (RP) and environmental (EMP) activities, the attainment of loan disbursement targets, and the effectiveness of project management in delivering timely outcomes and progress. To ensure that project implementation targets are met, compliance with loan covenants is maintained, progress reports are satisfactorily produced on time, and the project management capacity is developed, the PPMS can be used as an effective project management tool. The PPMS can be used to also facilitate the orderly processing of data for all sections of the project, for development of the quarterly progress reports.

Project Impacts

15. Project impacts are a measure of the effective improvements to the overall water supply, urban environment and public health. The level of environmental and related public health
improvements will be revealed through periodic social surveys, related to an initial baseline survey prepared at project commencement. The periodic surveys will involve an assessment of incremental annual progress and post project public satisfaction, by obtaining an appreciation from the affected people and beneficiaries of the project. The surveys will provide the basis to quantify relative public satisfaction in terms of livelihood and the socio economic environment, especially relating to households, vulnerable groups and women.

**Project Outcomes**

16. Any improvements in operational efficiencies realised as a benefit of the project are related closely to the commercial nature of water supply operations and management (O&M). A key indicator for effective progress and benefits to KWSG will be the attainment of full-cost recovery from water tariff revenues, as well as reduced expenditure on O&M per unit of water supplied, inclusive of management capacity development. Project outcome indicators will also include progress towards achieving a satisfactory level of capital utilization. This data will be obtained through KWSG reports and information systems, including audit reports by municipal regulators and monitoring processes. Annual environmental reports by the KWSG and Kunming Environmental Monitoring Station will also reveal improvements in potable water supply in keeping with PRC water quality standards and service levels.

17. The development of public awareness, understanding and support for the project benefits is a vital result for encouraging public participation. Building awareness that citizens may derive a personal benefit from the successful project outcomes and strategy is fundamental to sustainable outcomes after the project is completed. Measurement of public awareness and its development will be achieved through the baseline, annual and post project social surveys at the same time as gathering public satisfaction data. Periodic public information campaigns through the mass media and focus group meetings and discussions with vulnerable and women’s groups will also assist in the awareness building. They are also considered the most effective means of developing good personal hygiene habits at the household level. The frequency and quality of such information campaigns can be monitored in the PPMS.

**Project Outputs**

18. Project outputs relate significantly to the achievement of long term project goals and sustainability. For the PPMS, these will be measured by indicators that reveal reserve capacity within the overall water supply network, and public awareness of health and environmental improvements. Supply benefits result mainly from a reduction in the effects of long term exposure to polluted water supply and are derived from a willingness to pay for improved services.

19. Key project outputs will be the completion of the physical works and the annual delivery of the design discharge to Kunming and the development zones. The institutional capacity building will result in successful commissioning and operation of the system for the foreseeable future, without the need to revert to recommissioning water supply and treatment from Dianchi Lake. Additionally, the occurrence of any water shortage within the service area should be rare. Strengthened institutional coordination should lead to more effective integrated water management, such that despite the increased inflow of water to Kunming, the net outflow of untreated water to Dianchi Lake will not have increased, and in the long term, the effluent quality discharged to Dianchi Lake will be up to the national target standard or better.
water supply service to the Kunming population should be rising and approaching 100% within the areas provided with a distribution network.

E. Project Performance Monitoring Reports

20. Attached spreadsheets, reporting (i) milestone progress, (ii) output progress, and (iii) an output progress summary, provide proposed summary status and sub-project PPMS quarterly report formats, which can be attached to the project quarterly progress reports. Baseline and target data will be presented in the sub-project quarterly reports to provide a ready reference on progress achieved. The PPMS will progressively record the achievement of various project milestones as defined in the PDMF. The PPMS quarterly reports can be consolidated into an annual PPMS summary report. The annual report can be supported by summary graphical presentations that will be useful in presentations to various stakeholders, including during the social surveys and in periodic public information campaigns.

F. Further Action

21. After incorporating comments made by the PMO, IA and ADB, this Draft PPMS Framework should be further developed into an Implementation Plan for PPMS monitoring and reporting at project startup. Baseline social surveys will need to be planned and implemented, and remaining baseline data should be recorded by 31 December 2007. The results of the baseline data collection will serve as the first PPMS report exercise. Annual reports will include a review of the overall effectiveness of the PPMS to date and any need for refinement of the PPMS indicators and data collection arrangements through the life of the project.

PPMS Quantified Indicators and Reporting Frequency

<table>
<thead>
<tr>
<th>Reporting Item</th>
<th>Reporting Frequency</th>
<th>Source of Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sustained Provision of Clean Water in Adequate Quantities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Households experiencing water pressure problems</td>
<td>Annual</td>
<td>Survey</td>
</tr>
<tr>
<td>Households dissatisfied with taste or smell of water</td>
<td>Annual</td>
<td>Survey</td>
</tr>
<tr>
<td>Rationing of water for domestic or commercial use</td>
<td>Annual</td>
<td>Survey</td>
</tr>
<tr>
<td>Incidence rate of major water-borne diseases</td>
<td>Annual</td>
<td>Survey</td>
</tr>
<tr>
<td>Cost per capita spent on health care compared to in 2006</td>
<td>Annual</td>
<td>Survey</td>
</tr>
<tr>
<td>Percentage poor households with adequate access to Class I water</td>
<td>Annual</td>
<td>Survey</td>
</tr>
<tr>
<td><strong>Improved Catchment Protection Arrangements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated strategy for watershed management in place</td>
<td>Quarterly</td>
<td>KEPB</td>
</tr>
<tr>
<td>Water Quality in Reservoirs at Class II or better</td>
<td>Quarterly</td>
<td>KEPB</td>
</tr>
<tr>
<td>Farming activities in catchment following recommendations</td>
<td>Quarterly</td>
<td>KQWSP</td>
</tr>
<tr>
<td>Environmental Monitoring of all KQWSP activities</td>
<td>Quarterly</td>
<td>KEPB</td>
</tr>
<tr>
<td><strong>Least Cost Project Design Implemented</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residents receiving Class I-II potable water</td>
<td>Annual</td>
<td>Survey</td>
</tr>
<tr>
<td>Households: Total water consumed ('000 m³/year)</td>
<td>Quarterly</td>
<td>KWSG</td>
</tr>
<tr>
<td>Industrial: Total water consumed ('000 m³/day)</td>
<td>Quarterly</td>
<td>KWSG</td>
</tr>
<tr>
<td>Commercial: Total water consumed '000 (m³/day)</td>
<td>Quarterly</td>
<td>KWSG</td>
</tr>
<tr>
<td>Grand Total: Total water consumed ('000 (m³/day)</td>
<td>Quarterly</td>
<td>KWSG</td>
</tr>
</tbody>
</table>

1 Socio-economic household survey to be conducted annually
| Regulations standards [CJ 3020-93] conformed | Quarterly | KWB |
| Per capita income (for all) increased in Project work areas | Annual | Survey |
| Construction jobs filled by women | Quarterly | KQWSP |
| Construction jobs filled by local people | Quarterly | KQWSP |
| Environmental Monitoring of all KQWSP activities | Quarterly | KEPB |
| Resettlement Activities monitored as required by RP | Quarterly | PRB |

**Environmental Protection Regulations Enforced**
- Quality of water in Dianchi Lake | Quarterly | LDEPA |
- Quality of water in Reservoirs | Quarterly | KWB |
- Environmental Monitoring of all KQWSP activities | Quarterly | KEPB |

**Governance**
- KMG Agrees to an integrated approach to Water Management | Once | PLG/KMG |
- Integrated Water Management Body operational | Quarterly | Agencies |
- Coordination between all agencies engaged with water | Quarterly | Agencies |
- Quality of water in Dianchi Lake | Quarterly | LDEPA |
- KMG support "one meter policy" with regulations | Once | PLG/KMG |

**Improved Management Capacity of Water Supply Operator**
- Institutional capacity building plans prepared and approved | Once | KQWSP |
- Training prepared and implemented on all aspects of water supply | Once | KQWSP |
- All training completed for operations staff | Once | KQWSP |
- All training completed for financial staff | Once | KQWSP |
- All training completed for managerial staff | Once | KQWSP |
- Customer service standards and monitoring process prepared | Once | KWSG |
- KWSG job descriptions completed and approved | Once | KWSG |
- Staff performance guidelines produced and being monitored | Once | KQWSP |
- O&M manual prepared | Once | KQWSP |
- Process established for compliance with regulatory standards | Once | KWSG |
- Computerisation of management and financial accounting completed | Once | KWSG |
- Increase of water treatment capacity above baseline level (m³/day) | Quarterly | KWSG |
- Non-revenue water monitoring process developed | Once | KWSG |
- Non-revenue water process being implemented | Quarterly | KWSG |
- New water supply connection policy process reviewed | Once | KWSG |
- System for pricing and monitoring new water supply connections | Quarterly | KWSG |
- Public awareness program annual budget allocation | Annual | KQWSP |
- Training program prepared on public awareness program | Once | KQWSP |
- Training program conducted on social survey design and conduct | Annual | KQWSP |
- Annual social survey plan and scope designed and approved | Annual | KQWSP |
- Annual social survey questionarre developed and approved | Annual | KQWSP |
- Annual social survey team selection and trained | Annual | KQWSP |
- Public awareness program prepared and approved | Annual | KWSG |
- Public Health program designed and approved | Annual | KWB |
- Water Conservation awareness program designed and approved | Annual | KWSO |
- Annual program of public social surveys completed as planned | Annual | KQWSP |
- Annual public awareness program implemented | Annual | KWSG |
- Water utility audit report satisfactory completed | Annual | KWB |
APPENDIX 17
CONTRACT AWARDS AND DISBURSEMENTS PROJECTIONS SHEET
APPENDIX 18
PROJECT COMPLETION REPORT

Suggested Topics for Project Completion Reports to be Prepared by Borrower

I. PROJECT DESCRIPTION

A. Objectives
B. Components (or subprojects for sector and multiprojects)
C. Implementation methods
D. Description and justification of changes in components (or subproject appraisal criteria) or implementation methods

II. PROJECT IMPLEMENTATION

A. Compare original and actual implementation schedules. Indicate delays, length and causes of delays, and remedial action taken.
B. Compare cost estimates made during appraisal and actual costs (foreign and local). Local currency costs incurred, appropriate exchange rates for their conversion into US dollars, and the foreign exchange costs financed by cofinanciers must be compiled correctly with reference to audited project accounts. Indicate factors that contributed to any significant overruns or underruns.
C. State problems or difficulties in recruiting consultants, with reference to ADB procedures. Assess the consultant's work and the working relationship between the executing agency (EA) and the consultant. Use of a logical framework is strongly recommended.
D. State problems or difficulties encountered in procuring goods and services (including civil works) with reference to ADB procedures. Assess the supplier's or contractor's performance under the contract.
E. Give the extent of compliance of the borrower and EA with loan covenants, with reasons for noncompliance or delays in compliance and the remedial actions taken.
F. State reasons for any delays in loan utilization. Evaluate the appropriateness of the disbursement methods used. Justify the reallocation of loan proceeds.
G. State problems or difficulties with subproject appraisal. Evaluate the EA's performance and capacity to appraise subprojects.

III. INITIAL OPERATIONS

A. Describe initial operations of the project and transitional problems encountered from project completion to initial operations.
B. Describe measures taken to ensure continued smooth operation of the project relative to management, staffing, funding, and maintenance of project facilities.
C. Analyze the prospects of the project benefits being realized.
APPENDIX 18
LOAN COVENANTS
APPENDIX 20
TERMS OF REFERENCE FOR UN HABITAT GRANT FINANCING

UN-HABITAT

Project Proposal
Kunming Village-Based Integrated Environment Improvement Pilot Project

Kunming Municipal Government
JULY 2007
2. Contents

1. Introduction and Summary
2. Brief Description of Project Area
3. Project Background and Rationale
   3.1 Background
   3.2 Rationale
4. Project Implementation
   4.1 General Outline
   4.2 Project Components
   4.3 Project Area and Beneficiaries
   4.4 Project Management and Counterpart Contribution
   4.5 Estimated Project Cost
   4.6 Project Implementation
   4.7 Project Monitoring and Evaluation
   4.8 Consulting Services
5. Results
6. Project Benefit Monitoring and Evaluation
7. Potential Risks
8. Preparatory Work
9. Rationale for UN Habitat Involvement

Annexes
1. Organization Chart
2. Cost Estimate for Typical Measures
3. Cost Estimate Table
4. Photos
1. Introduction and Summary

This document outlines the request of Kunming Municipal Government (KMG) for financial assistance to UN-HABITAT to finance a project on integrated environment improvement project which includes drinking water supply/wastewater collection and treatment system/solid disposal treatment for communities in the mountainous areas of Kunming City, Yunnan Province, of the People’s Republic of China. The request is submitted to ADB and the UN HABITAT OFFICE. The project aims to Human habitat environment improvement for Kunming piloted communities by implementing water supply/wastewater collection and treatment/ solid waste management measures for communities in mountainous areas. The planned measures will dramatically improve the water source environment throughout life style improvement of local people, who are living in water source areas and vulnerable to epidemic diseases due to lack of secure drinking water, also strengthen water source protection and management by means of systemic construction of wastewater collection and treatment / solid waste management. This document provides for the general intentions rather than a final project proposal, and serves as a basis for further discussion.

1.1 Project Title

Kunming Village-based Integrated Environment Improvement Pilot Project under Financial Cooperation with UN HABITAT fund.

1.2 Project Location

The project area covers 5 villages in water source core areas of Songhuaba reservoir in Panlong District and Qingshuihai reservoir in Xundian County, Kunming city Yunnan Province. (refer to the Location Map of the Project Area). The water areas belong to the municipal scope of Kunming city.

1.3 Project Execution Agency

Kunming Municipal Government
Kunming Water Resources Bureau & Kunming Environment Protection Bureau

1.4 Project Cost

The overall project cost are presently estimated at USD 0.837 million, whereof USD 0.551 million financial assistance and USD 0.285 million counterpart funding.

1.5 Project Period

The project implementation period will be 3 years covering three construction seasons; this is in parallel to implementation of Kunming Qingshuihai Water Supply Project finance by the Asian Development Bank (ADB).
Map 1: Location of Villages proposed for UN-HABITAT in water source area
Of Songhuaba reservoir

Map 2: Location of Villages proposed for UN-HABITAT in water source area
of Qingshuihai reservoir
2. Brief Description of Kunming Communities

2.1 Kunming is the capital of Yunnan Province, with a total population of about 5.08 million, including approximately 2.46 million who reside within the main urban area. Kunming municipality comprises 1 county-level city, 5 districts, and 8 counties spread over 20,100 square kilometers (km²). Compared with living level of citizens who live in urban area, the suburbia people settlement is undeveloped and it is bring a negative environment impact especially to water source area in mountain zone.

2.2 The Project measures will be implemented in Kunming catchment areas of Songhuaba reservoir and Qingshuihai reservoir, later one is to be financed by ADB. The project will focus on 5 villages located in water source core areas of Songhuaba reservoir and Qingshuihai reservoir as water supply sources for Kunming, concentrating on the farming communities in mountain areas. (Table 1).

<table>
<thead>
<tr>
<th>Village/Community</th>
<th>Total Population</th>
<th>Area Covered (KM²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xiao He Village</td>
<td>1,340</td>
<td>16.5</td>
</tr>
<tr>
<td>San Jia Village</td>
<td>1,089</td>
<td>11</td>
</tr>
<tr>
<td>Hou Liu Village</td>
<td>864</td>
<td>15</td>
</tr>
<tr>
<td>Hai Tou Village</td>
<td>1,205</td>
<td>26</td>
</tr>
<tr>
<td>Hai Wei Village</td>
<td>960</td>
<td>27.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5,458</strong></td>
<td><strong>96.1</strong></td>
</tr>
</tbody>
</table>

Source: County government and site units, July 2007

2.3 Lying between north latitudes 25°, longitude of 102°41’ with altitude of 1895m, Kunming has a temperate climate as spring days over four seasons. The average rainfall is 980-1098 mm/year in the project area with 10 months of frostless season. The average temperature is 20.25 °C, ranging from 14° C in winter to 26.5° C in Summer.

2.4 The existing water sources for Kunming, including the new Zhangjiuhe project, are shown in Table 2. The majority of the water supply is managed through surface water reservoirs, including the use of water from Dianchi Lake up to March 2007. However, as the Lake water is heavily polluted, and Zhangjiuhe has been commissioned, Kunming will no longer depend on this source of poor quality water (the Lake has deteriorated as a result of increased urbanization, limited wastewater treatment, and over use of the Lakes water sources over the past 25 years).
Table 2: Existing Kunming City Water Sources (2006)

<table>
<thead>
<tr>
<th>Source</th>
<th>Annual Supply 2006-2007</th>
<th>Water Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Songhuaba Reservoir</td>
<td>140.4 Ⅲ</td>
<td></td>
</tr>
<tr>
<td>Baoxianghe Reservoir</td>
<td>15.6 Ⅱ</td>
<td></td>
</tr>
<tr>
<td>Dahe &amp; Chaihe Reservoir</td>
<td>35.8 Ⅱ</td>
<td></td>
</tr>
<tr>
<td>Shalang River Diversion</td>
<td>11.0</td>
<td></td>
</tr>
<tr>
<td>Groundwater</td>
<td>63.1 II-III</td>
<td></td>
</tr>
<tr>
<td>Zhangjuhe</td>
<td>219.0 Ⅱ</td>
<td></td>
</tr>
<tr>
<td>Sub-Total</td>
<td>484.9</td>
<td></td>
</tr>
</tbody>
</table>

Source: Kunming Water Supply Group Co.

3 Project Background and Justification

3.1 Project Background

The proposed project measures under the China-UN HABITAT Financial Cooperation are urgently received to address the issues of drinking water supply, wastewater management and solid wastes treatment for poor households in Kunming water catchments areas. The Kunming municipal government has made long-term efforts already to implement drinking water supply/wastewater treatment/solid wastes programs through various financial sources. However, it is extremely difficult to cover all the rural population due to low level of social-economic development, poor management practice and additional over-stretched financial resources. So far, there are still 45% of the rural population suffering from unsafe drinking water, which is directly drained from surface water streams polluted by animal waste and sewerage discharged by households, as well as poor sanitation facilities for wastewater/ solid discharge treatment. The hazards from epidemic enterological diseases, hepatitis and infections between livestock and human beings have always been a potential cause of poor health to local people. The target group would be primarily the agriculture population in the selected regions, and the focus would be on provision of secure drinking water and reliable sanitation facilities. It is expected that 5458 rural population will be covered by the project implementation, which will improve the overall coverage of secure and clean drinking water supply to above those rural population in Kunming mountainous area. The proposal is fully in line with present Government objectives and strategies, and also within the principles and guidelines of UN HABITAT Financing strategy.

3.2 Project Justification

The project targets the rural population in Kunming mountain area, and is fully justified based on the following factors:
1. the beneficiaries in the selected communities and villages have average rural incomes of approximately CNY890/year, which is significantly below the whole Kunming suburb average of CNY1500/year;

2. the program of implementing drinking water supply/wastewater treatment/solid waste management is fully in line with the respective national and provincial policy and is contributing to Kunming water source protection and management;

3. the target group will be 100% of poor farmers and families, who are scattered in the rural area and eager to participate the project in means of labor contribution or materials;

4. significant financial contribution will be provided by the Kunming municipal government and the beneficiaries; it is intended that CNY2.17 million ($0.29 million), representing 34.5% of the project funds will be provided by the Chinese government;

5. better living conditions of the village communities upstream of water source reservoirs will release the pressure on the environment in terms of activities such as felling down forestry, and agricultural activity and water resources development. The sanitation and health conditions of the local people are expected to be improved by the implementation of the project, reducing water-borne disease, proper solid waste management.

4. Project Implementation

4.1 General

In view of the scarce water resources in the project area and valuable experience gained from previous practice, the proposed new project is expected to be comparatively straight-forward with regard to its technical complexity. The following aspects should be considered:

1. Upgrading of the project measures by local practice in terms of water supply, wastewater treatment and solid waste management;

2. Develop a comprehensive implementation plan before any physical works are undertaken within the project scope;

3. Establish sound master plan to utilize the drinking water resources based on the survey of water resources in the region to maximize the project benefits; Water tariff mechanism needs to be established as a pre-condition to guarantee the operation for water-supply facility. The water user groups on community level will be responsible for the operation of their own water supply, including fee collection, water source supervision and repairs of any leakage and system’s maintenance.

4. All selected communities around reservoirs will have to be a priority, conservation and mitigation measures will be designed and enforced to minimize any negative impact to the environment.
In view of the real purpose of UN Habitat fund, which is aimed at improving the water supply, sanitation and solid waste management conditions and promoting the village environment in order to establish a sound and harmonious habitat for community residents. Meanwhile, considering increasing pollution to the upstream of Songhuaba reservoir and anticipated protection for water source area of proposed Qingshuihai project, the final purpose of the proposed UN project is to protect water source area and expected to be an integrated systematic project on community level. Therefore, the following aspects should be considered:

(5) Five selected communities shall be constructed as pilot projects to provide constructive experience and promote results to other communities;

(6) A comprehensive implementation plan will have to be developed before any physical works are undertaken within the scope of the project;

(7) An integrated system including water supply, wastewater treatment, solid waste management and toilet rehabilitation as well as bio-gas facilities shall be established in each of five pilot villages. Also, water charging mechanism will have to be established as a pre-condition to guarantee the availability of fund for maintenance and operation of each water-supply facility, mitigate financial burden of the local government and initiate public awareness of water conservation and market-oriented mechanism.

(8) Suitable technologies shall be adopted according to existing and physical conditions in five villages to save investment and improve the operational efficiency and feasibility.

(9) Living conditions of local residents shall be promoted significantly through the implementation of the project and pollutants discharged into the upstream of reservoirs will be greatly reduced.

4.2 Project Components

PART 1: Project Components

Component 1: Community Water Supply

Head-tanks with two kinds of capacity (100m³ and 50 m³ and corresponding main pipes and secondary pipes will be constructed. The water meter will be installed for each household for accountability since water tariff will be introduced under the proposed project. Currently, no water tariff system is implementing in the project areas

Justification. Head-tanks will be constructed at high level of each village to supply water collectively with gravity-flow. The main water supply pipelines connected to the head-tanks will be connected to secondary pipelines to supply communities and households. In this way,
current situation as lack of water or unsafe water quality can be greatly improved, high operation cost of pumps can be reduced and more beneficiaries within these pilot villages can be covered.

**Component 2: Community waste water treatment**

According to the scale of the village, corresponding sets of wastewater treatment facilities shall be constructed (each set of wastewater treatment system comprises of 1 wastewater collection tank, 1 biological reaction pool and 1 bio-wetland reaction pond).

**Justification:** Due to separate treatment for living wastewater and animal and human excreta, the technology of this small-scale wastewater treatment system is sufficient to treat wastewater and enable treated wastewater attain national discharge standard.

**Component 3: Community solid waste management**

5-6 garbage containers shall be placed on main roads of each village and one garbage disposal station shall be constructed for Haitou and Haiwei villages (one has already been constructed for the other three villages).

**Justification:** Solid wastes shall be collected in uniform and fixed containers to avoid current pile up in disorder. Moreover, solid waste classification and collection mechanism will be consequently established to reduce actual treatment quantity.

**Component 4: toilet rehabilitation for household**

In these five pilot villages, 10% of all households will be chosen to reconstruct their dry toilets to flushing toilets and build matching septic tanks.

**Justification:** Village residents prefer to go to the sole public toilet rather than their own dry toilets to avoid unpleasant smell in their homes. So toilet rehabilitation can improve their living conditions and sanitation conditions without any pollution to environment.

**Component 5: Bio-gas facilities for household**

Bio-gas pools will be built for 1% of all households in five villages as poils.

**Justification:** Bio-gas can be used for cooking, illumination and fertilizer, which will replace timber as fuel and increase production of crops and fruit trees so that local forest resource will be preserved and income of local people will be increased.

**Component 6: Public awareness and water charge mechanism**

Water shall be charged according to consuming quantity of each user
To supplement water conservation activities and sustain benefits of on-going programs, community-based training and education shall be implemented.
Justification: Water tariff mechanism shall be introduced into these five communities to reduce financial burden and import market-oriented management mechanism. Through public training and education, local residents will understand importance of water saving, environmental protection and O&M of the project.

Three typical designs for construction work and cost estimate for WTP, WWTP, solid waste have been developed, which describe the intended engineering measures, including bill of quantities, cost estimate etc. A reservoir combined with filter layer and settling tank will be built in the upper water source. Water would be piped by gravity as all water sources are in the high mountains. The main water supply pipelines will be connected to secondary pipelines to supply communities and households. (Annex 2: preliminary bill of quantity and cost estimate of typical measures). Concentrating the project funds on large communities/township level will significantly reduced the unit cost and cover more beneficiaries within certain areas.

PART TWO 2: Project Management and Supervision

- Development of a master plan in whole area regarding to the water resources distribution and existing utilization of the water sources, wastewater treatment and solid waste management.
- Design and planning activities related to civil works, including detailed technical design, preparation of tender documents and associated services.
- Provision of adequate staff, transport, and other support services to implement the project components within the given time in the most efficient manner, incl. translation services.
- Project Construction supervision and quality control.
- Financial audit, to be carried out by independent auditor.
- Technical audit; to be carried out by the Consultant.

PART THREE: Community-based Participatory Training and Technical Transfer and Extension

Communities based water and wastewater tariff system, solid waste Management and tariff collection mechanism will be introduced into these five communities to reduce financial burden and import market-oriented management mechanism. Various training programs and public awareness activities are planned under the project scope.

- Through public training and education, local residents will understand importance of water saving, environmental protection and O&M of the project.
- Training to beneficiaries on practical bio-gas technics related to pig rising, grazing management, fishing, vegetable planting to support local communities, the practices are well recognized by most of communities in rural areas;
• Back-garden economy schemes by diversifying income generation from vegetable planting, poultry raising, herb pre-processing to reduce the pressure towards the water environment and over-stretched living sources;

• Human-oriented-Community/ Household based workshops on water saving, protection, solid waste management in the village;

• Creativities on the new source of income originated from diversifying income generation.

PART FOUR: Other Costs (Monitoring & Evaluation / Consulting Services)

• Consulting Services, comprising primarily general support to the PMO in all project related issues, assistance in all technical assessments, contract procurement, contract management issues, and assistance in preparing reports and invoices to UN-HABITAT.

• Assist to PMO to setup tariff collection and management system for water supply, wastewater treatment and solid waste management, including financial model development, setting up water users group, and self-disciplined mechanism to ensure the sustainability of the investment;

• A systematic benefit monitoring and evaluation program is recommended to be carried out, as a tool to assess the actually impact from social and economic aspects. This should be covered by certain time inputs of an international consultant.

4.3 Selection of Beneficiaries and Project Spots

The identified project spots are five villages which are located in Songhuaba reservoir and Qingshuihai reservoir area in Kunming city. There are very few individual farmers living alone and isolated from the communities, therefore, the communities will be the basic unit for selection and implementation of the project measures. However, all individual beneficiary households will be requested to submit their application and fill out the questionnaire after the spots are identified. And for toilet rehabilitation, bio-gas facility components of the project, households in poverty will be selected. The criteria of communities selection would be: (1) The communities have not sufficient comprehensive program for drinking water supply, waste water treatment and solid waste management so far; (2) they are in the main water supply resource area around Kunming; (3) they have the population approximately 1000 farmers for each community selected. (4) the basic infrastructure such as access roads, power supply schooling facilities and healthy cares etc are more or less available for the communities; (5) strong interest to participate in the project and willingness to provide counterpart fund

4.4 Project Management and Counterpart Contribution

4.4.1 The Kunming Municipal Government will be in charge of the overall project management, undertake review missions periodically and supervise the overall project activities, as well as process all the disbursement to UN-HABITAT in accordance with UN-HABITAT Guidelines. A steering committee will be set up in Kunming, a Project Management
Office PMO will be established jointly by the Water Resources Bureau, and Environment Protection Bureau. The steering committee is responsible for coordinating the different departments concerned within Panlong County and Xundian County to tackle any barrier during the project implementation. The project management office will have to deal with the project on full time basis with separate office, assigned full time project staff providing engineering, financial and logistic support. (refer to Annex 1: Project Organization).

4.4.2 The finance section is responsible for managing the financial aspects of the project and to keep track of all financial activities. Kunming Municipal Finance Bureau will take the lead in the financial management of the project. The PMO will be responsible for accounting, verifying accuracy and the eligibility of expenses and progress reporting, reimbursement applications and review relevant supporting documents before being sent to UN-HABITAT for reimbursement. The Consultants will assist in the preparation of reimbursement requests.

4.4.3 Consulting Services are strongly recommended due to unfamiliarity of the local administration with project management procedures and a lack of experience in UN-HABITAT - financed projects in the city, especially in Kunming. The consultant services should be available throughout the project preparation, inception phase and project implementation stages.

4.4.4 The counterpart contribution from local government will comprise mainly of 34% of the project cost, which is expected to be provided in the form of labor contribution from the beneficiaries, 12.5% of overall cost as management cost is to set-up and manage the project offices, including salaries to designated staff, project design, supervision and training of beneficiaries, etc. Overall, approx. mainly 34% of the total project cost is to be borne by Kunming Municipal Government, 66% is proposed to be financed by UN-HABITAT (Annex 3-2).

4.4.5 In view of the construction skill level of the beneficiaries, it is important that the quality of construction is not jeopardized. Therefore, construction standards for all facilities are to be strictly adhered; technical audits will be carried out at regular intervals by the Consultant.

4.5 Estimated Project Cost

The total project cost is estimated at $837,026.00, and it is proposed that the UN-HABITAT will finance $551,526.00. Detailed cost estimates are shown in Annex 3-1 and 3-2. The exact number of facilities included under each project component will be determined during the inception phase of the project, after undertaking the detailed technical assessments in all the project villages. The list of proposed facilities is based on preliminary selection and subject to further review by the project steering committee (open program approach).
4.6 Project Implementation

4.6.1 Procurement Procedures

Given the small scope of the project and since the proposed project sites are scattered over a vast and remote area, national competitive bidding procedures for civil works and goods is more appropriate. The following procurement procedures are proposed, in accordance with the ADB Guidelines for Procurement. Based on survey data and the resulting cost estimate these works may be carried out on the basis of ‘price comparison’ with quotations obtained from at least three qualified local contractors. The works can be grouped to form larger contract, which is more efficient.

Component 1: Community Drinking Water Supply
The works in each lot is about CNY500,000. The total amount is presently estimated at CNY 1,045,400 ($137,553).

Component 2: Community Wastewater Treatment
The works in each lot is expected to be CNY500,000, and total cost is estimated at CNY1,490,000 ($196,053).

Component 3: Community Solid Waste Management
The works in each lot is expected to be CNY 500,000, and total cost is estimated at CNY1,490,000 ($196,053).

For the three components, all equipment packages are expected to be lower than $100,000, which includes solid waste tank, garbage containers for solid wastes will be procured through price comparison procedure with quotations obtained. There will be no pumps and large electric equipment required as the water or wastewater will be drained by gravity. Small spare parts such as valves, taps, pipe connectors etc. will be procured. The garbage transfer station will be put in the civil works contract to simplify the procedure.

Component 4: Toilet Rehabilitation for households.
The aggregate value is presently estimated at CNY133,000 (USD17,500), covering 190 pre-selected households with 608 beneficiaries. The construction material for septic tank as well as flushing tank will be procured by PMO under NCB procedure for contract value above USD 100,000 or using price comparison if cost estimate for the package are lower. The
implementation of all the project measures would be carried by households themselves under technical guidance of PMO and consultants.

Component 5: Bio-gas facilities for households

The aggregate value is presently estimated at 1,490,000 yuan (USD196,053), benefiting 19 households, 96 farmers. The construction material for gas tank as well as pipelines, valves and other devices will be procured by PMO under NCB procedure for contract value above USD 100,000 or using price comparison if cost for the package are lower. The implementation of all the project measures would be carried by households themselves under technical guidance of PMO and consultants. All above mentioned measures will be carried out in accordance with the quality and cost standards set by national codes and modified according to the local conditions.

4.6.2 Implementation Schedule

The overall project implementation period is expected not to exceed 36 consecutive months (3 years). This is taking into consideration raining breaks for major civil works from approximately November to April. It is highly recommended to introduce the project with an inception phase, during which the selection criteria, assessment methodologies, etc. are reviewed. Establishment of adequate selection procedures, disbursement and accounting systems, introduction of project management tools and reporting procedures are essential. A strong coordination within the municipality is crucial for successful implementation of the Project.

4.7 Project Monitoring and Evaluation

4.7.1 Progress Monitoring

Semi-annual reports, including information on physical progress, financial and disbursement information, and procurement, would be submitted by the Kunming Municipal Government through PMO in a format acceptable to UN-HABITAT. The Consultant will assist in preparation of these reports. The semi-annual reports, together with contract awards, disbursement documents, and UN-HABITAT supervision mission reports, would form the basis for routine monitoring of progress.

4.7.2 Supervision

Project supervision at the Municipal and county level requires 100% quality control checks and approval of works completed. Supervision at this level includes: (i) beneficiary selection, (ii) technical implementation according to set standards, (iii) costs, (iv) beneficiary agreements, and (v) feedback on implementation procedures. All the works and quality control monitoring should be properly documented. Project management from the higher government levels or UN-HABITAT supervision missions have to be able to randomly select beneficiaries and verify the type and quality of the works reported. Supervision progress shall be reported on a semi-annually basis in accordance with standardised formats, so as to allow ready comparison. For
physical progress monitoring random checks will be carried out by the Consultant; he will also assist in developing adequate reporting formats. For further details refer below.

**Accounts and Financial Audit**

The Municipal Finance Bureau and PMO's will maintain accounts and records for the project. UN-HABITAT requires the Project to have its annual consolidated financial statements audited in accordance with acceptable standards. It is proposed that the Project would be audited in accordance with the Government Auditing Standards of the People’s Republic of China (1997 edition). The Kunming Municipal Audit Bureau has been identified as auditors for the Project. Audit reports on annual consolidated financial statements will be submitted after the end of each financial year (ending December 31).

**Technical Audit**

Verification of works carried out in accordance with contractual stipulated standards, adherence to time schedules and cost estimates will be carried out by the Consultant at random. The results will be integral part of the semi-annual progress reports to UN-HABITAT.

### 4.8 Consulting Services

It is proposed that the project will be supported by an experienced Consultant who is fully conversant with UN-HABITAT procedures and requirements. To allow maximum use of the allocated funds for the project measures, the Consulting inputs and related cost shall be kept at the lowest possible level.

**Assumptions**

The overall project period will be 36 consecutive months. All design, planning, tendering and supervision tasks will be the responsibility of the PMO’s, respectively specialists, hired for these tasks by the PMO.

**Organization**

The Consultancy team will comprise of local and international experts. To ensure smooth communication with the PMO. Site visit will be undertaken according to the activity schedule, and transport will be provided by the prefecture PMO.

**Activities**

Support to the Project Management Office (PMO) comprise the following:

- Assistance in development of the project implementation plan (inception phase);
Appendix 20

♦ Assistance in development of detailed assessment methodologies for the project technical, selection criteria, etc;
♦ Support to the assigned engineering firms/individuals in preparation of detail design, tender documents and similar planning documentation;
♦ Participation at bid evaluation, contract negotiations and award of contracts, as required;
♦ Technical audit through random check during the construction, to assure adherence to prescribed standards; and
♦ General management support, e.g. assistance in the preparation of progress reports, reimbursement requests, etc.

Manpower Inputs

The proposed specialist is a local project coordinator/project manager, who will cooperate with international specialists to undertake consulting services. The project manager will be conversant in Chinese and English language, and more than 15 years work experience in water resources management, water supply and wastewater treatment as well as solid waste management. In addition, the consultant needs to have experience on working to international development project and UN-HABITAT operations. The international experts will be responsible for general project management, civil engineering, social infrastructure, procurement etc. The estimated cost for all consulting services are shown in the cost summary sheet (Annex 3-2).

5 Expected Results

5.1 Economic Impact

During project preparation, focus groups in the pre-selected communities were undertaken in order to determine actual economic situation in Songhuaba area, Panlong District and Qingshuihai, Xundian County. It is projected that the environment, public health, sanitation, and water supply of the household and communities beneficiary will be greatly improved based on the experience gained from the current practices and pilot projects financed by the Government. Further, the project will provide economic saving in rural areas since the environment and sanitation will improve while result in the decrease of the water-borne epidemic diseases.

(1) Tap water supply will release the over-pressure burden for farmer, who are somehow has to carry water far away from home due to in-secured water supply in terms of water quality and availability;
(2) improved hygiene will reduce disease hazards; it is reported that averagely 20 CNY ($3) will be saved by each household member on drugs and medical treatment;
(3) rehabilitation of toilet will reduce the spread of bacteria epidemic, which is a major reason for children and older;
(4) Income will generate for the villagers through the construction of bio-gas facility for households since more significant social impacts, with lower expenditure for energy as well as additional income from backgarden economy, which comes from model of Pig-gas-vegetable, pig—gas-cropping land, pig-gas-fishing etc.

5.2 Social Impact

A significant social impact will be achieved with the implementation of the project in these areas as the project will focus on the community level;

(1) from the short term point of the view, increased income and better living condition will dramatically reduce the poverty of the population, from the long term point of view, better sanitation and health services would be accessible through -the resulting fundamentally improved social infrastructure, This approach is considered as sustainable way to achieve the target of sustainable environment improvement and poverty elimination;

(2) improved living conditions will encourage the people to protect their heritage and strengthen their national identity.

(3) The project will raising community awareness of environmental sanitation through advocacy, information, and education programs, which have been priorities under the project.

(4) This project would be a very useful demonstration of how communities can mobilize and work effectively with local authorities to meet water and sanitation needs and further towards the destination of human-oriented communities in rural areas.

(5) These villagers’ capacity will be enhanced by training.

5.3 Environmental Impact

The increased water and sanitation to these areas will bring a number of environmental benefits:

(1) The project will relieve pressure due to the lack of drainage and proper waste collection in these areas.

(2) This project will make a significant contribution to the Kunming city water supply after implementation, it is expected that the project will improve the quality of Songhuaba reservoir and Qingshuihai reservoir by improving upstream environment in these areas. Currently the two reservoirs have been or will be the lifeline of entire Kunming city;

(3) The Project is likely to have significant implication in terms of preventing future health problem. Based on an estimate of most epidemic diseases due to lack of services in water and sanitation in rural areas.

(4) the project will contribute to improving the environment in the pilot communities and in Kunming city. As noted the intended project beneficiary areas are located within the more sensitive regions, where Songhuaba and Qingshuihai reservoirs are located. The
Kunming Government has initiated environment protection programs to encourage these areas to adjust the primitive lifestyle. The goal could be achieved by providing better living condition, secure and clean water supply, wastewater treatment and solid waste management likewise other well-established social facilities. The implementation of the project is fully in line with government environment policy and international environmental concerns.

6 Project Monitoring and Evaluation

In view of the overall project objective of community-based environment in the rural areas aimed at sanitation improvement and poverty reduction. It will be very important to establish a systematic approach to monitor the project benefits, hence a benefit monitoring and evaluation plan is recommended to be undertaken. This plan will focus on assessing the environment impact, social and economic impact of project implementation, the performance of the project measures in terms of hygiene status as well as living quality improvement, and obtain lessons and experience for projects in China or elsewhere.

7. Potential Risks

The risks identified refer to lack management, effective communication between various departments involved, poor administration and a lack of experience in dealing with complex issues.

Project Implementation

Delays during project implementation may be caused due to limited experience of PMO staff (especially at the county levels) in application of procurement procedures acceptable to international agencies. The potential danger of delayed counterpart funding has been minimised in the project design by a clear distinction of funds applied to project measures; however, the counterpart fund for project management will have to be in the place before any physical work can be implemented.

Construction standards

The previous local substandard water supply, wastewater measures have to be upgraded during the project design. These aspects will require further attention during the project implementation. The Consulting input is expected to contribute to application of acceptable construction standards.

Cost Estimates
The present cost estimates are largely based on assumptions and the experience of the Expert. Potential cost overruns shall be avoided by applying clear selection procedures, professional technical assessments before tendering, transparent tendering procedures and a very close supervision during construction. Furthermore, the measures are designed as an open project, whereby adjustments to the actual locations and scope of works are possible during project implementation.

8. **Further Preparatory Work**

Before the start of the project, respectively during the inception phase the following issues require special attention:

1. Development of methodology and criteria for selection of beneficiaries (e.g. with respect to the average income level/communities involvement of the beneficiary households)
2. Development of guidelines for specific project management and procurement systems (project management manual);
3. Appointment of PMO staff at counties and village levels and equipment of their offices with adequate computer and e-mail facilities; a detailed list with all staff is to be prepared. Preference should be given to staff who are able to communicate in English or at least can read English documentation;
4. Preparation of a draft Financial Management and Accounting manual, and setting up of special account(s) for the project;
5. Selection of engineering companies for technical assessment, design and planning work.

9. **Rationale for UN-Habitat Involvement**

The involvement of UN-HABITAT in the proposed project would accelerate the economic and social development of piloted areas in terms of human-oriented social facilities and would strengthen their ability to combat the environment degradation and poverty, to improve their health and hygiene status and overall living conditions. The successful experiences could be easily applied to similar rural areas in other provinces across the country. The project is consistent with UN-HABITAT’s assistance strategies, focusing on establishment of human-oriented communities aiming to environment sustainable development and poverty alleviation through social infrastructure improvement. The communities’ environment, and the reconstruction of essential infrastructures to the public communities in rural areas will explore the tremendous opportunities for Chinese government to follow up. As Kunming Municipality is not in a position to finance the described measures from own resources and expertise, we would like to apply for UN-HABITAT funding.
Annex 1

Project Organization

![Project OrgChart]

- **UN-HABITAT**
- **Kunming Municipal Government**
- **Project Steering Committee (KMG)**
  - **Consultant**
  - **Project Financial Staff (3 Staff)**
  - **Project Engineer (5 Engineers)**
  - **Project Logistic (3 Staff)**
  - **PMO (Water Resources Bureau, Environment Protection Bureau)**
  - **Finance Bureau**
  - **Water Resources Bureau**
  - **Xundian Country and Panlong People’s Government**
  - **Kunming Development and Reform Commission**
  - **Agri/Animal Husbandry Bureau**
  - **Poverty Reduction Office**
  - **Environment Protection Bureau**
  - **State Land Bureau**
  - **Audit Bureau**
## Annex 2

### Cost Estimation For Typical Design(Cao)

#### 1. Small Community Water Supply Implement

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Unit</th>
<th>Amount</th>
<th>Unit Cost CNY</th>
<th>Price CNY</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Excavation of Ditch</td>
<td>m³</td>
<td>2,736</td>
<td>10.83</td>
<td>29,631</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Backfill of Earthwork</td>
<td>m³</td>
<td>2,736</td>
<td>9.75</td>
<td>26,676</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Reservoir</td>
<td>m³</td>
<td>50</td>
<td>1,000</td>
<td>50,000</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>DN63 PE Main Pipeline</td>
<td>m</td>
<td>4000</td>
<td>25</td>
<td>100,000</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>DN25 PE Secondary Pipeline</td>
<td>m</td>
<td>2000</td>
<td>5.2</td>
<td>10,400</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Other Materials</td>
<td>ls</td>
<td></td>
<td></td>
<td>22,693</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>239,400</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Average family size: 3.2 persons, The water required for livestock has already been taken into account.

#### 2. Large Communities and Township Water Supply Implement

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Unit</th>
<th>Amount</th>
<th>Unit Cost CNY</th>
<th>Price CNY</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Excavation of Ditch</td>
<td>m³</td>
<td>3,600</td>
<td>10.83</td>
<td>38,988</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Backfill of Earthwork</td>
<td>m³</td>
<td>3,600</td>
<td>9.75</td>
<td>35,100</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Reservoir</td>
<td>m³</td>
<td>100</td>
<td>1,000</td>
<td>150,000</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>DN83 PE Main Pipeline</td>
<td>m</td>
<td>5000</td>
<td>50</td>
<td>250,000</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>DN63 PE Secondary Pipeline</td>
<td>m</td>
<td>2000</td>
<td>25</td>
<td>50,000</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>DN25 PE Secondary Pipeline</td>
<td>m</td>
<td>2000</td>
<td>5.2</td>
<td>10,400</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Other Materials</td>
<td>ls</td>
<td></td>
<td></td>
<td>76,912</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>561,400</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Average family size: 3.2 persons, The water required for livestock has been taken into account.
### 3. Small Community Waste Water Treatment

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Unit</th>
<th>Amount</th>
<th>Unit Cost CNY</th>
<th>Price CNY</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ditch Excavation</td>
<td>m³</td>
<td>360</td>
<td>10.83</td>
<td>3898.8</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Backfill of Earthworks</td>
<td>m³</td>
<td>300</td>
<td>9.75</td>
<td>2925.0</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Waste Water Collection Tank</td>
<td>m³</td>
<td>50</td>
<td>600</td>
<td>30,000</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Reaction Tank</td>
<td>m³</td>
<td>50</td>
<td>600</td>
<td>30,000</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Wetland Treatment Tank</td>
<td>m³</td>
<td>60</td>
<td>600</td>
<td>36,000</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>DN200 Concrete Main Pipeline</td>
<td>m</td>
<td>2000</td>
<td>100</td>
<td>200,000</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Other Materials</td>
<td>ls</td>
<td></td>
<td></td>
<td>24,693</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td>327516.8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The Waste Water Treatment can treat the waste water 300 m³ per day. This cost estimate is made for typical design, for large community. The Waste Water Treatment facility with above capacity can be introduced as 3 times as small community does.

### 4. Solid Waste Management

#### For Villages which are served garbage disposal station

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Unit</th>
<th>Amount</th>
<th>Unit Cost CNY</th>
<th>Price CNY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Purchase Garbage container</td>
<td>S</td>
<td>6</td>
<td>9000</td>
<td>54,000</td>
</tr>
<tr>
<td>2</td>
<td>Other cost</td>
<td></td>
<td></td>
<td></td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td>55,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### For Villages which are not served garbage disposal station (Small community)

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Unit</th>
<th>Amount</th>
<th>Unit Cost CNY</th>
<th>Price CNY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Purchase Garbage container</td>
<td>S</td>
<td>6</td>
<td>9000</td>
<td>54,000</td>
</tr>
<tr>
<td>2</td>
<td>Garbage disposal station</td>
<td>m²</td>
<td>200</td>
<td>1250</td>
<td>250,000</td>
</tr>
<tr>
<td>3</td>
<td>Other cost</td>
<td></td>
<td></td>
<td></td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td>305,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### For Villages which have no garbage disposal station (Large communities)

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Unit</th>
<th>Amount</th>
<th>Unit Cost CNY</th>
<th>Price CNY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Purchase garbage container</td>
<td>Set</td>
<td>12</td>
<td>9,000</td>
<td>108,000</td>
</tr>
<tr>
<td>2</td>
<td>Garbage disposal station</td>
<td>m²</td>
<td>240</td>
<td>1250</td>
<td>300,000</td>
</tr>
<tr>
<td>3</td>
<td>Other cost</td>
<td></td>
<td></td>
<td></td>
<td>2000</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td>410,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:
5. Bio-gas facilities for households

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Unit</th>
<th>Amount</th>
<th>Unit Cost CNY</th>
<th>Price CNY</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>F Small Community</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Bio-gas facility</td>
<td>Set</td>
<td>3</td>
<td>7,000</td>
<td>21,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total 21,000</td>
</tr>
<tr>
<td>B</td>
<td>Large Communities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Bio-gas facility</td>
<td>Set</td>
<td>5</td>
<td>7,000</td>
<td>35,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total 35,000</td>
</tr>
</tbody>
</table>

6. Toilet Rehabilitation for Household

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Unit</th>
<th>Amount</th>
<th>Unit Cost CNY</th>
<th>Price CNY</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>F Small Community</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Toilet Rehabilitation</td>
<td>Household</td>
<td>30</td>
<td>21,000</td>
<td>21,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total 21,000</td>
</tr>
<tr>
<td>B</td>
<td>Large Communities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Toilet Rehabilitation</td>
<td>Household</td>
<td>50</td>
<td>35,000</td>
<td>35,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total 35,000</td>
</tr>
</tbody>
</table>
Annex 4: Songhuaba Photos

Photo 1: Combined bio-wetland processing diagram for village wastewater treatment

Photo 2: Wetland bio-reaction pond for village wastewater treatment
Photo 3: Capillarity wetland bio-reaction tank groups for village wastewater treatment

Photo 4: Wastewater treated by wetland bio-reaction pond
Photo 5: Wastewater collection tank for village wastewater treatment

Photo 6: Solid wastes collection spot
Photo 7: Solid wastes transfer station

Photo 8: Haitou village location view in Qingshuihai water catchment area
APPENDIX 21
KEY PERSONS INVOLVED IN THE PROJECT

A. ADB Headquarters

Address
Asian Development Bank
P.O. Box 789, 0980 Manila
Philippines

Facsimile
632-636-2407 (direct to EASS)
632-636-2404 or 2444 (ADB’s main fax)

Director, EASS
Mr. Robert Wihtol
Tel. (632)-632-6640
Email: rwihtol@adb.org

Urban Development Specialist
Ms. Ma. Theresa J. Villareal
Tel. (632)-632-6865/ 632-5687
Email: mtvillareal@adb.org

Counsel
Ms. Adel Djusupbekova
Tel. (632)-632-5011
Email: llahm@adb.org

Control Officer
Ms. Oksana Nazmieva
Tel. (632)-632-4423
Email: onazmieva@adb.org

Project Analyst
Ms. Milagros G. De Leon
Tel. (632)-632-6741
Email: mgdeleon@adb.org

ADB websites
http://www.adb.org
http://adb.org/procurement/default.asp
http://adb.org/procurement/bidding.asp
http://adb.org/documents/handbooks/loan_disbursement/default.asp
http://lfis.adb.org/home.asp

B. ADB PRC Resident Mission

Country Director
Mr. Toru Shibuichi
Tel: +86 10 6642 6601
Fax: +86 10 6642 6606
Email: tshibuichi@adb.org

C. Executing Agency

Mr. Zhang Jiaren
Kunming Municipal Government
Director, Project Management Office
Email:
Tel: +86-
Fax: +86-
## List of Persons Met by ADB Appraisal Mission

<table>
<thead>
<tr>
<th>Organization/Name</th>
<th>Agency</th>
<th>Position</th>
<th>Contact No.</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Finance (MOF)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Yao Licheng</td>
<td>MOF</td>
<td>Deputy Director, IFI Division III, International Department</td>
<td>+86-10-68551170</td>
<td><a href="mailto:lcyao@mof.gov.cn">lcyao@mof.gov.cn</a></td>
</tr>
<tr>
<td>Ms. Zhang Minwen</td>
<td>MOF</td>
<td>International Financial Institution Division IV International Department</td>
<td>+86-10-68551170</td>
<td><a href="mailto:mw.zhang@mof.gov.cn">mw.zhang@mof.gov.cn</a></td>
</tr>
<tr>
<td>National Development and Reform Commission (NDRC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Feng Baoshan</td>
<td>NDRC</td>
<td>Director, Foreign Fund Utilization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>World Bank</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. T. Kamata</td>
<td>WB</td>
<td>Senior Project Officer</td>
<td>WB Washington office</td>
<td><a href="mailto:tkamata@wb.org">tkamata@wb.org</a></td>
</tr>
<tr>
<td>UN-Habitat</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Zhang</td>
<td>UN-Habitat</td>
<td>CTA WAC UN-HABITAT</td>
<td>+86-13439276433</td>
<td><a href="mailto:zhenshan.zhang@gmail.com">zhenshan.zhang@gmail.com</a></td>
</tr>
<tr>
<td>Yunnan Provincial Government (YPG)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Cheng Biao</td>
<td>YFB</td>
<td>Director Foreign Fund Div.</td>
<td>0871-3620232</td>
<td></td>
</tr>
<tr>
<td>Mr. Zhang Wenchao</td>
<td>YDRC</td>
<td>Vice Director Foreign Fund Div.</td>
<td>0871-3113110</td>
<td></td>
</tr>
<tr>
<td>Ms. Yang Jie</td>
<td>YDRC</td>
<td>Projector Official Foreign Fund Div.</td>
<td>0871-3113110</td>
<td></td>
</tr>
<tr>
<td>Kunming Municipal Government (KMG)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ms. Yang Ning</td>
<td>KMG</td>
<td>Vice Mayor</td>
<td>0871-3135514</td>
<td></td>
</tr>
<tr>
<td>Mr. Zhang Jiaren</td>
<td>KMG</td>
<td>Deputy Secretary Chief PMO Director</td>
<td>0871-3135514</td>
<td>13888660966</td>
</tr>
<tr>
<td>Ms. Li Xin</td>
<td>KMG</td>
<td>Secretary</td>
<td>0871-3135514</td>
<td></td>
</tr>
<tr>
<td>Kunming Development and Reform Commission (KDRC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Song Dong</td>
<td>KDRC</td>
<td>Deputy Director</td>
<td>0871-3135205</td>
<td></td>
</tr>
<tr>
<td>Mr. Li Zhaoseng</td>
<td>KDRC</td>
<td>Vice Director</td>
<td>0871-3135205</td>
<td></td>
</tr>
<tr>
<td>Ms. Yu Ping</td>
<td>KDRC</td>
<td>Deputy Section Director</td>
<td>0871-3135205</td>
<td></td>
</tr>
<tr>
<td>Mr. Peng Xie Song</td>
<td>KDRC</td>
<td>Deputy Section Director</td>
<td>0871-3135205</td>
<td>13708872541</td>
</tr>
<tr>
<td>Kunming Finance Bureau (KFB)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ms. Ye Yishan</td>
<td>KFB</td>
<td>Director</td>
<td>0871-3544950</td>
<td></td>
</tr>
<tr>
<td>Ms. Yang Zhihua</td>
<td>KFB</td>
<td>Deputy Director</td>
<td>0871-3544950</td>
<td>13769196886</td>
</tr>
<tr>
<td>Ms. Tao Min</td>
<td>KFB</td>
<td>Director of External Cooperation and Financial div.</td>
<td>0871-3578515</td>
<td>13888320386</td>
</tr>
<tr>
<td>Mr. Yang Bo</td>
<td>KFB</td>
<td>Officer of External Cooperation and Financial div.</td>
<td>0871-3578515</td>
<td>13577106588</td>
</tr>
<tr>
<td>Kunming Water Resources Bureau (KWB)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Zhao Fei</td>
<td>KWB</td>
<td>Director</td>
<td>0871-5719841</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Position</td>
<td>Contact Information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Geng Hongwei</td>
<td>Deputy Director</td>
<td>0871-5719841 13708763332</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Suen Jiaxian</td>
<td>Director Water Affair/Water Source Management Div.</td>
<td>0871-5719841</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Cuen Lifeng</td>
<td>Director Policy/Regulation Div.</td>
<td>0871-5719841</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Zhang Ninchuan</td>
<td>Director Water Source Protection Div.</td>
<td>0871-5719841</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Zhou Chunyan</td>
<td>Vice Director Construction Div.</td>
<td>0871-5719841</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Kunming Construction Bureau (KCB)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Ding Guangqing</td>
<td>Section Director</td>
<td>0871-3135166</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Tian Xinggao</td>
<td>Engineer</td>
<td>0871-6515748</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Kunming Municipal Public Utilities Bureau (KMPUB)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Gao Caojun</td>
<td>Deputy Director</td>
<td>13708489869</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Kui Chuan De</td>
<td>Deputy Sector Director</td>
<td>13987636420</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Hao Huining</td>
<td>Official</td>
<td>0871-3175733</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Kunming Municipal Water Saving Office</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Wang Biao</td>
<td>Official</td>
<td>0871-3175733</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Kunming Municipal Agriculture Bureau (KMAB)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Xian Zhuhong</td>
<td>Deputy Sector Director</td>
<td>0871-3176700</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>KWSG</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Shi Wei</td>
<td>Board Chairman</td>
<td>0871-3177821</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Bai Xinyu</td>
<td>General Manager</td>
<td>0871-3130290 13608878972</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Zhang Dajian</td>
<td>Deputy Manager Kunming Qingshuihai Water Source Development &amp; Construction Branch</td>
<td>13708721949</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Chen Gang</td>
<td>Vice Manager Kunming Qingshuihai Water Source Development &amp; Construction Branch</td>
<td>13908851450</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Dong Xiaofang</td>
<td>Office Director Kunming Qingshuihai Water Source Development &amp; Construction Branch</td>
<td>13987681554</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. He Jian</td>
<td>PPG Leader for Engineering</td>
<td>0871-3166752 13759173112</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Zhu Yuanfeng</td>
<td>Senior Engineer PPG Vice Leader for Administration</td>
<td>0871-3166755 13888575028  <a href="mailto:zyfymjd@yahoo.com.cn">zyfymjd@yahoo.com.cn</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Chen Wei</td>
<td>Engineer</td>
<td>0871-3166752 13577006628</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Xiao Yong</td>
<td>Engineer</td>
<td>0871-3166752 13708478848</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Position</td>
<td>Phone Numbers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------------------------</td>
<td>-----------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Fan Haitao</td>
<td>Deputy Office director</td>
<td>0871-3169156 13808737367</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Yunnan Design and Research Institute (YDRI)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Li Zuohong</td>
<td>Chief Engineer(retired)</td>
<td>0871-3168739 13608819041</td>
</tr>
<tr>
<td>Mr. Gao Song</td>
<td>General Deputy Director</td>
<td>0871-3168739 13608805458</td>
</tr>
<tr>
<td>Mr. Mei Wei</td>
<td>Deputy Director</td>
<td>0871-3168739 13608866650</td>
</tr>
<tr>
<td>Mr. Zhou Yun</td>
<td>Deputy Director</td>
<td>0871-3168739</td>
</tr>
<tr>
<td>Mr. Li Buyong</td>
<td>Senior Engineer</td>
<td>0871-3168739</td>
</tr>
<tr>
<td>Ms. Luo Jiacui</td>
<td>Senior Engineer</td>
<td>0871-3168739 13078781126</td>
</tr>
<tr>
<td>Mr. Zhao Cheng</td>
<td>Section Director</td>
<td>0871-3168739</td>
</tr>
<tr>
<td>Mr. Lan Honglin</td>
<td>Deputy Section Director</td>
<td>0871-3168739</td>
</tr>
<tr>
<td>Mr. Chen Zuo</td>
<td>Senior Engineer</td>
<td>0871-3168739</td>
</tr>
<tr>
<td>Mr. Han Yunfeng</td>
<td>Engineer</td>
<td>0871-3168739</td>
</tr>
</tbody>
</table>

**Kunming Design and Research Institute (KDRI)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Bai Kunsheng</td>
<td>Vice General Manager</td>
<td>0871-3327165</td>
</tr>
</tbody>
</table>

**Kunming Environment Protection Bureau (KEPB)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Liu Lili</td>
<td>Chief Engineer</td>
<td>0871-4141273 13187810239</td>
</tr>
<tr>
<td>Mr. Shi Xuedong</td>
<td>Div. Director</td>
<td>0871-4141273</td>
</tr>
<tr>
<td>Mr. Li Wei</td>
<td>Vice Director Environment Monitoring Div.</td>
<td>13577159676</td>
</tr>
<tr>
<td>Mr. Liao Jun</td>
<td>Engineer</td>
<td>0871-4141273</td>
</tr>
</tbody>
</table>

**Kunming Land Resources Bureau (KLRB)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Chen Maolin</td>
<td>Deputy Director</td>
<td>0871-3160472 13888081717</td>
</tr>
<tr>
<td>Ms. Yu Chun</td>
<td>Vice Section director</td>
<td>0871-3160472</td>
</tr>
<tr>
<td>Ms. Chen Jie</td>
<td>Official</td>
<td>0871-3160472</td>
</tr>
</tbody>
</table>

**Kunming Forest Bureau**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Zhang Liwen</td>
<td>Official</td>
<td></td>
</tr>
</tbody>
</table>

**New Airport Economic Zone (NAEZ)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Zen Feng</td>
<td>Director</td>
<td>0871-6005766</td>
</tr>
<tr>
<td>Mr. Liu Zhijun</td>
<td>Deputy Director</td>
<td>0871-6065777</td>
</tr>
<tr>
<td>Mr. Tang Jun</td>
<td>Engineer</td>
<td>0871-7337573</td>
</tr>
</tbody>
</table>

**Chengqong New Economic Zone (CGNEZ)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Jin Zhuxin</td>
<td>Deputy Director</td>
<td></td>
</tr>
<tr>
<td>Mr. Peng Suo</td>
<td>Vice Section director</td>
<td></td>
</tr>
</tbody>
</table>

**Kunming Drainage Company (KDCLIC)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Su Ruen</td>
<td>Deputy Director</td>
<td>0871-4618647</td>
</tr>
<tr>
<td>Mr. Wu Junhui</td>
<td>Engineer</td>
<td>0871-5181499</td>
</tr>
</tbody>
</table>

**Guandu District Government (GDDG)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Liu Jun Song</td>
<td>Deputy District Governor</td>
<td>0871-7171639</td>
</tr>
<tr>
<td>Mr. Yang Con</td>
<td>Office Director</td>
<td>0871-7171639</td>
</tr>
<tr>
<td>Mr. Cao Zhongyu</td>
<td>Vice Director</td>
<td>0871-7171639</td>
</tr>
<tr>
<td>Mr. Chen Cunyun</td>
<td>Official</td>
<td>0871-7171639</td>
</tr>
<tr>
<td>Name</td>
<td>Organization</td>
<td>Position</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Mr. Zhang Shuyou</td>
<td>GDDG</td>
<td>Official</td>
</tr>
<tr>
<td>Mr. Zhao Hua Gao</td>
<td>SMCG</td>
<td>Deputy Director of Water Resource Bureau</td>
</tr>
<tr>
<td>Mr. Yang Jinshan</td>
<td>SMCG</td>
<td>County PRC Director</td>
</tr>
<tr>
<td>Mr. Zhen Shancun</td>
<td>SMCG</td>
<td>Official</td>
</tr>
<tr>
<td>Mr. Chen Weiping</td>
<td>SMCG</td>
<td>Official</td>
</tr>
<tr>
<td>Mr. Liu Yaoguo</td>
<td>SMCG</td>
<td>County PRC Vice Director</td>
</tr>
<tr>
<td>Mr. Yang Jinshan</td>
<td>SMCG</td>
<td>County PRC Director</td>
</tr>
<tr>
<td>Mr. Li Gui Lin</td>
<td>XDCG</td>
<td>Deputy County Governor</td>
</tr>
<tr>
<td>Mr. Yang Chao Wang</td>
<td>XDCG</td>
<td>Director of Water Resource Bureau</td>
</tr>
<tr>
<td>Mr. Li Weiheng</td>
<td>XDCG</td>
<td>Chief Engineer of Water Resource Bureau</td>
</tr>
<tr>
<td>Mr. Ma Huaiming</td>
<td>XDCG</td>
<td>Official</td>
</tr>
<tr>
<td>Mr. Yang Tian Liu</td>
<td>KWSI</td>
<td>General Director</td>
</tr>
<tr>
<td>Mr. Wu Hui</td>
<td>KWSI</td>
<td>Deputy Director</td>
</tr>
<tr>
<td>Mr. Yang Kai</td>
<td>KWSI</td>
<td>Deputy Section Director</td>
</tr>
<tr>
<td>Mr. Jean Salessy</td>
<td>KMCGE</td>
<td>General Manager</td>
</tr>
<tr>
<td>Mr. Frederic Puilet</td>
<td>KMCGE</td>
<td>Technical Director</td>
</tr>
</tbody>
</table>